XXXVI CONGRESSO BRASILEIRO

DE CEFALEIA

XVII CONGRESSO DE DOR OROFACIAL

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Apresentação

Boas-vindas ao XXXVI Congresso Brasileiro de Cefaleia e XVII Congresso Brasileiro de Dor Orofacial

É um prazer e uma honra receber todos vocês em Santos, SP, para nosso congresso em 2022 no período de 27 a 29 de outubro.

Este congresso inova pelo curso pré-congresso em ambiente universitário, pela possibilidade de todos votarem no que considerarem os trabalhos merecedores de prêmios, na localização privilegiada da nossa cidade hospitaleira de praia, porto, turismo e universidades. A programação do congresso, com tempo e espaço dedicados aos pôsteres e apresentações orais das nossas pesquisas, garantirá que interessados em cefaleias e dores orofaciais aprendam, ensinem e interajam, mantendo o brilho da Sociedade Brasileira de Cefaleia.

Com a grande responsabilidade de presidir este congresso vem a expectativa do seu sucesso, uma vez que está sendo preparado com carinho por tantas mãos dedicadas. Este congresso que nos reúne para celebrar o conhecimento e a ciência, este ano nos aproxima novamente para brindarmos a vida, a amizade, o amor, a harmonia, e a manutenção da saúde.

Santos recebe, com orgulho, os profissionais interessados no estudo da cefaleia e dor orofacial, de forma multidisciplinar e com o mais alto nível científico.

Profa. Dra. Yára Dadalti Fragoso
Presidente do XXXVI Congresso Brasileiro de Cefaleia

PRÉ-CONGRESSO UNIMES – DIA 27/10/2022
Endereço: Av. Gal. Francisco Glycerio, 8 - Encruzilhada, Santos - SP, 11045-002

CONGRESSO SHERATON SANTOS – DIA 28 A 29/10/2022
Endereço: R. Guaiaó, 70 - Aparecida, Santos - SP, 11035-260

CURSOS PRÉ-CONGRESSO

UNIMES - Santos - Rua Barão de Paranapiacaba, 15 - Encruzilhada - Santos - SP

27/10 (quinta-feira)

SALA 401

08h00 - 18h00	**WORKSHOP Allergan, uma empresa AbbVie** - O tratamento de enxaqueca crônica com BOTOX®: Protocolo PREEEMT	
09h00 - 09h30	**Aula teórica - Protocolo PREEMPT**	*Alexandre Kaup*
09h30 - 10h30	**Aula prática**	
10h30 - 11h00	**INTERVALO**	
11h00 - 11h30	**Aula teórica - Protocolo PREEMPT**	*Alexandre Kaup*
11h30 - 12h30	**Aula prática**	
12h30 - 13h00	**Aula teórica - Protocolo PREEMPT**	*Caio Simioni*
13h00 - 14h00	**Aula prática**	
14h00 - 14h30	**INTERVALO**	
14h30 - 15h00	**Aula teórica - Protocolo PREEMPT**	*Caio Simioni*
15h30 - 16h00	**Aula prática**	

SALA 403

08h00 - 12h00	**CURSO 1 - PESQUISA EXPERIMENTAL EM CEFALEIA** Coordenador: *Marcelo Moraes Valença*	
08h00 - 08h20	Plexo coroide e produção de LCR: análises em amostras humana	*Juliana Ramos de Andrade*
08h25 - 08h45	Pesquisa experimental em Cefaleia na UFPE	*Marcelo Moraes Valença*
08h50 - 09h05	Novo modelo experimental em ratos: liberação de CGRP e dura-máter in	*Raisa Ferreira Costa*
09h10 - 09h25	Melatonina atenua degranulação dos mastócitos em dura-máter de rato	*Rita Santana dos Reis*
09h30 - 10h00	**CONFERENCIA MAGNA** Coordenador: *Marcelo Moraes Valença*	
	Mouse Models of Migraine Based on Human Trigger Substances	
	Sarah Louise Tangsgaard Christensen . *PhD* (Dinamarca)	
10h00 - 10h20	**INTERVALO**	
10h20 - 10h35	Contribuição de mecanismos operados pel CGRP no gânglio do trigêmeo para respostas associadas à migrânea em ratos	*Juliana Geremias Chichorro*
10h40 - 11h00	Modelos experimentais em humanos	*Mário Fernando Prieto Peres*
11h05 - 11h20	CGRP, ocitocina e óxido nítrito em LCR de pacientes com migrânea	*Maria Rosana de Souza Ferreira*
11h25 - 11h45	Modelo experimental da cefaleia do sorvete	*Daniella Araújo de Oliveira*
11h50 - 12h10	Migrânea - do laboratório à prática clínica	*Élcio Juliato Picvesan*
12h00 - 13h30	**INTERVALO ALMOÇO**	
13h30 - 17h30	**CURSO 2 - CEFALEIA NA MULHER** Coordenadora: *Aline Vitali da Silva (Eliana Meire Melhado)*	
13h30 - 13h50	Epidemiologia e caracteristicas das cefaleias na mulher	*Aline Turbino*
13h50 - 14h10	Cefaleia crônica Diária em Mulheres	*Yára Dadalti Fragoso*
14h10 - 14h30	Anamnese em cefaleia na mulher: Cefaleia menstrual x não menstrual	*Priscila Papassidero*
14h30 - 14h50	Cefaleia em Gestantes: como conduzir?	*Paulo Sergio Faro Santos*
14h50 - 15h10	***Discussão or Q&A***	
15h10 - 15h30	**INTERVALO**	
15h30 - 15h50	Como conduzir cefaleia no Climatério?	*José Geraldo Speziali*
15h50 - 16h10	Comorbidades psiquiátricas em mulheres com cefaleia: como conduzir?	*Darca Martins Lopes Lourenço*
16h10 - 16h30	Cefaleias secundárias em Mulheres	*Eliana Meire Melhado*
16h30 - 16h50	Migrânea com aura e Risco de AVC em mulheres	*Aline Vitali da Silva*
16h50 - 17h10	Como conduzir a parte hormonal de mulheres com migrânea com aura e migrânea que piora com contraceptivos	*Bruno Zaher*
17h10 - 17h30	***Discussão or Q&A***	

SALA 404

08h00 - 12h00	**CURSO 3 - MULTIDISCIPLINAR** Coordenador: *Eduardo Almeida*	
08h10 - 08h30	A Fisioterapia contribui para o tratamento das cefaleias?	*Débora Bevilaqua Grossi*
08h30 - 08h50	Cefaleia Cervicogênica e cefaleias de estruturas cervicais e do pescoço	*Jayme Antunes Maciel*
08h50 - 09h10	A atividade física e sua comprovação em beneficiar a cefaleia	*Claudio Scorcine*
09h10 - 09h30	Parte política e social de distribuição de drogas e doenças crônicas	*Erlene R. R. dos Santos*
09h30 - 09h50	Migrânea e manifestações de ansiedade	*Rosemeire Rocha Domingos*
09h50 - 10h10	Avaliação psicológica dos fatores de risco para cronificação da migrânea	*Rebeca Veras Vieira de Andrade*
10h10 - 10h20	***Discussão or Q&A***	
10h20 - 10h40	**INTERVALO**	
10h40 - 11h00	O papel do psicólogo na equipe multidisciplinar de cefaleia	*Valkyria Busato Vill*
11h00 - 11h20	Terapia cognitivo comportamental na migrânea	*Juliane Prieto Peres Mercante*
11h20 - 11h40	Aspectos nutricionais da Migrânea	*Camila Naegeli Caverni*
11h40 - 12h00	***Discussão or Q&A***	
12h00 - 13h30	**INTERVALO ALMOÇO**	
13h30 - 17h30	**CURSO 4: TRATAMENTO DO PACIENTE COM CEFALEIA NA URGÊNCIA + CEFALEIAS PRIMÁRIAS NA PRÁTICA DIÁRIA** Coordenador: *Erasmo Barros da Silva*	
13h30 - 13h50	Cefaleia e COVID	*Elder Machado Sarmento*
13h50 - 14h10	Hipertensão intracraniana – como identificar?	*Sandro Luiz de Andrade Matas*
14h10 - 14h30	O primeiro atendimento ao paciente na clínica especializada	*Marcelo Gabriel Vega*
14h30 - 14h50	Doutor, deixa que eu explico a dor de cabeça dele	*Cláudio Manoel Brito*
14h50 - 15h10	***Discussão or Q&A***	
15h10 - 15h30	**INTERVALO**	
15h30 - 15h50	Cefaleia nas meningites e encefalites: é sempre fácil identificar?	*Renan Barros Domingues*
15h50 - 16h10	Cefaleia nas vasculites: como diagnosticar	*Sara Carvalho Barbosa Casagrande*
16h10 - 16h30	Protocolo de cefaleia na Emergência	*Andressa Galego*
16h30 - 16h50	Pérolas do atendimento em cefaleia no meu dia-a-dia	*Jayme Maciel*
16h50 - 17h10	Cefaleia por Hipotensão intracraniana	*Alexandre O. Kaup*
17h10 - 17h30	***Discussão or Q&A***	

SALA 405

CURSO 5 - DTM - ESTADO ATUAL

08h00 - 08h10	**ABERTURA DO EVENTO**	
	Eduardo Grossmann	
08h15 - 10h35	**DIAGNÓSTICO E IMAGINOLOGIA** Coordenador: *Luciano Ambrósio Ferreira*	
08h15 - 08h35	Exame Clínico	*Monique Lalue Sanches*
08h40 - 09h00	Tomografia Computadorizada: o que e como solicitar?	*Luciano Ambrósio Ferreira*
09h05 - 09h25	Ultrassom: quando, como e porquê empregar?	*Ricardo Souza Tesch*
09h30 - 09h50	Ressonância Magnética: quando indicar?	*Irene Serafim*
09h55 - 10h15	Termografia	*Lylian Vieira de Paula*
10h20 - 10h35	*Discussão*	
10h40 - 12h15	**ABORDAGEM CLÍNICA NAS DTM MUSCULARES** Coordenador: *José Stechman Neto*	
10h40 - 11h00	Acupuntura	*Vagner de Oliveira*
11h05 - 11h25	Toxina Botulínica	*Giancarlo De La Torre Canales*
11h30 - 11h50	Dispositivos Interoclusais	*Francisco José Pereira Júnior*
11h55 - 12h15	Farmacologia	*Vagner Hummig*
12h20 - 13h30	**ALMOÇO**	

CURSO 6 - OROFACIAL E CIRURGIAS

13h45 - 17h30	**ABORDAGEM CIRÚRGICA NAS DTM ARTICULARES** Coordenador: *Eduardo Grossmann*	
13h45 - 14h05	Anatomia da ATM	*Marcos Fabio Henriques dos San*
14h10 - 14h30	Prótese de ATM	*João R. Gonçalves*
14h35 - 14h55	Discopexia	*Matheus Branco Elias Dib*
15h10 - 15h30	**INTERVALO**	
15h35 - 15h55	Artroscopia	*Killian Evandro Cristoff*
16h00 - 16h20	Artrocentese e visco do compartimento inferior	*Ricardo Souza Tesch*
16h25 - 16h45	Artrocentese e visco do compartimento superior	*Eduardo Grossmann*
16h50 - 17h30	*Discussão*	
19h00	ABERTURA/COQUETEL - APM SANTOS **Av. Ana Costa, 388 - Gonzaga**	

SALA 406

CURSO 7 - CURSO DE CEFALEIA: DO BÁSICO AO AVANÇADO

08h00 - 12h00	Coordenadora: *Célia Aparecida de Paula Roesler*	
08h10 - 08h30	Semiologia em Cefaleia: Como perguntar e examinar um paciente?	*Oswaldo Couto Junior*
08h30 - 08h50	Outras Cefaleias primárias	*Caio Vinicius de Meira Grava Simioni*
08h50 - 09h10	Diagnóstico de cefaleias primárias e secundárias: como tornar a classificação mais fácil?	*Elza Magalhães Silva*
09h10 - 09h30	Não desejo esta dor para meu pior inimigo	*Cláudio Manoel Brito*
09h30 - 09h50	Diagnóstico de Cefaleias trigêmino-autonômicas	*Milton Luiz Branco*
09h50 - 10h10	Tratamento da migrânea: abordagem multidimensional	*Fabíola Dach*
10h10 - 10h20	*Discussão*	
10h20 - 10h40	**INTERVALO**	
10h40 - 11h00	Cefaleia por uso excessivo de medicação	*Leandro Cortoni Calia*
11h00 - 11h20	Cefaleia nas doenças auto-imunes	*Yára Dadalti Fragoso*
11h20 - 11h40	Tratamento de cefaleias trigêmino-autonômicas e outras primárias	*Marcio Nattan Portes Souza*
11h40 - 12h00	*Discussão*	
12h00 - 13h30	**ALMOÇO**	

CURSO 8: MINICURSO DE ACUPUNTURA

13h30 - 13h50	Mecanismos de ação da Acupuntura	*André Wan Wen Tsai*
13h50 - 14h10	Acupuntura na dor orofacial após cirurgia de tumor de cabeça e pescoço	*Eduardo Guilherme Dalessandro*
14h10 - 14h30	Acupuntura na enxaqueca pré-menstrual	*Telma Zakka*
14h30 - 14h50	Acupuntura na enxaqueca cervicogênica	*Eduardo de Melo Carvalho Rocha*
14h50 - 15h10	*Discussão ou Q&A*	
15h10 - 15h30	**INTERVALO**	

OFICINA: ATIVIDADES PARA LEIGOS

15h30 - 17h00	Coordenador: *Claudio Scorcine*	
15h30 - 15h50	Gatilhos em Cefaleia: Doutor, minha dor é causada por tudo, menos porque minha cabeça é predestinada a doer	*João José Freitas de Carvalho*
15h50 - 16h10	Dúvidas	*Claudio Scorcine / Mariana Cardoso / Suellen Abib*
16h10 - 16h30	Educação Terapêutica	
16h30 - 17h00	Atividades Práticas	
17h00	*Encerramento do Curso*	

28/10 (sexta-feira)

	AUDITÓRIO ORION/HYDRA			AUDITÓRIO LYRA	
07h50 - 08h00	**Tributo ao Prof. Ottar Sjaastad**	*Yára Dadalti Fragoso / Fabio Antonacci*			
08h00 - 08h25	CONFERÊNCIA MAGNA			CONFERÊNCIA MAGNA	
	Coordenadora: *Yára Dadalti Fragoso*			Coordenador: *Eduardo Grossmann*	
	Recomendações europeias para abordagem do paciente com cefaleia por excesso de medicamentos			Dor de cabeça primária e dor orofacial: conceito, definição e prática	
	Fabio Antonacci			*Daniela de Godoi Gonçalves*	
08h30 - 09h30	MESA REDONDA 1: ASSOCIACIÓN LATINOAMERICANA DE CEFALEIAS - ASOLAC			MESA REDONDA 1: CASOS CLÍNICOS - DORES CRÂNIO-CERVICAIS	
	Coordenadores: *Carlos Alberto Bordini / Pedro André Kowacs*			Coordenadora: *Elaine Marcílio*	
08h30 - 08h45	CGRP e seus antagonistas	*Alejandro Marfil Rivera* (México)		Caso 1	*Eduardo Grossmann*
08h45 - 09h00	Migranea no Climatério/Menopausa: Há risco vascular?	*Maria Karina Velez Jimenez* (México)		Caso 2	*José Geraldo Speziali*
09h00 - 09h15	Novas formas de tratamento para Migrânea	*Maria Teresa Goicochea* (Argentina)		Caso 3	*Giselle Oliveira Martins Theotonio*
09h15 - 09h30	*Discussão*				
09h30 - 10h30	MESA REDONDA 2: RECEPTORES DIGNOS DE PRÊMIO NOBEL			Coordenador: *Carlos Alberto Bordini*	
	Coordenadora: *Ida Fortini*				
09h30 - 09h45	Canais TRP e cefaleia	*Élcio Juliato Piovesan*		Caso 4	*Carlos Alberto Bordini*
09h45 - 10h00	Sistema glinfático: Papel nas cefaleias primárias	*Marcio Nattan Portes Souza*		Caso 5	*Fabíola Dach*
10h00 - 10h15	Pacap, outros neurotransmissores e cefaleia	*Élcio Juliato Piovesan*			
10h15 - 10h30	*Discussão*			*Discussão*	
10h30 - 11h00	INTERVALO/VISITA AOS PÔSTERES			INTERVALO/VISITA AOS PÔSTERES	
11h00 - 12h00	MESA REDONDA 3: DIREITOS E DEVERES DO MÉDICO			MESA REDONDA 2: MISCELÂNIA	
	Coordenadora: *Célia Aparecida de Paula Roesler*			Coordenadora: *Marcela Leticia Leal Gonçalves*	
11h00 - 11h15	Fatores que se destacam como principais causas de demandas judiciais - Judicialização na Saúde	*Giuliana Raduan Crizol*		Malformação vascular em glândula parótida como fator de confusão no diagnóstico de DTM e Dor orofacial	*Jorge de Sá Barbosa*
11h15 - 11h30	Esferas de aplicabilidade da responsabilidade do médico - responsabilidade civil e o Código de Defesa do Consumidor	*Carol de Oliveira Abud*		DTM e apneia do sono	*Marcelo de Melo Quintela*
11h30 - 11h45	Legalidade jurídica da documentação médica - Prontuário físico e	*Manuela Marcartti*		Fotobiomodulação em DTM	*Ana Paula Tabcada Sobral*
11h45 - 12h00	Aspectos práticos da LGPD na saúde	*Roberta Rimoli Ribeiro de Moura*		Fotobiomodulação em dor orofacial	*Lara Jansiski Motta*
12h15 - 13h15	Simpósio Libbs **Talk Show LIBBS: a dinâmica do tratamento agudo da migrânea** Moderador: *Dr. Fernando Kowacs* Palestrantes: *Dra. Eliana Melhado e Dr. Marcio Nattan*			12h15 - 13h15	PLENÁRIA DE SIMPÓSIO SATÉLITE - SALA ORION/HYDRA
13h15 - 13h30	INTERVALO/VISITA AOS PÔSTERES			13h15 - 13h30	INTERVALO/VISITA AOS PÔSTERES
13h30 - 13h55	CONFERÊNCIA MAGNA			CONFERÊNCIA MAGNA	
	Coordenador: *Jaime Antunes Maciel*			Coordenadora: *Norma Regina Pereira Fleming*	
	Sintomas não álgicos na Enxaqueca			Cefaleia nos tempos da COVID-19	
	João José Freitas de Carvalho			*Pedro Augusto Sampaio Rocha Filho*	
13h55 - 14h55	MESA REDONDA 4: DIAGNÓSTICO DE CEFALEIA			MESA REDONDA 3: CEFALEIAS SECUNDÁRIAS	
	Coordenadora: *Aline Tubino*			Coordenador: *Paulo André B.P. dos Santos*	
13h55 - 14h10	Quando suspeitar de cefaleia secundária no consultório?	*Sara Carvalho Barbosa Casagrande*		Cefaleia na 3ª Idade: diagnóstico diferencial	*Marcelo Cedrinho Ciciarelli*
14h10 - 14h25	Como diferenciar cefaleia primária dos Distúrbios temporomandibulares	*Daniela Godoi Gonçalves*		Cefaleias por hipotensão intracraniana: Como não se enganar?	*Marcelo Calderaro*
14h25 - 14h40	Diagnóstico de Cefaleia por Telemedicina	*Renan Barros Domingues*		Diagnóstico Diferencial de Cefaleia Crônica Diária	*Caio Vinicius de Meira Grava Simioni*
14h40 - 14h55	*Discussão*			Cefaleia por Hipertensão Intracraniana	*Mauro Eduardo Jurno*
14h55 - 15h40	MESA REDONDA 5: CEFALEIAS TRIGÊMINOAUTONÔMICAS			MESA REDONDA 4: ATIVIDADE FÍSICA E ENXAQUECA	
	Coordenadora: *Camila Naegeli Caverni*			Coordenador: *Mauro Eduardo Jurno*	
14h55 - 15h10	Cefaleia em salvas: Diferenças entre os gêneros	*Pedro Augusto Sampaio Rocha Filho*		Atividade em piscina	*Claudio Scorcine*
15h10 - 15h25	Hemicrania paroxística e hemicrania contínua	*Luiz Paulo de Queiroz*		Caminhadas e corrida	*Cláudia Baptista Tavares*
15h25 - 15h40	Comorbidade cefaleia em Salvas e Apneia de sono: novidades?	*Fernando Kowacs*		Fisioterapia	*Daniella de Araújo Oliveira*
15h40 - 16h10	INTERVALO/VISITA AOS PÔSTERES			15h40 - 16h10	INTERVALO/VISITA AOS PÔSTERES
16h10 - 17h10	Simpósio Allergan uma empresa AbbVie **Abordagem multidisciplinar da fibromialgia associada a enxaqueca crônica** Moderador: *Dr. Elcio Piovesan*			16h10 - 17h10	PLENÁRIA DE SIMPÓSIO SATÉLITE - SALA ORION/HYDRA
16h10 - 16h20	Fibromialgia e enxaqueca	*Dr. Elcio Piovesan*			
16h20 - 16h35	Manejo clínico da fibromialgia	*Dr. Eduardo Paiva*			
16h35 - 16h50	Manejo das dores cervicais na migrânea	*Debora Grossi*			
16h50 - 17h10	*Discussão*				

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MULTIDISCIPLINAR

17h10 - 18h30	**MESA REDONDA 6: "COMO EU TRATARIA ESTA PACIENTE"**			**17h10 - 17h50**	**MESA REDONDA 5: EMPODERAMENTO FEMININO**
	Coordenadores: ***Marcelo Moraes Valença e Renata Gomes Londero***				Coordenadora: ***Priscila Papassidero***
17h10 - 17h15	**Apresentação do paciente 1 e prescrição dos convidados**	***Marcelo Moraes Valença***		17h10 - 17h20	Um conselho de mulher para mulher — ***Juliane Prieto Peres Mercante***
17h15 - 17h19	(explica porque a escolha da estratégia de tratamento)	***João José Freitas de Carvalho***		17h20 - 17h40	Mulher do século XXI — ***Eliana Meire Melhado***
17h19 - 17h23		***Marcelo Cedrinho Ciciarelli***		17h40 - 17h50	A visão do homem com relação à mulher em sua capacidade de liderar — ***Mário Fernando Prieto Peres***
17h23 - 17h27		***Pedro André Kovacs***		**17h50 - 18h45**	**MESA REDONDA 6: O QUE MAIS EU QUERO SABER?**
17h27 - 17h39	***Comentários***	***Carlos Alberto Bordini / Ida Fortini***			Coordenador: ***Marcelo Calderaro***
17h39 - 17h44	**Apresentação do paciente 2 e prescrição dos convidados**	***Marcelo Moraes Valença***		17h50 - 18h05	Nutracêuticos e Cefaleia — ***Elder Machado Sarmento***
17h44 - 17h48	(explica porque a escolha da estratégia de tratamento)	***João José Freitas de Carvalho***		18h05 - 18h20	Cefaleia e canabinoides — ***Alexandre O. Kaup***
17h48 - 17h52		***Marcelo Cedrinho Ciciarelli***		18h20 - 18h35	Cefaleia tipo Tensional: o patinho feio das Cefaleias? — ***Norma Regina Pereira Fleming***
17h52 - 17h56		***Pedro André Kovacs***		**18h35 - 18h45**	Citrulina e Cefaleia — ***Raimundo Pereira Silva Néto***
17h56 - 18h06	***Comentários***	***Carlos Alberto Bordini / Ida Fortini***			
18h06 - 18h10	Réplica	***João José Freitas de Carvalho***			
18h10 - 18h14		***Marcelo Cedrinho Ciciarelli***			
18h14 - 18h18		***Pedro André Kovacs***			
18h18 - 18h30	***Discussão***				
18h45 - 19h45	**ASSEMBLÉIA GERAL ORDINÁRIA**			**18h45 - 19h45**	**ASSEMBLÉIA GERAL ORDINÁRIA**

29/10 (sábado)

	AUDITÓRIO ORION/HYDRA			AUDITÓRIO LYRA	
08h00 - 08h25	**CONFERÊNCIA MAGNA**			**CONFERÊNCIA MAGNA**	
	Coordenador: ***Elder Sarmento***			Coordenador: ***Luiz Paulo de Queiroz***	
	Mechanisms and interactions of migraine inducing substances in animal models			Apresentação do Consenso para o Tratamento Profilático da Migrânea Episódica	
	Sarah Louise Tangsgaard Christensen (Dinamarca)			***Paulo Sergio Faro Santos***	
08h30 - 09h30	**MESA REDONDA 7: CEFALEIA - QUEM PAGA A CONTA?**			**DESAFIO DA CEFALEIA**	
	Coordenador: ***Marcelo Gabriel Vega***			Coordenador: ***Márcio Rafael de Araújo Siega***	
08h30 - 08h45	Desenvolvimento de produtos específicos para cefaleia primária	***Pedro André Kovacs***		***Atividades no Desafio da Cefaleia***	
08h45 - 09h00	Originais, similares, genéricos, etc para cefaleia	***José Machado de A. Moura Jr.***			
09h00 - 09h15	Acesso à drogas para cefaleia (para pacientes) (SUS e convênios)	***Goldete Priszkulnik***			
09h15 - 09h30	***Discussão***				
09h30 - 10h30	**MESA REDONDA 8: CEFALEIA NA INFÂNCIA**				
	Coordenadoras: ***Giselle Oliveira Martins Thectonio e Andressa Galego***				
09h30 - 09h45	TDAH e Cefaleia: qual é a relação?	***Marco Antônio Arruda***			
09h45 - 10h00	Validação do questionário HARDSHIP para crianças	***Renato Arruda***			
10h00 - 10h15	Caso Clínico - Olha nos meus olhos	***Marco Antônio Arruda***			
10h15 - 10h30	Você usaria anticorpo monoclonal e toxina botulínica para crianças com enxaqueca?	***Ana Maria Ladeira Yamada***			
10h30 - 11h00	**INTERVALO/VISITA AOS PÔSTERES**			**INTERVALO/VISITA AOS PÔSTERES**	
11h00 - 12h00	**MESA REDONDA 9: COMORBIDADES**			**MESA REDONDA 7: PSICOLOGIA**	
	Coordenador: ***Murilo Rubens Schaefer***			Coordenadora: ***Juliane Prieto Peres Mercante***	
11h00 - 11h15	Transtornos de personalidade e cefaleia	***Carla da Cunha Jevoux***		Migrânea na infância e adolescência: características, prevenção e intervenção	***Rosemeire Rocha Domingos***
11h15 - 11h30	Cefaleia e Transtornos do Eixo I: O que precisamos saber?	***Denise Matheus Gobo***		Distorções cognitivas na migrânea	***Rebeca Yeras Vieira de Andrade***
11h30 - 11h45	Distúrbios do sono e cefaleia	***Mário Fernando Prieto Peres***		Novos avanços em Terapia Cognitivo Comportamental em sintomas psiquiátricos da migrânea	***Juliane Prieto Peres Mercante***
11h45 - 12h00	Tratamento da cefaleia no "Real Life"	***Abcuch Krichantvisky***		***Discussão***	
12h15 - 13h15	Simpósio teva **Por que considerar os mAbs anti-CGRPs como sua primeira opção no tratamento preventivo da migrânea**			PLENÁRIA DE SIMPÓSIO SATÉLITE - SALA ORION/HYDRA	
12h15 - 12h20	Abertura: ***Dr. Fernando Kovacs***				
12h20 - 12h35	Uso de Anti-CGRPs no Brasil	***Dr. Fernando Kovacs***			
12h35 - 13h00	Anti-CGRPs como primeira linha no tratamento preventivo da migranea	***Dr. Mario Peres***			
13h00 - 13h15	**Q&A**	**ambos**			

MULTIDISCIPLINAR

13h15 - 14h00	INTERVALO/VISITA AOS PÔSTERES		13h15 - 14h00		INTERVALO/VISITA AOS PÔSTERES	
14h00 - 14h25	CONFERÊNCIA MAGNA Coordenadora: *Ana Luisa Antoniazzi*		OROFACIAL	14h00 - 14h25	CONFERÊNCIA MAGNA Coordenador: *Eduardo Almeida*	
	Atualização na genética da enxaqueca *José Luiz Pedroso*				Dor Miofascial da região crânio-cervical : avaliação e tratamento *Lin Tchia Yeng*	
14h25 - 15h25	MESA REDONDA 10: CEFALEIA NA MULHER Coordenadora: *Sara Carvalho Barbosa Casagrande*			14h30 - 15h50	MESA REDONDA 8: FISIOPATOLOGIA DA DOR OROFACIAL Coordenador: *Marcos Fabio Henriques dos Santos*	
14h25 - 14h40	Contraceptivos e Cefaleia: Indicações e Contraindicações	*Iliza Maria Urbano Monteiro*		14h30 - 14h45	Mecanismos Periféricos da Dor Orofacial por DTM	*Sigmar de Mello Rode*
14h40 - 14h55	Marcadores biológicos de Migrânea menstrual e Migrânea na	*Eliana Meire Melhado*		14h50 - 15h05	Mecanismos Centrais da Dor Orofacial por DTM	*Wagner de Oliveira*
14h55 - 15h10	Gestação: Fisiopatologia da Cefaleia e uso de drogas	*José Geraldo Speziali*		15h10 - 15h25	Sexo, Gênero e Dor	*Maurício Kosminsky*
15h10 - 15h25	*Discussão*			15h30 - 15h50	*Discussão*	
15h25 - 16h25	MESA REDONDA 11: TEMAS DE ATUALIZAÇÃO Coordenador: *Fernando Kovacs*			15h55 - 17h25	MESA REDONDA 9: OUTRAS DOENÇAS Coordenadora: *Renata Campi de Andrade Pizzo*	
15h25 - 15h40	REBRACEF – Onde estamos?	*Vanise Grassi*		15h55 - 16h10	Zumbido X DTM	*José Stechman Neto*
15h40 - 15h55	Migrânea Vestbular:Diagnóstico e Tratamento	*Hilton Mariano da Silva Jr.*		16h15 - 16h30	Doenças degenerativas da ATM	*Renata Silva Melo Fernandes*
15h55 - 16h10	Migrânea, doenças cerebrovasculares e cardiovasculares: há risco	*Renata Gomes Londero*		16h35 - 16h50	*Cidontalgia X Neuralgia*	*Renata Campi de Andrade Pizzo*
16h10 - 16h25	*Discussão*			16h55 - 17h25	*Discussão*	
				17h30	VISITA À ÁREA DE EXPOSIÇÃO/PÔSTERES	
				17h30 - 18h30	MESA REDONDA 12: APRESENTAÇÃO DE TRABALHOS CIENTÍFICOS Coordenadores: *Marcelo Valença • Elder Sarmento • Erasmo Barros da Silva • Murilo Rubens Schaefer •*	
				17h30 - 17h35	Correlation between kinesiophobia, muscle strength and neck endurance in patients with migraine	*Adrila de Cassi Cabral Norato*
				17h35 - 17h36	*Perguntas*	
				17h36 - 17h41	Sensory organization test and motor control test in patients with migraine and vestibular migraine	*Vitória Carolina Leonel*
				17h41 - 17h42	*Perguntas*	
				17h42 - 17h47	Genetic variants IL18 -105G>A and -137G>C associated with susceptibility to migraine	*Aline Vitali da Silva*
				17h47 - 17h48	*Perguntas*	
				17h48 - 17h53	Influence of sleep and physical exercise in migraine patients	*Aline Vitali da Silva*
				17h53 - 17h54	*Perguntas*	
				17h54 - 17h59	Prevalence of compulsion in migraine patients and its association with analgesic abuse	*Maria Clara Lopes de Barros*
				17h59 - 18h00	*Perguntas*	
				18h00 - 18h05	Persistent headache attributed to previous ischemic stroke: a prospective cohort study	*Pedro Augusto Sampaio da Rocha Filho*
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				18h06 - 18h11	Prevalence of postpartum depression in patients with migraine	*Júlia Milan Procópio e Silva*
				18h11 - 18h12	*Perguntas*	
				18h12 - 18h17	Caliber and type of needle are associated with the risk of spontaneously reported post-dural punction headache	*Renan Barros Domingues*
				18h17 - 18h18	*Perguntas*	
				18h18 - 18h23	Brain volumetry by voxel-based-morphometry in migraineurs: comparison between groups and clinical correlations	*Fabíola Dach*
				18h23 - 18h24	*Perguntas*	
				18h24 - 18h29	"Not otherwise specified Headache" in emergency department: na analysis of 149,603 visits to nine UPA'S 24h in	*João José Freitas de Carvalho*
				18h29 - 18h30	*Perguntas*	
				18h30 - 18h45	ENCERRAMENTO	
20h00	JANTAR DE ENCERRAMENTO - PREMIAÇÃO DE TRABALHOS					

Sociedade Brasileira de Cefaleia – SBCe

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Sumário

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Headache Medicine: updates and bibliometric analysis

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Introduction
Headache Medicine is the official scientific journal of the Brazilian Headache Society that has been publishing clinical and experimental, qualitative, and quantitative research on headaches and orofacial pain for 28 years, as well as aspects related to pain that may have implications for headaches. In constant updating, Headache Medicine demonstrates commitment and scientific ethics following the international criteria for publication in the medical field.

Objective
Describe updates made in 2020 to the management and editorial process and bibliometric data from Headache Medicine publications and accesses to demonstrate their impact on headache science.

Methods
Data on the quantity and location of accesses until September 2022 were obtained from Google Analytics. The most accessed and read articles (originals, reviews, or case reports) were identified through the statistical reports of the Open Journal Systems (OJS). The journal's H5 index and the citations of each published paper were consulted in Publish or Perish and Google Scholar, respectively.

Results
In 2020, Headache Medicine obtained ISSN online, migrated its management to OJS, registered a Digital Object Identifier (DOI) on all articles published, linked the authors' ORCiD to the publication, and updated the publication of the numbers of each issue. Google Analytics has been monitoring Headache Medicine for just 2 years and has already accounted for more than 38,000 accesses from 150 countries. Brazil (29,282 accesses), the United States (2,186 accesses), Portugal (1,434 accesses) and China (377 accesses) are the 4 countries with the most access. Headache Medicine has published 202 original articles, reviews or case reports since 2010. The three most accessed articles with abstract and full article are literature review: Topiramate and cognitive function: review (Santos et al., 2005) with 1,152 accesses, Pizotifen for the treatment of migraine. A systematic review and meta-analysis (Fragoso et al., 2021) with 820 accesses and Comparison between metamizole and triptans for migraine treatment: a systematic review and network meta-analysis with 758 accesses(Peres et al., 2021).
The H5 index = 3 evaluated by Google Scholar indicates that in the last 5 years at least 3 articles were cited 3 times. In the Publish or Perish software, we found that Headache Medicine registers 458 works with 101 citations.

Conclusion
The constant work of the editorial board to update and grow Headache Medicine's metrics indicates that the journal's indexing in the top health indexes should take place soon. The increase in the number of publications, growth in access to the journal, and citations of its articles, reflects its role in the world science on headaches.

Keywords: Scientometrics, Altimetry, Scientific impact, Headache Medicine, Publication, Brazilian Headache Society.

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Dialysis-related headache: prevalence and clinical features in patients on hemodialysis and after kidney transplantation

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Introduction

Headache is a common symptom among patients on hemodialysis, occurring in up to 70%. Dialysis headache is defined by the International Classification of Headache Disorders (ICHD-3) as a headache with no specific characteristics, occurring during and caused by hemodialysis, and which resolves spontaneously within 72 hours after the session has ended. There is no consensus on its pathophysiology or triggering factors.

Objective

To evaluate the prevalence, clinical features and factors associated with dialysis headache in patients with chronic kidney disease on renal replacement therapy.

Methods

Cross-sectional observational study with a quantitative approach. Participants were divided into two groups: (1) 25 patients on hemodialysis and (2) 25 patients on early post kidney transplantation. All participants were interviewed with a structured questionnaire, the Hospital Anxiety and Depression Scale, and the Epworth Sleepiness Scale. Blood pressure, weight, urea, glucose and electrolytes were evaluated before and after one hemodialysis session. Control groups were classified within the headache-free patients in each group. Numerical variables were expressed as mean and standard deviation and evaluated using Student's t test (two-tailed) or Mann-Whitney U test. Categorical variables were expressed as percentage and evaluated using Pearson's chi- squared test. The p value was considered statistically significant when lower than 0.05.

Results

In group (1), 8 patients (32%) were diagnosed with dialysis headache, predominantly pulsatile (n=6, 75%), accompanied by photophobia (n=6, 75%), phonophobia (n=4, 50%) and nausea or vomiting (n=6, 75%), with a mean pain score of 7.75 ± 1.58. Individuals with headache had higher scores for anxiety (7.00 ± 3.93 vs. 3.82 ± 3.23, p=0.03) and sleepiness (9.13 ± 3.94 vs. 4.76 ± 3,85, p=0.01). Dialysis headache was associated with lower pre-dialysis serum calcium (p=0.01), higher pre-dialysis systolic (p=0.02) and diastolic (p=0.02 blood pressure. There was no correlation between headache and variations in serum urea levels. In group (2), 5 patients (20%) were diagnosed with dialysis headache, predominantly pulsatile (n=4, 80%), accompanied by nausea or vomiting (n=4, 80%), aggravated by routine physical activity (n=3, 60%), with a mean pain score of 8 ± 1.41. Individuals with headache had higher sleepiness scores (9.20 ± 4.32 vs. 4.80 ± 4.51, p=0.029) and younger age (38.93 ± 14.43 vs.54.02 ± 8.31, p=0.03).

Conclusion

Headache is common among patients on hemodialysis, it has migraine-like features, and it is associated with increased anxiety, increased sleepiness, lower pre-dialysis calcium values, and higher pre-dialysis blood pressure levels. It is possible that dialysis headache may be prevented by treating anxiety and excessive sleepiness, as well as screening for high blood pressure and serum calcium levels before the hemodialysis session. Knowing the factors associated with the development of dialysis headache allows us to evaluate possible preventive and therapeutic strategies for this headache in order to improve the quality of life of patients on hemodialysis.

Keywords: Headache, Hemodialysis, Chronic kidney disease, Anxiety, Sleepiness, Blood Pressure.

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Differentiation between Call Fleming syndrome and nervous system vasculitis

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Introduction

Call Fleming syndrome is a reversible cerebral vasoconstriction syndrome of idiopathic etiology that causes thunderclap headache. It is a condition with a good prognosis, but clinically and radiologically similar to other diseases, such as nervous system vasculitis.

Objectives

To bring clinical, radiological and laboratorial aspects of Call Fleming syndrome and nervous system vasculitis and provide the differentiation of both.

Methodology

The research is an integrative review, carried out in June 2022, using the SciElo and Pubmed databases. From the keywords: Call-Fleming syndrome) AND (Diagnosis), (Case report), (Radiology), the clinical, laboratorial and radiological profile of the Call-Fleming Syndrome was traced while the keywords (Nervous System) AND (Vasculitis) AND (Diagnosis), (Case report), (Radiology) were used to CNS vasculitis. Then, from case reports, radiology articles and laboratory analyses, the diseases in question were compared in terms of similarities and differences.

Results

Both pathologies are similar from a clinical point of view: they are frequent causes of thunderclap headache, a sudden and severe headache that reaches its maximum intensity within 1 minute. Some patients with Call-Fleming syndrome may present several neurological deficits, the more frequents in case reports are hemiparesis, hemianopia, and loss of balance. The disease has a limited course that lasts from 1 to 3 months, however, its main complications are hemorrhages and cerebral infarction. The age group affected in the reported cases ranges from 10 to 76 years and there is a slight predominance of cases in women.

As for vasculitis, the onset of the condition can be sudden or insidious, in addition to neurological deficits, cognitive deficits such as confusion, lethargy, dementia and psychiatric disorders are described in most case series. Convulsive manifestations may also be present. As possible complications, vasculitis are related to recurrent transient ischemic stroke and hemorrhages. Chronic headaches and episodes of ischemia in younger patients are typical of vasculitis.

As seen, the picture of both diseases is similar. The simplest differentiation is in case of systemic vasculitis cause there are dermatological and rheumatological signs such as livedos reticularis, arthralgias, petechiae, etc. In Call-Fleming syndrome, CSF is normal or with small changes, such as leukocytes between 5 to 35 uL and red blood cells. In vasculitis, in 90% of patients, CSF analysis is abnormal with elevated lymphomonocytic pleocytosis or protein and oligoclonal bands may be present.

The CT scan is normal in most cases of Call Fleming without associated hemorrhages or infarction. There is presence of multifocal segmental vasoconstriction of cerebral arteries in the angiotomography or MRI, but the findings disappear in the angiography about 12 weeks after the onset of the condition.

It is unlikely that a patient with a normal MRI will suffer from vasculitis. A tumor-like lesion on MRI can be found in primary vasculitides of the nervous system, but the most common findings are segmental narrowing in small and medium-sized arteries and lesions of ischemia. Angiography also shows narrowing and a way to differentiate from Call-Fleming syndrome is the nimodipine test during angiography, which demonstrates the reversibility of constrictions.

Conclusion

The diagnosis of vasculitides of the nervous system and Call Fleming syndrome are challenging and complex due to the similarity with other diseases. Both a false positive and a false negative diagnosis of vasculitis can potentially lead to a fatal outcome, so diagnostic accuracy is critical. The main ways to differentiate a case of Call Fleming syndrome from vasculitis is by analyzing the CSF, which is more likely to demonstrate pleocytosis or increased protein in vasculitis, and also by the nimodipine test during angiography.

Keywords: Call Fleming syndrome, Vasculitis, Nervous system, Thunderclap headache.

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Rocky Mountain spotted fever, an underdiagnosed cause of headache

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Introduction

Rocky Mountain spotted fever is a tick-borne rickettsiosis. The main clinical signs and symptoms are fever, severe headache, rashes and myalgia. Endothelium tropism can lead to vasculitis, thrombosis, and hemorrhage. In addition, the disease can generate neurological impairment through meningoencephalitis, characterized by holocranial headache. It is considered difficult to diagnose and underreported because nonspecific signs and it is commonly confused with dengue.

Objectives

To analyze the epidemiology of spotted fever in São Paulo (state) between 2010 and 2020.

Methodology

The work is a descriptive cross-sectional study that statistically analyzes the cases of spotted fever in São Paulo between 2010 and 2020 through data obtained by the Information System of Notifiable Diseases (SINAN). The proportions of spotted fever cases were calculated according to: sex, age group, race/color, infection environment, confirmation criteria and evolution. The correlation coefficient between human development index (HDI) and that of the reporting city and mortality was estimated. The number of inhabitants and HDI were from the latest IBGE (Brazilian Institute of Geography and Statistics) census in 2010.

Results

There are 869 cases were confirmed (representing 44% of the country's cases), of which 324 are from the metropolitan region of Campinas. The correlation coefficient between HDI and deaths is 0.06 and the average HDI of the cities is 0.79.

As for the age group, cases are predominant in adulthood, 29.4% of cases occur between 20-39 years and 33.2% between 40-59 years. 76.7% of the cases are male. As for color/race, 61.7% of the cases are in whites, 19.8% in browns, 5.3% of the cases in blacks.

The most used confirmation criterion (96%) was laboratory. Of the cases, 56.1% died.As for the infection environment, 27.6% are at home, 15.3% are at work, 33.2% are leisure places and 33.3% are from unidentified places and others

Conclusion

The prevalence in males and the predominant age group 20-59 years can be linked to work activity, which leaves them more exposed to ticks. The high numbers in adulthood can also be related to ecotourism, with 33.2% of cases being related to leisure.The color/race distribution reflects the state's population.

The high rate in the metropolitan region of Campinas evidences the need for preventive public campaigns, such as the use of repellents in areas of tick infestation. The average HDI of the cities that reported spotted fever is high, contrary to common sense, and this is precisely because they have more investment in health and a population that is more likely to seek medical help, reducing underreporting.

One of the limitations of the research was that there was no data on whether the infection was in rural or urban settings.

Lastly, São Paulo is the state with the most cases of spotted fever, which reinforces the need for prevention campaigns and clarification of health professionals that fever, severe headache and myalgia in regions with the presence of ticks are indicative of the disease

Keywords: Rocky Mountain spotted fever, Severe headache, Epidemiology.

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Correlation between sensitization and range of motion in children and adolescents with migraine

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Introduction

Migraine affects 7.7% of children and adolescents and presents with short duration, bilateral and generally fronto-temporal localization, however, the relationship of pain and sensitivity symptoms and their correlations with physical tests as well as range of motion are not well understood in these groups.

Objective

Correlate sensitization including allodynia and pressure pain threshold (PPT) of cervical muscles with neck mobility in children and adolescents with migraine.

Methods

Fifty children (CH) and adolescents (AD) diagnosed with migraine by ICHD-III were screened, of both sexes, aged between 6 and 17 years at the tertiary headache outpatient clinic. Allodynia was assessed by the adapted allodynia questionnaire based on the ICHD-III and the sensitivity of the cervical muscles sternocleidomastoid, elevator, suboccipital, trapezius and scalene by the pressure pain threshold (PPT) using a digital algometer DDK-20 Kratos®. The active mobility of the cervical spine (ROM) was evaluated in the movements of flexion, extension, lateral flexion, and rotation by the Flexion Rotation Test (FRT), using the CROM®.

Results

The mean age of patients was 11.7 years (SD=3.0), most of them female (n=31/62%), adolescents (n=28/56%) with a diagnosis of episodic migraine (n=32/64%), of low intensity (2.4; SD=0.6), pulsatile quality, duration in hours (18.0; SD=22.7) and more than half of the sample had no aura (n=32/64%). More than 70% of the sample had some comorbidity associated with the diagnosis of migraine, and neurological diseases, such as epilepsy, were more prevalent in both children (25.2%) and adolescents (26.3%), followed by respiratory diseases in children (20.1%) and psychological conditions in adolescents (19.8%). Pearson's correlation values of the ROM and PPT ranged for the cervical muscles for flexion and extension (r=0.019 to 0.550) and lateral flexion (r=0.002 to 0.136) and between PPT of the cervical muscles and left FRT (r=0.043 to 0.336) and right FRT (r=0.051 to 0.336) were classified as weak to moderate and not significant. Correlations between cutaneous allodynia and ROM for flexion and extension (r=-0.024), lateral flexion (r=0.278) and rotation (r=-0.038) and for right FRT (rho=-0.085) and left FRT (rho=0.182), had p>0.05.

Conclusion

Cervical sensitization represented by allodynia and LDP was not associated with cervical mobility in children and adolescents with migraine.

Keywords: Headache, Pediatrics, Central awareness.

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Correlation between kinesiophobia, muscle strength and neck endurance in patients with migraine

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Introduction

Migraine is a highly disabling primary headache that can be accompanied by pain and musculoskeletal dysfunction in the cervical region. These individuals with cervical musculoskeletal dysfunction present a greater tendency toward fear and catastrophic thoughts and a greater risk of migraine chronification, developing behaviors such as hypervigilance in order to avoid further injury presenting the fear of movement which can be characterized as kinesiophobia. Kinesiophobia is defined as an "irrational and devastating fear of movement, arising from a belief in the fragility of injury or a fear of re-injury." In addition, kinesiophobia can also be characterized as a fear of symptoms of fatigue or exhaustion, physical or mental discomfort. Individuals with cervical musculoskeletal dysfunctions are more prone to fear and catastrophic thoughts, and have a higher risk of migraine chronification, as well as an overreaction to actual or potential threats, developing behaviors such as hypervigilance in order to avoid further injury. The Kinesiophobia is a prevalent condition in individuals with migraine and the association between the presence of migraine and kinesiophobia has recently been investigated. However, it is not yet known whether there is a correlation between muscle strength and cervical endurance with kinesiophobia.

Objective

To evaluate the correlation between muscle strength and neck muscle endurance with kinesiophobia in patients with migraine.

Methods

Were included 70 women aged between 18 and 55 years, with a mean age of 31 years (SD=9.35; CI=2.19), and a mean body mass index of 23.5 (SD=3.63; CI= 0.85), diagnosed according to the 3rd edition of the ICHD-3. Regarding the clinical characteristics of these patients, they presented headache onset at 14.5 years (SD=9.57; CI=2.24), a frequency of 12 days in the month (SD=9.74; CI=2.28), the intensity of 8/10 on the Numerical Pain Rating Scale (NPRS) (SD=1.60; CI=0.37). The Multi-Cervical Rehabilitation Unit (MCU) was used to assess cervical strength and endurance. The cervical strength was measuring using the media of 3 maximum voluntary isometric contractions for 3 seconds in flexion, extension, and lateral flexion movements. Cervical muscle strength was measured in seconds from 50% of the maximum voluntary isometric contraction of the cervical flexors and extensors and was assessed using MCU. Tampa Scale for Kinesiophobia (TSK) questionnaire was used to evaluate the Kinesiophobia. The TSK was culturally adapted to other populations, for other dysfunctions, and its construct validity was also performed for several conditions and has good reliability. This study was approved by the research ethics committee (process 12145/2016). For statistical analysis, Spearman's correlation coefficient (rho) was calculated, and the correlation was classified as weak (rho < 0.30), moderate (rho between 0.30 to 0.70), and strong (rho > 0.70) using $p \leq 0.05$.

Results

The mean TSK score was 38 points (SD=8.94; CI=2.09). The mean strength for flexion was 6.22 N/Kg(SD=2.5; CI=0.5), extension 9.99 N/Kg (SD=3.6; CI=0.84), lateral flexion right 6.43 N/Kg (SD=2.4; CI=0.5) and left 6.86 N/Kg (SD=2.31; CI=0.54). The mean endurance cervical was 13s for flexion (SD=17.23; CI= 4.03) and 60s for extension (SD= 93.6; CI= 21.9). For cervical muscle endurance, a weak and negative significant correlation was found between TSK and cervical flexors muscle endurance (rho =-0.25; p=0.03). No significant correlations were found for muscle strength in flexion (rho=0,17; p= 0,14), extension (rho=- 0.01; p=0.87) and lateral flexion right (rho=-0.17; p=0.15) and left (rho=-0.12; p=0.29), and cervical extensor endurance (rho=-0.20; p=0.08).

Conclusion

The findings showed that a higher TSK score is related to a worse endurance of the cervical muscles. However, these correlations are weak and should be interpreted with caution.

Keywords: Migraine disorders, Headache, Neck pain, Kinesiophobia.

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Assessment of cervical muscle strength in women with migraine stratified by the report of neck pain

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Introduction
Individuals with migraine may have associated cervical musculoskeletal dysfunctions that may influence muscle function, but we still do not know if the alteration in muscle strength can predict the magnitude of this relationship or if the presence of pain during the tests can influence these results. Therefore, evaluating the muscle strength of migraine patients and the report of pain during the test can elucidate this relationship.

Objective
To clarify the relationship between pain reporting and cervical maximum isometric voluntary contraction (MVIC) in migraine individuals with and without neck pain, neck pain and controls.

Methods
We selected 100 women aged between 18 and 55 years, stratified into 4 groups: asymptomatic controls (n=25), neck pain (n=25), migraine (n=25), and migraine with neck pain (n=25). Patients were diagnosed by a neurologist according to the International Classification of Headache Disorders – III edition, whereas neck pain was included through self-report of chronic neck pain for at least 3 months (mild disability according to the Neck Disability Index). Clinical and demographic data were collected from the participants and they performed the Maximal isometric voluntary contractions (MIVC) test to verify cervical muscle strength for flexion and extension. The analyzes were performed following the division of the four groups by the ANOVA test using software version 9.4 (SAS Institute, Cary, NC, USA).

Results
A higher proportion of participants with migraine and neck pain (44%) and neck pain alone (56%) reported flexion test-induced neck pain compared to the control group (0% $p<0.01$), and neck pain Test-induced headache was more commonly reported in those with migraine (28%) and migraine with neck pain (28%) vs controls (0% $p<0.05$). For extension, there was a higher report of neck pain for neck pain (36%) and migraine with neck pain (24%) groups compared to control (0% $p<0.01$). Likewise, higher rates of women with migraine (16%) and migraine with neck pain (20%) reported headaches during testing compared to controls (0% $p<0.05$).

Conclusion
Women with a chronic neck pain, migraine, or both tend to report more head or neck pain compared to the control group during the Maximal isometric voluntary contractions test.

Keywords: Migraine, Neck pain, Muscle strength.

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Sensory organization test and motor control test in patients with migraine and vestibular migraine

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Introduction
Individuals with migraine have a high prevalence of vestibular symptoms, such as dizziness and balance deficits. The presence of aura and high frequency of attacks are associated with an increased risk of these symptoms. Vestibular migraine is a subtype of migraine described in the appendix of the International Classification of Headache Disorders (ICHD-III) along with the Committee for Classification of Vestibular Disorders of the Bárány Society. However, evidence is still lacking regarding how the balance of individuals with vestibular migraine is affected when compared to individuals with non-vestibular migraine.

Objective
To evaluate balance through Dynamic Computerized Posturography, with the Sensory Organization Test (SOT) and the Motor Control Test (MCT) in migraine subgroups: migraine and vestibular migraine.

Methods
Ninety women aged between 18 and 55 years were evaluated, divided by ICHD diagnostic criteria, into two groups: (1) migraine (GM); (2) vestibular migraine (GMV). The Dynamic Computerized Posturography exam was performed with the EquiTest - NeuroCom® software equipment, using the variables SOT and MCT. Clinical characteristics of migraine, presence of vestibular symptoms and number of falls in the last year were also evaluated. For the statistical analysis, mean and standard deviation were used in the comparison between groups, considering a significance of a = 0.05. The migraine and vestibular migraine groups were compared on the SOT for final score and on the MCT for latency during each of the test conditions using multivariate analysis of variance (MANOVA).

Results
The GM had the highest composite score on the SOT (M=74.0±9.7; MV=68.1±8.8; p=0.004), the highest score on the visual SOT (M=79.5±17, 9; MV=70.8±16.5); p=0.01] and in vestibular SOT (M=64.4±14.1; MV=54.4±14.4; p=0.02) than the GMV. In addition, all patients in the GMV reported vestibular symptoms, while in the GM, only 48.7% (p<0.001). There was no significant difference between the groups in the MCT (p=0.9).

Conclusion
Individuals with vestibular migraine showed worse performance on the SOT indicating a greater impairment of sensory systems and a worse clinical presentation of balance when compared to the migraine group.

Keywords: Migraine disorders, Postural balance, Sensory processing.

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Clinical characteristics of children and adolescents with primary and secondary headaches attended at the tertiary service in Brazil

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Introduction

Childhood headache is one of the most common neurological symptoms that affects about 60% of children (CR) and adolescents (AD) and its prevalence increases with age. Primary and secondary childhood headache have different characteristics and prevalence, but also have similarities, such as the diagnostic and treatment method. However, the data available in the literature do not take into account the level of complexity at healthy service where these children and adolescents are treated.

Objectives

To analyze the clinical characteristics of children (CH) and adolescents (AD) with primary and secondary headaches of tertiary-level headache outpatient clinic.

Methods

Retrospective study, based on review of medical records of CH and AD with primary or secondary headaches between the years 2016 and 2021. Sociodemographic data, medical history, clinical history, and daily routine of the child were obtained. The proportion of primary and secondary headaches in the CH and AD groups was also calculated. For continuous variables and categorical data, the chi-square test was used, considering $p<0.05$.

Results

A total of 386 medical records were included, of which 206 were CH (n=112; 54.8% girls) and 178 AD (n=118; 66.8% girls). Headaches were episodic in CH (57.3%) and chronic in AD (49.7%), [X2(2)=10.001; p=0.007], of mild intensity in CH (64.1%), strong in AD (48.5%), [X2(3)=25.802; p=0.000]. In CH, the most prevalent type of headache was in pressure (64.3%) and pulsatile in AD (52.8%), [X2(5)=14.595; p=0.012]. The chi-square test of independence showed that there is a significant association between CH and the presence of migraine [X2(5)=12,746; p=0.026], type of cesarean delivery [X2(2)=7.299;p=0.026], the use of common analgesics [X2(6)=36.690; p=0.000], discharge from the clinic after migraine treatment [X2(5)=22.225;p=0.000] and between AD and worsening of pain during physical activity [X2(3)=10.671;p=0.014], or pulsatile [X2(5)=14.595;p=0.012], and worsens during menstruation period [X2(6)=21.108;p=0.002].

Conclusion

In both groups, migraine was more prevalent and females were the most affected. By associating the CH and AD groups, these clinical patterns are significantly different in several aspects.

Keywords: Headache, Childhood, Electronic medical records, Adolescent.

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How does pain influence cervical endurance test performance in migraine patients?

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Introduction

Migraine sufferers frequently complain of cervical pain during and in-between migraine attacks and studies suggest that chronic neck pain is a risk factor for high-frequency migraine, including chronic migraine. Increased headache frequency and chronic neck pain are, in turn, independently associated with cephalic cutaneous allodynia, a known risk factor for increased headache frequency.

Objective

To verify the influence that pain in migraine patients has on muscle performace during the cervical endurance test and whether the change in performance is due to pain during the test, neck muscle dysfunction or both.

Methods

Were evaluate 100 women stratified by diagnosis (migraine, cervical pain, both and none) and self-reported pain during the cervical muscle endurance test in flexion and extension (with or without headache and/or cervical pain during the endurance test). Pain during the test by numerical rate scale (NPRS, 0-10) and pain pressure threshold were collected for all groups. Migraine patients answered 12-item Allodynia Symptom. We used one-way analysis of variance with the Tukey's HSD post hoc test analysis to contrast pressure pain threshold and endurance across groups. Differences in flexion and extension times were compared using the Welch T-test and the McNemar Test was used to compare differences in headache and neck pain incidence per study group during flexion and extension endurance tests.

Results

There are significantly differences in mean endurance during flexion between migraine and neck pain [34.4s (25)] relative to neck pain alone [45.2 (18)], migraine [40.2s (29)] and controls [57.5.4s (40)] ($p = 0.04$). On average, those who experienced headache during the flexion test sustained for significantly less time than those without headache during the test (27.80 versus 46.18 seconds, $p<0.01$); similar results were seen when comparing those with both headache and neck pain during the flexion test relative to those who experienced neither (24.86 versus 46.85 seconds, $p<0.01$). For extension values were, controls: 269.7 (150), migraine: 215 (132), neck pain: 165.64 (98), and migraine with neck pain 142.5 (75), $p<0.001$. There was statistically significant difference in average time sustained between those who experienced headache versus no headaches during extension test (98.68 versus 205.59 seconds, $p<0.01$) and for those who experienced both headache and neck pain versus neither during test (101.60 versus 215.74 seconds, $p<0.01$). Migraine and migraine with neck pain groups had the lowest pressure pain threshold in all muscle groups, suggesting that cephalic allodynia, as measured by pressure pain threshold, was mainly driven by migraine. Statistical significance ($p=0.04$) was seen between the ASC-12 scores of migraine group without neck pain or headache during endurance flexion test (average score=7.59) and migraine and neck pain group with neither neck pain nor headache during endurance flexion test (average score=10.33). Differences between groups for those who experienced headache, neck pain, or both during the test were not statistically significant for the endurance flexion test. For ASC-12 scores during the endurance extension test, statistical significance ($p<0.01$) was seen between the scores of migraineurs with neck pain during test (average score=5.14) and migraineurs with neck pain who experienced neck pain during the test (average score=10). No statistical difference was seen for ASC-12 scores of the remaining groups during the extension test.

Conclusion

We found that patients with migraine, chronic neck pain and the association of both may have altered cervical muscle function. Moreover, the presence of pain triggered by the tests, not the diagnosis, is associated with impact in endurance. Migraine patients are profoundly allodynic relative to those with neck pain or controls were expected. Trigeminal cervical sensitization explains the findings.

Keywords: Endurance, Migraine, Headache, Neck pain, Pain, Allodynia.

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Differences in the electrical activity and the clinical performance of superficial neck flexors and extensors during the CCFT in women with migraine

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Introduction

Musculoskeletal disorders in the cervical spine have been increasingly investigated and observed in patients with migraine. One of them is a poorer cervical muscle performance as assessed by the cranio-cervical flexion test (CCFT). In addition, patients with migraine have alterations in the recruitment of muscle motor units observed by surface electromyography during CCFT.

Objective

The aim was to verify if there are differences in the electrical activity and the clinical performance of superficial neck flexors and extensors during the CCFT in women with migraine considering the presence or absence of concomitant neck pain symptoms.

Methods

A total of 100 women were assessed: 25 with migraine without neck pain, 25 with migraine and neck pain, 25 with mechanical neck pain and 25 pain-free control. Clinical and demographic data were collected, The CCFT was performed in all groups. The test assessed the deep flexors muscle by a pressure unit biofeedback placed in the posterior region of the neck and initially inflated to 20 mmHg composed by 5 stages, with increase pressure by 2 mmHg at each stage, reaching 30 mmHg, keeping the pressure for 10 seconds without resorting to compensation. Electromyography data were collected with TrignoTM Wireless System wireless surface sensors. The sensors were firmly attached bilaterally on: sternocleidomastoid (SCM); splenius capitis, anterior scalene and upper trapezius. Electromyographic activity evaluated during the CCFT was normalized by the average the root mean square (RMS) calculated for the reference voluntary contraction and expressed as a percentage. Groups comparisons were performed with non-parametric tests adopting a level of significance of 0.05. To analyze the between-groups differences on the proportion of clinical targeted performance stages reached by each participant within the CCFT, the chi-square (X2) test was calculated, and the data were submitted to a post-hoc proportion test. For normalized RMS values between-groups comparisons were calculated by using the Kruskal-Wallis's test. The extensor/flexor muscle electromyographic ratio in stages of the CCFT between-groups was calculated by ANOVA.

Results

No differences were found for age and body mass index among the groups, nor in headache characteristics between migraine groups (all, $p>0.05$). A significantly higher proportion of pain-free women (52%) were able to reach the latest target (pressure level of 30 mmHg) of the CCFT as compared to all the patient groups. Between-groups comparisons revealed that migraine groups (with and without neck pain) exhibited higher activation of the SCM muscle during the CCFT than pain-free healthy controls (all, $p<0.001$). The data were not different at any stage of the CCFT for the normalized RMS of the anterior scalene and found that all pain groups exhibited a normalized RMS significantly greater than the control group at all stages of the CCFT of the splenius capitis muscle (all, $p<0.003$). Additionally, significantly higher upper trapezius activity was observed in all patient groups when compared to the control group in all stages of CCFT, with no differences between both migraine groups and neck pain. The comparison of the electromyographic extensor/flexor ratio during the CCFT indicated no differences for any stage of the test among the groups.

Conclusion

There was no difference in clinical performance and neck extensors electromyography activity during CCFT in women with migraine, considering the presence or absence of concomitant symptoms of neck pain. However, significant differences were found between individuals who have some dysfunction (migraine and/or neck pain) and controls. Individuals with dysfunction showed a worse performance on the CCFT and a greater muscle activation of SCM, splenius capitis and upper trapezius when compared to controls.

Keywords: Migraine disorders, Neck pain, Neck muscles, Cranio-cervical flexion test, Electromyography.

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Genetic variants IL18 -105G>A and -137G>C associated with susceptibility to migraine

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Introduction

Few studies have been conducted into neurogenic inflammation and neuroinflammation in respect of migraine. However, evidence suggests that the immune system may exert an influence over trigeminal activation and cortical spreading depression in individuals suffering from migraine. The interleukin (IL)-18 is a pro-inflammatory cytokine and increased plasma levels have been confirmed in individuals with migraine. However, as yet, the genetic variants of IL-18 have not been investigated in the context of migraine.

Objective

To investigate the association between genetic variants IL18 -105G>A (rs360717) and IL18 -137G>C (rs187238) and susceptibility to migraine and its clinical characteristics.

Subjects and Methods

Case control study comprising 307 participants, of whom 152 had a diagnosis of migraine and 155 were healthy controls, paired by sex, age, ethnicity and BMI. The clinical and demographic data were evaluated. The patients with migraine were interviewed using a structured form containing information about the type of migraine (with or without aura, episodic or chronic), age at onset of the disease, frequency of attacks, accompanying symptoms that triggered headaches. The patients also answered validated questionnaires to evaluate incapacity (Migraine Disability Assessment - MIDAS) and impact (Headache Impact Test - HIT-6) for migraine, the presence of allodynia (ASC-12), as well as symptoms of anxiety (State Anxiety Inventory - STAI 1 and 2), depression (Beck Depression Inventory) and a hyperacusis scale.

The genetic variants IL18 -105G>A (rs360717) and IL18 -137G>C (rs187238) were identified using polymerase chain reaction (PCR) and the fluorescence levels of PCR products were evaluated using a Step One thermocycler (Applied Biosystems). The analyses were conducted using the dominant, codominant, recessive and overdominant genetic models. Categorical data were evaluated via the chi-squared test or Fisher's exact test, and continuous data were evaluated using the Mann- Whitney test. Binary logistic regression was used to determine association when $p<0.1$ in the univariate analyses. A significant statistical difference was considered when $p<0.05$.

Results

The participants in the study were mostly female (76.8% and 81.6%, p = 0.23), young adults (median of 31 to 36 years, p = 0.30), Caucasian (76.8% and 82.2%, p = 0.21) and BMI with a median of 24.6 and 25.3 Kg/m2 in the control and migraine groups, respectively (p = 0.41).

55.6% of participants with migraine were classified as episodic while 44.4% were classified as chronic. Aura was present in 36.2%. Prophylactic medication was used in 44.7%, and 34.1% made excessive use of painkillers.

Alleles -105A and -137G were associated with higher susceptibility to migraine (OR = 1.53 with 95% CI 1.047-2.24; p = 0.028 and OR = 1.46 with 95% CI 1.00-2.14; p = 0.049, respectively). In the dominant model, the genotypes GA+AA of the IL-18 -105 variant were also associated with a higher chance of migraine (OR = 1.69 with 95% CI 1.05-2.73; p = 0.03).

The IL18 variants had no effect on the chronification of migraine, presence of aura, accompanying symptoms, prodrome, postdrome, triggers, age at onset, incapacity, impact, allodynia, hyperacusis, anxiety or depression.

Conclusions

The genetic variants of IL18 showed they exerted an effect on susceptibility to migraine; its alleles -105A and -137G, the major producers of cytokine, increased the chances of the disease by 53,0% and 46,0%, respectively. Results were in agreement with previous findings of higher IL-18 plasma levels in individuals with migraine. This was the first study to analyze the genetic variants of IL18 in migraine and results suggest that the IL18 variants do have an effect on susceptibility to migraine.

Keywords: Migraine, Cytokines, IL-18.

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Genetic variants IL1B +3954C>T and -511C>T associated with incapacity and allodynia in migraine

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Introduction

The main mechanisms in the physiopathology of migraine are cortical spreading depression and trigeminal activation with the release of CGRP. Neurogenic inflammation and neuroinflammation can exert an influence over both these mechanisms, but there are still a number of gaps in our understanding. Interleukin (IL)-1β is a pro-inflammatory cytokine whose levels of plasma increase during the attack phase of migraine. Thus far, its genetic variants have not been well studied.

Objective

To investigate the association between the genetic variants IL1B +3954C>T (rs1143634) and -511C>T (rs16944) and susceptibility to migraine and its clinical characteristics.

Subjects and Methods

Case control study comprising 307 participants, of whom 152 had a diagnosis of migraine and 155 were healthy controls, paired by sex, age, ethnicity and BMI. The clinical and demographic data were evaluated. The patients with migraine were interviewed using a structured form containing information about the type of migraine (with or without aura, episodic or chronic), age at onset of the disease, frequency of attacks, accompanying symptoms that triggered headaches. The patients also answered validated questionnaires to evaluate incapacity (Migraine Disability Assessment - MIDAS) and impact (Headache Impact Test - HIT-6) for migraine, the presence of allodynia (ASC-12), as well as symptoms of anxiety (State Anxiety Inventory - STAI 1 and 2), depression (Beck Depression Inventory) and a hyperacusis scale.

The genetic variants IL1B +3954C>T (rs1143634) and -511C>T (rs16944) were identified using polymerase chain reaction (PCR) and the fluorescence levels of PCR products were evaluated using a Step One thermocycler (Applied Biosystems). The analyses were conducted using the dominant, codominant, recessive and over- dominant genetic models. Categorical data were evaluated via the chi-squared test or Fisher's exact test, and continuous data were evaluated using the Mann-Whitney test. Binary logistic regression was used to determine association when $p<0.1$ in the univariate analyses. A significant statistical difference was considered when $p<0.05$.

Results

The participants in the study were mostly female (76.8% and 81.6%, p = 0.23), young adults (median of 31 to 36 years, p = 0.30), Caucasian (76.8% and 82.2%, p = 0.21) and BMI with a median of 24.6 and 25.3 Kg/m2 in the control and migraine groups, respectively (p = 0.41).

55.6% of participants with migraine were classified as episodic while 44.4% were classified as chronic. Aura was present in 36.2%. Prophylactic medication was used in 44.7%, and 34.1% made excessive use of painkillers.

The +3954CT genotype was associated with a higher chance of severe incapacity compared to the +3954CC genotype in the codominant model (OR = 2.14 with 95% CI 1.05-4.36; p = 0.035), and also when compared to the CC+TT genotypes in the over-dominant model (OR = 2.26 with 95% CI 1.11-4.57; p = 0.024). The CT + TT genotypes of the variant -511C>T were associated with a substantial or severe impact on migraine (OR = 3.03 with 95% CI (1.11-8.29); p = 0.031), in the dominant model.

Mild-to-severe allodynia was associated with the -511CT genotype in the codominant and over-dominant models (OR = 2.65 with 95% CI 1.05-6.67; p = 0.039 and OR = 2.38 with 95% CI 1.01-5.59; p = 0.047, respectively). Phonophobia was associated with the CT+TT genotype of the variant -511C>T (OR = 2.55 with 95% CI 1.11-5.90; p = 0.028).

No association was found in the variants IL1B +3954C>T and -511C>T with susceptibility to migraine, chronification, presence of aura, accompanying symptoms, prodrome, postdrome, age at onset, hyperacusis, anxiety or depression in all the genetic models analyzed.

Conclusion

IL-1β is a cytokine that has been widely studied with regard to migraine. Its production in the trigeminal ganglion has been demonstrated in experimental studies, as well as increased plasma levels in the first few hours of pain. An earlier study identified an association of the variant +3954C>T with susceptibility to migraine, a finding that was not, however, replicated in the present study. This discrepancy may be due to the smaller sample size (163) in the earlier study. However, although not exerting an effect on susceptibility, the variant +3954C>T did influence the form of presentation of the migraine, with a higher chance of severe incapacity. The genetic variant -511C>T, not previously studied with regard to migraine, was associated with the impact of migraine, allodynia and phonophobia.

The variants IL1B +3954C>T (rs1143634) and -511C>T (rs16944) did not have an effect on susceptibility to migraine, however they did have an influence on the form that the disease presented.

Keywords: Migraine. Cytokines. IL-1β.

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The ambiguity and limit of caffeine in migraine: a literature review

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Introduction

Migraine is a chronic disease that affects about 15% of world's population. It is the most disabling disease among men and women under 50 years. Studies indicate that the caffeine, which is the most consumed stimulating in the world and present on the daily diet, can be related to the migraine in an ambiguous way.

Objective

Considering the epidemiologic and economic point of view, the disease phisiopatology and the accessibility to caffeine, this study aims to understand if there would be a safe minimum dosage of caffeine for patients with migraine.

Methods

The words "migraine" and "caffeine" were searched in July 2022 at PUBMED and BVS with predetermined filters and selection of publication in qualis journals A1 and A2. 13 articles were found for this revision.

Results

Caffeine's effects on the nervous system and its relation with headaches have been target of several studies, mainly for producing symptoms similars to the prodromic phase of migraine e for the existence of the Caffeine Abstinence Syndrome, known as a diagnostic entity by the International Migraine Classification. The sensory hypersensitivity (migraine's characteristic) does not appear at the abstinence syndrome. The lack of information about pre-existing headache at studies shows a gap in the parameter ''caffeine withdrawal as a trigger per se''. It is possible that premonitory symptoms such as yawns, low energy and sleepiness can lead to caffeine intake, bringing forth the wrong idea that it has initiated the migraine. Caffeine, however, induces urinary magnesium loss, reducing its reabsorption. As magnesium affects neuromuscular conduction, nerve transmission and is beneficial in chronic pain conditions and migraines, caffeine, by decreasing magnesium level, can induce headache. Additionally, caffeine contains thiaminases, enzymes that degrade thiamine, which may have protective potential in migraine. Doses between 600-1,200 mg would achieve antinociception and lower doses would have intrinsic analgesic properties. Caffeine-containing pain relievers are effective in treating primary and secondary headaches. In combination with acetaminophen or aspirin, caffeine reduced the amount of analgesic needed to achieve the same effect by approximately 40%. A retrospective study noted that dietary caffeine consumption is a modest risk factor. Regarding sleep, caffeine can disrupt sleep and disrupted sleep patterns predispose to headache. Studies show that treatment with ibuprofen and caffeine provided significantly greater analgesic effect than ibuprofen alone and revealed no association between one to two servings of caffeine and the odds of headaches that day; only three or more servings. There are studies that have not found any participants who reported caffeine as a trigger. In the Head-HUNT study, chronic headaches were more prevalent among individuals with low caffeine intakes compared to those with moderate or high intakes. Those who are regular caffeine consumers and wish to continue their consumption should keep their daily intake as consistent as possible, limiting it to 200 mg/day, at consistent times, and should not be interrupted during the weekend to avoid headache pain from caffeine withdrawal. Use of caffeine-containing pain relievers should be limited to two days a week to prevent medication overuse headache.

Conclusion

There is evidence for the action of caffeine as an analgesic and the evidence as a trigger and on withdrawal is still uncertain. More studies are needed on the frequency and amounts that would be safe, although the literature already recommends a consumption of less than 200 mg/day. There is an attempt to describe withdrawal headache, however, as pain is a subjective experience, there is a difficulty in standardizing these classifications and in understanding the patient in relation to the pain scale.

Keywords: Analgesics, Caffeine, Caffeine withdrawal, Medication overuse, Migraine.

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Anxiety and depression associated with migraine features

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Introduction

Migraine is the most common primary headache in medical care, being the cause of migraine in more than 10% of the population, directly impacting the quality of life and working capacity of those affected. Recently, studies have indicated a close association between migraine and anxious and depressive disorders mediated by mechanisms such as alterations in monoamines (serotonin and dopamine) and neurotransmitter peptides such as endorphins and enkephalins, immune dysfunction, and genetic factors, causing symptoms and common characteristics among patients.

Objective

Investigate the association between anxiety and depression with migraine features and accompanying symptoms.

Methods

Cross-sectional study based on 466 patients with migraine, which were submitted to a structured interview in which demographic, clinical, anthropometric data and data related to migraine and its characteristics were obtained. Besides that, patients answered validated forms regarding the impact of migraine (HIT-6), allodynia (ASC-12), depression (IDB – inventário de Beck), anxiety (STAI Y-1 and Y-2) and hyperacusis scale. Categorical variables were evaluated using the chi-square test and numerical variables were analyzed using the Mann Whitney test. Statistical difference was considered when $p \leq 0.05$.

Results

466 patients participated in the study, of which 86.1% were women, the median age was 33 years, 55.5% of the individuals had episodic migraine and 61.8% reported absence of aura. Regarding the patients with anxiety, 93.30% reported association of osmophobia with migraine attack (p=0.03) and 46.70%, association with diarrhea (p=0.001). Patients with anxiety scored higher on the impact of migraine questionnaire (p=0.046), allodynia (p=0.005) and the hyperacusis scale (p=0.029). In relation to depression, a comparison was made between minimal or mild and moderate or severe involvement, and in the last group, 59.40% of patients had chronic migraine (p=0.006), 78.10% denied association with diarrhea (p=0.049), 79.40% reported prodrome (p=0.048) and 56.40% make excessive use of analgesics (p=0.01). Like patients with anxiety, those with moderate or severe depression also scored higher on questionnaires related to migraine disability (p<0.001), migraine impact (p<0.001), allodynia (p=0.003) and hyperacusis scale (p=0.001).

Conclusions

Individuals with migraine and anxiety suffered more often from osmophobia and diarrhea during the attack. On the other hand, depressive individuals had a higher frequency of chronic migraine and diarrhea. Both anxiety and depression were associated with disease activity assessed by the impact, allodynia and hyperacusis scales.

Keywords: Migraine, Anxiety, Depression, Allodynia, Hyperacusis, Osmophobia.

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Effects of migraine in cognition

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Background

Migraine is among the 3 most burdensome neurological disorders in the US in terms of absolute number of disability-adjusted life years (DALYs) from 1990 to 2017, behind just stroke and Alzheimer disease and other dementias. Migraine is characterized as a type of unilateral primary headache marked by a series of neurological and vascular alterations, which can occur episodically or chronically and course with intermittent attacks of intense or moderate headache. Moreover, cognitive dysfunctions are interim and disabling components of this disorder and may be related to the brain processes underlying the pathophysiology.

Objective

Examine the effects of migraine in the cognitive functions, such as language function, visuospatial function, attention, executive function and memory, of adults between 19 and 45 years old.

Method

This study consists in a narrative review of articles published in the last 5 years on MEDLINE database searched through PubMed. The articles were found using the following MESHs: Migraine and Cognition.

Results

We utilized 3 studies that approached cognitive impairment in migraine attacks and interictally. In a clinical trial, 144 pacients with chronic migraine (CM) and 44 age-matched patients with episodic migraine (EM) (a maximum of 4 headache days per month) were compared by cognitive assesments. In the Montreal Cognitive Assessment (MoCA), CM patients demonstrated the most striking impairment in memory/delayed recall (65.3%), attention (46.5%), abstraction (30.6%), and language (27.1%). In one meta-analysis, it was shown a lower general cognitive function in migraine group, compared to no migraine group with a random effects model (standard mean difference (SMD)=−0.40, 95% CI=−0.66 to −0.15, I2=92.8%, p<0.001). Additionally, an analysis in language function showed a lower language function in migraine group, compared to no migraine group with a random effects model (SMD=−0.14, 95% CI=−0.27 to −0.00, I2=65.1%, p=0.001). Also, no significant difference in executive function between migraine group and no migraine group was found (SMD=−0.05, 95% CI=−0.16 to 0.05, I2=54.7%, p<0.001. In another meta-analysis, migraineurs demonstrated significantly poorer performance on tasks of delayed memory, as compared to healthy controls, with a small-to-moderate effect size (g=-0.44, 95% CI=-0.80 to -0.07, I2=74.24%, p=0.02). Regarding complex attention, the results were (g = -0,42, 95% CI=-0.58 to -0.26, I2 = 25.14%, p<0.01) and no significant difference in visuospatial function was shown (SMD=−0.23, 95% CI=−0.53 to 0.08, I2 =56.1%, p =0.077).

Conclusion

We identifed that cognitive impairment is indeed one of the possible manifestation in migraine. This disorder affects especially in the delayed memory, language functions and complex attention of pacients. Regarding executive and visuospatial functions, there was no significant difference between migraine and no migraine groups. However, the high heterogeneity of some results require a cautious interpretation and demand more studies. Thus, migraine attack-related cognitive dysfunction is clinically relevant and contributes to disability, so it should be perceived as a therapeutic target.

Keywords: Cognition, Cognitive functions, Migraine, Impairment.

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Single nucleotide variants in the SCN1A gene and their relation to the development of type 3 familial hemiplegic migraine

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Introduction

Migraine is a complex brain disorder that is influenced by different pathophysiological aspects such as inflammation, structural changes, and dysfunctions in multisensory processing. Recent studies have showed that possible mutations in genes that interfere with the excitability of ion channels linked to nociception are one of the key mechanisms for the development of a migraine. In this sense, it is known that familial hemiplegic migraine type 3 (FHM3) undergoes specific missense mutational influences on the SCN1A gene that encodes the a1 subunit of NAV1.1, a voltage-gated sodium channel present in the brain that demonstrates that the deregulation of the excitatory- inhibitory balance of these channels in specific circuits may come to characterize the pathogenic mechanism of FHM3.

Objectives

Investigate the relation of single nucleotide variants (SNVs) on the SCN1A gene encoder of the a1 subunit of the NAV1.1 channel with the development of FHM3.

Methods

Narrative review performed by active search in the digital databases Virtual Health Library (BVS), PubMed, SciElo and Google Scholar.

Development

Migraine pathophysiology involves the distribution of ions between intracellular and extracellular compartments, which shows the role of the ion channels in the disease. In this regard, there is an activation of the trigeminal vascular meningeal system by the NaV1.1 channels, which are expressed in Aδ fibers. Therefore, it is believed that mutations on genes that encodes the ion channels act in the development of migraine, mainly by the meninges, as they are densely innervated by trigeminal nerve endings.

Migraine can be classified by the presence or absence of aura, and the FHM – clinical condition and genetically heterogeneous, transmitted in an autosomal dominant form – presents aura. Among the types of FHM, the type 3 comprises mutations on gene SCN1A – located on chromosome 2q24 and responsible for the encoding of proteins involved in ion transport -, these genetic alterations are considered triggering factors for this type of migraine. This gene is responsible for encoding the a1 subunit of the voltage-gated neuronal sodium channels NaV1.1, whose function is mediate the permeability of excitable membranes in the central nervous system. Thus, different mutations with gains of function (L1670W, L263V, L1649Q, e Q1478K) in the SCN1Agene, stimulate the nociceptive activations and, thereafter, the increase of severe migraine pain.

Results

FHM shows a dominant autosomal pattern with penetrance of 70% to 90%. The mutations related to FHM type 3 cause gain of function on NAV1.1 channels, and hyperexcitability of GABAergic neurons. The increased concentration of extracellular potassium is consequence of GABAergic interneurons hyperexcitability and this has been proposed as a possible mechanism of cortical depression in FHM3. The SNVs activity with gain of function increased nociceptive spikes, suggesting that the excitability of afferent meningeal terminals was increased. SNV L263V is much more effective on causing firing and spikes then the other variants. SNV L263V, on SCN1A gene, is characteristic of epilepsy and it was also the first SNV to be associated with FHM. In a Portuguese family, researchers found the first case of hemiplegic migraine and epilepsy. It was identified as a missense SNV that changed a single nucleotide in exon 6, that caused the substitution of Leucine to Valine at the position 263 of the NAV1.1 a1 subunit. This result reveals that FHM and epilepsy can share, at least partially, the same genetic pathway.

Conclusion

In conclusion, there are alterations in the ion channels when it comes to FHM type 3, because individuals with this disease showed changes in the SCN1A gene of the SNV type. SNVs in this gene must alter permeability leading to hyperexcitability and consequent nociceptive activation, causing the episodic migraine pain.

Keywords: Migraine with aura, NAV1.1 Voltage-gated sodium channel, Trigeminal nerve, Ion transport.

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Influence of sleep and physical exercise in migraine patients

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Introduction

The prevalence of headache and sleep disorders is quite high in the general population. Both are chronic pathologies considered factors of daily disability which often coexists in migraine patients. A cause-and-effect relationship between migraine attacks and sleepless nights has not been confirmed yet, but it is already recognized that they have in common neuropeptides and functional anatomy in their pathogenesis. Because of this high prevalence, there are several studies on treatment options and prophylactic measures for migraine. The regular practice of physical exercises is identified as an important prevention factor for migraine attacks. However, daily intense physical activities are identified as triggers for these attacks.

Objectives

To investigate the correlation between sleep time and frequency of physical activity with headache days per month, migraine disability, allodynia, hyperacusis, anxiety and depression.

Methods

Cross-sectional study composed of 466 individuals of both sexes diagnosed with migraine. Patient data such as age, sex, race, body mass index (BMI), waist circumference, presence of hypertension and diabetes were analyzed. It was obtained information about the type of migraine (episodic or chronic; with or without aura), age of symptoms onset, duration of illness, use of prophylactic medication and excessive use of analgesics, as well as hours of sleep per night and frequency of practice of physical activity. Patients answered questionnaires to evaluate disability (Migraine Disability Assessment - MIDAS) and the impact of migraine (HIT-6), as well as questionnaires for anxiety (STAI Y1 and STAI Y2), depression (Beck Depression Scale), allodynia (ASC-12) and hyperacusis. Spearman's correlation test was performed and a statistical difference was considered when $p \leq 0.05$.

Results

The participants of the present study were mostly female (86.1%), young adults, with a median age of 33 years, caucasian (78.9%) and a median BMI of 24.8 kg/m2. The median age of migraine onset was 17 years and the median time of disease progression was 12 years. They mostly presented the episodic form of the disease (55.5%), with aura present in 38.2% of the migraineurs. Most did not have diabetes mellitus (95.9%) or hypertension (89.2%). Additionally, 35% were using prophylactic medication and 39.40% were overusing analgesics. As for physical exercise, patients showed a median of practices of 2 (0-4) times a week. A negative correlation was found between physical exercise and the number of headache days per month (ρ= -0.103; p= 0.027) as well as anxiety (ρ= -0.101; p= 0.031), evaluated by the STAI questionnaire Y1. The median number of hours of sleep per night among participants was 7 (6-8) hours. There was a negative correlation between the number of hours of sleep and BMI (ρ= -0.129; p= 0.006), waist circumference (ρ= -0.121; p= 0.021), anxiety (ρ= -0.135; p= 0.004) and depression (ρ = -0.110; p= 0.028). There was no correlation between hours of sleep and number of headache days. There was also no correlation between hours of sleep and frequency of physical activity with disability, impact, allodynia and hyperacusis.

Conclusion

This study showed that the greater the number of hours of sleep, the lower the BMI and waist circumference, as well as lower scores for anxiety and depression, however this correlation was weak. Also was weak the physical activity influence in the frequency of pain and anxiety score. Thus, the higher frequency of physical activity lowers the frequency of pain and anxiety score.

Habits and lifestyle, such as sleep and physical activity, may have little effect on anthropometric parameters, mental health and headache frequency in individuals with migraine.

Keywords: Migraine, Sleep, Exercise, Anxiety, Depression.

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Prevalence of compulsion in migraine patients and its association with analgesic abuse

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Introduction

Migraine, is one of the most prevalent types of headaches, affects around 15% of people worldwide, more common among women, and causes a great effect in the quality of life of the individual. The diagnosis criteria of this disease is due to its duration and other characteristics such as phonophobia, photophobia, unilateral, pulsatile and intense crisis, nausea and vomiting, which can be preceded by aura and premonitory symptoms. With the purpose to ease those symptoms, the patients have a drug overuse. The medication-overuse headache (MOH) is an emerging problem, due to the possibility of developing psychiatric disorders like obsessive compulsive disorder (OCD) and impulsivity. Impulsivity consists in actions where the individual does not reflect upon it and make decisions fast, without planning or analyzing the case in the long term. Compulsion is defined as repetitive actions with the intention to ease anxiety or an uncomfortable situation.

Objective

Determine a prevalence of OCD in migraine patients, evaluating different scopes of it, including the association or not with drug abuse.

Methods

A cross-sectional study with 117 patients of both sexes, older than 18 years old. The group was made with migraine patients diagnosed by a neurologist according to the International Classification of Headache Disorders (ICHD) separated in two groups, one that has analgesics abuse and other that do not have. Three questionnaires were used: Barratt Impulsiveness Scale (BIS-11); Obsessive Compulsive Inventory-Revised (OCI-R) and the Migraine Disability Assessment (MIDAS). The data collected was placed in an electronic worksheet and processed in Software SPSS Statistics 22.0. There was an assumption of a p value of 0.05 to all cases with the intention to reject the null hypothesis.

Results

Among the 117 patients in the study, 92.3% are females. In the matter of scholarly, 62.2% have finished at least high school, while the other 37.8% have studied less than 11 years. The median age was 38 years old, and the median family income was 1 salary. The analgesic abuse was found on 33.3% of patients. Higher scores on OCI-R were shown in patients with drug abuse. Findings suggest that there is an association with individuals with a medication-overuse profile and the development of compulsive symptoms and the seriousness of the migraine symptoms also seems related to medication-overuse headache. Meanwhile, impulsivity factors do not seem to have an association with analgesic abuse.

Conclusion

The study showed that patients with medication-overuse headaches have a higher association with the development of compulsive behavior in comparison with the group without medication-overuse.

Keywords. Migraine, Medication-overuse, Obsessive compulsive disorder (OCD).

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Intra-rater reliability of pressure pain threshold using a digital algometer

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Background

Pressure pain thresholds (PPT) has been the main sensory modality studied in headache disorders. It is usually repetitive, leading to potential variability between measurements. Since threshold estimation relies on the observer, patient, body site, and the device used, it is important to assess measurement reliability in the specific clinical and methodological scenario to be studied in order to minimize error.

Objective

The aim of this study is to confirm intra-rater reliability of PPT in the head of adults using a digital algometer device.

Methods

PPT was measured with a digital algometer in 3 consecutive assessments conducted 10 min apart. Eight sites were measured in each time at the occipital, temporal and masseter regions bilaterally, frontal and vertex at midline. The reliability using intra-class variability (ICC) and covariance were calculated between times 1, 2, 3, and all times versus the mean. Scores above 0,75 were considered as having excellent reliability.

Results

Ten healthy volunteers aged (21-55) were studied. The sum of all sites measured in the head was 2,182 (±672) KPa for the first measure, 2,085 (±626) KPa for the second, 2,185 (±685) for the third, and 2150 (±685) KPa for the mean. All ICC coefficients calculated were 0.975 or higher in all areas.

Conclusions

We concluded that one PPT measure in the head with a digital algometer is as reliable as 3 repetitive measures The intra-rater reliability for PPT is considered excellent. Future studies assessing pain vulnerability or predicting headache occurrence can be performed without a significant risk of bias.

Keywords: Pressure PainThreshold, Algometry, Reliability, Intra-class.

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Relationship between cutaneous allodynia, cervical muscle strength and endurance in women with migraine

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Introduction

Migraine is a primary headache disorder with generalized neuronal hyperexcitability. Migraine individuals have a high prevalence of cutaneous allodynia, neck pain, and reduced cervical isometric strength. Lower isometric strength is also known to correlate with greater severity of cutaneous allodynia. However, the correlation between cervical muscle endurance and cutaneous allodynia is not yet known.

Objective

To evaluate the correlation between cervical muscle strength and endurance with cutaneous allodynia in migraine women.

Methods

Seventy migraine women were recruited by local community advertisements. Were included women aged between 18 and 55 years and migraine diagnosis. An experienced neurologist diagnosed potential participants with migraine according to the third edition of the International Classification of Headache Disorders (ICHD-3). Participants were excluded if they underwent an anesthetic nerve block; presented with any other concomitant headache, such as cervicogenic or tension-type headache, degenerative cervical conditions, or history of trauma at the neck and face, or pregnancy.

The Multi Cervical Rehabilitation Unit (MCU) was used to assess cervical isometric muscle strength and cervical muscle endurance. The assessment of cervical isometric strength was obtained through three repetitions of the movement in flexion, extension, and lateral flexion. The endurance of cervical flexors and extensors muscles was obtained using 50% of the maximum voluntary isometric contraction. The MCU is a device with excellent reliability (ICC 0.92–0.99) for assessing cervical muscle strength and endurance.

Cutaneous allodynia was evaluated using the Allodynia Symptom Checklist (ASC-12), a reliable, quick, and simple tool with excellent psychometric properties, compound of 12 questions that allows to classify the severity of cutaneous allodynia. The questionnaire was validated for the Portuguese language and it is able to diagnose and classify allodynia in the Brazilian population, in order to facilitate the identification of symptoms in a reliable and fast manner (ASC-12). For data analysis, Spearman's correlation coefficient (ρ) was calculated, and the correlation was classified as weak (ρ <0.30), moderate (ρ between 0.30 to 0.70), and strong (ρ>0.70). This study was approved by local research ethics (process 10100/2017).

Results

A moderate and significant negative correlation was demonstrated between muscle strength in flexion (ρ =0.30; p=0.01), extension (ρ = -0.33; p=0.005) and left lateral flexion (ρ = -0.34; p=0.004) with cutaneous allodynia. For muscle strength and allodynia, we found a weak positive correlation for cervical extensors (ρ=0.29; p=0.02).

Conclusion

Our results showed that higher severity of cutaneous allodynia is related to lower strength to flexion, extension, and left lateral flexion in migraine patients. However, the severity of allodynia does not related to the worse cervical muscle endurance.

Keywords: Headache, Fatigue, Cervical spine, Migraine disorders.

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Drug management for migraine with aura and treatment alternatives: a case report

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Introduction

Migraine is a chronic disease and affects about 15% of the World population. It is the second most disabling disease among young adults. Pathophysiology has not yet been fully clarified, but there is evidence for genetic alterations that cause a state of hyperexcitability and metabolic alterations that make the central nervous system more susceptible to external stimuli.

Objective

To present the evolution of a diagnosis of headache with aura treated with drugs and the results obtained.

Methods

Data collected through complete anamnesis.

Results/Case report

Woman, 26 years old, student, white, with hypothyroidism, denies smoking and alcohol consumption. Reports practicing physical activity and maintaining a healthy diet. Complains of headache for 9 years, with increased intensity and frequency. At the age of 18, period of onset of pain, frequency was every 10-15 days, with a maximum duration of one day and visual changes. She was using oral contraceptive pill (OCP) and dipyrone, without neurological consultation. At the age of 20, the use of OCP ceased, with worsening of the frequency and intensity of pain, the patient sought specialized medical care. Neurologist diagnosed migraine with aura triggered by stress. As treatment, he prescribed 50 mg/day of topiramate divided into two doses and alprazolam 0.5 mg, with return in 60 days. Reports no improvement and there was an increase in topiramate dosage to 100 mg and alprazolam dosage to 1 mg/day.

There was relative improvement for an approximate period of 4 months. Patient returned to daily pain, with episodes of throbbing pain, with exacerbated photo and phonophobia, need for hospital care twice a month and beginning of concentration problems. In hospital care, reports having received tramal, profenid and dramin. In return to the neurologist, the dose of topiramate was increased to 150 mg/day and that of alprazolam to 2 mg/day. Patient started psychiatric treatment with fluoxetine (60 mg) and bupropion. After 6 months of treatment, she complains of worsening of his psychiatric condition, with no change in the frequency of headache (3x/week). Fluoxetine was switched to escitalopram. There was no improvement, doctor indicated the use of clonazepam, which the patient didn't do. She kept topiramate, escitalopram, bupropion. Maintenance of pain frequency, increased use of analgesics and need for hospital intervention was maintained. Reports having stopped using escitalopram, bupropion and alprazolam on her own after a few months, in addition to decreasing the dose of topiramate when she felt that she was in moments of lower stress. At 25 years of age, patient sought other physicians for experiencing high-intensity pain again. Neurological management was maintenance of topiramate at 100 mg/day. The psychiatric management was the use of fluoxetine and zolpidem. There was no improvement. Neurologist indicated withdrawal of topiramate and use of Depakote, patient didn't follow prescription. The psychiatrist replaced fluoxentine with venlafaxine, there were exacerbated gastrointestinal symptoms and, finally, an indication for the use of paroxetine. Patient reports discomfort with medications, worst headaches, even vomiting, and sought a new professional. On medical advice, she used Venvanse for two months and reports that he did not feel severe pain, with no episode that required hospital intervention. Currently, for psychiatric indication, she uses 40 mg of fluoxetine, 100 mg of topiramate and dipyrone if necessary.There was a reduction in pain intensity, but daily feeling of heavy head. In a neurological consultation, she was diagnosed with migraine with aura and medication-induced headache due to the caffeine consumed, and cranial nerve block, Botox application and monoclonal drug were indicated, but the patient didn't consent.

Conclusion

In view of the exposed situation, without obtaining satisfactory result, the prescription of cannabidiol (CBD) is suggested for the treatment of headache with aura concomitantly with an antidepressant.

Keywords: Aura, Headache, Migraine, Medication.

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Assessing the influence of migraine on stroke ischemic penumbra

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Introduction
There is controversy as to whether migraine affects the behavior of ischemic penumbra during the acute phase of an ischemic stroke, thereby accelerating the formation of cerebral infarction.

Objectives
To assess whether migraine modifies the existence and volume of the divergence between the areas of diffusion and perfusion in the stroke (the penumbra).

Methods
This was a prospective cohort study carried out in a hospital in the city of Recife, Pernambuco, Brazil. We included consecutively hospitalized patients with ischemic stroke within 72 hours of symptom onset. A diagnosis of ischemic stroke was made by the presence of a diffusion restriction pattern on the MRI within a compatible clinical context. Patients were assessed by a neurologist who conducted an interview using a semi-structured questionnaire containing questions regarding sociodemographic data, the presence and characteristics of headaches in their lives, the presence and characteristics of headaches related to ischemic stroke and the related clinical condition to ischemic stroke. The headaches presented were classified according to the diagnostic criteria of the third edition of the International Classification of Headache Disorders. The National Institute of Health Stroke Scale and the modified Rankin scale were used. Patients underwent MRI of the brain with diffusion and with perfusion.

Results
A total of 221 patients were included, 59.3% of whom were male, and a mean age of 68.2 ± 13.8 years. Ischemic penumbra analysis was performed in 118 patients. There was no association between migraine and the absence of ischemic penumbra (OR: 1.22; CI95%: 0.52 – 2.87; p=0.649; chi-square test). There was no difference in the volume of ischemic penumbra between those with and without migraine. There was no difference in stroke volume between those with and without migraine (1.0; 0.38 – 7.9 cm3 vs 1.82; 0.34 – 9.45 cm3; p=0.995; Kruskal-Wallis test).

Conclusion
Migraine is not associated with a higher frequency of an absence of ischemic penumbra or with the volume of ischemic penumbra.

Keywords: Cerebrovascular disease, Ischemic stroke, Migraine, Ischemic penumbra, PWI–DWI mismatch.

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Assessing the influence of migraine on the prognosis of ischemic stroke: a prospective cohort study

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Introduction
There is controversy as to whether migraine implies a poorer prognosis after the stroke.

Objectives
To assess whether migraine implies a poorer prognosis after the stroke.

Methods
This was a prospective cohort study carried out in a hospital in the city of Recife, Pernambuco, Brazil. We included consecutively hospitalized patients with ischemic stroke within 72 hours of symptom onset. A diagnosis of ischemic stroke was made by the presence of a diffusion restriction pattern on the MRI within a compatible clinical context. Patients were assessed by a neurologist who conducted an interview using a semi-structured questionnaire containing questions regarding sociodemographic data, the presence and characteristics of headaches in their lives and the related clinical condition to ischemic stroke. The headaches presented were classified according to the diagnostic criteria of the third edition of the International Classification of Headache Disorders. The National Institute of Health Stroke Scale and the modified Rankin scale were used. Patients underwent MRI of the brain with diffusion and with perfusion. Patients were assessed by telephone 3 months after the stroke to determine the prognosis.

Results
A total of 221 patients were included, 59.3% of whom were male, and a mean age of 68.2 ± 13.8 years. One hundred and seventy-eight patients (178/221; 81%) were assessed 3 months after the ischemic stroke. Migraine was not associated with the stroke prognosis (logistic regression).

Conclusion
Migraine is not associated with the prognosis of ischemic stroke.

Keywords: Cerebrovascular disease, Ischemic stroke, Migraine, Stroke outcome.

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Persistent headache attributed to previous ischemic stroke: a prospective cohort study

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Introduction

Headache is a frequent sign of stroke, occurring both in the acute phase and persisting for 3 months after the stroke. The most recent International Classification of Headache Disorders has included persistent headache attributed to past stroke. Diagnosis depends on the presence of headache in the acute phase of stroke, although the headache persists for more than 3 months after the cerebrovascular event.

Objectives

To assess the incidence, course and impact of persistent headache attributed to a past ischemic stroke. To identify risk factors for the development of persistent headache attributed to a past stroke.

Methods

This was a prospective, observational cohort study. Inpatients with stroke, admitted within 72 hours of the onset of symptoms, were assessed at the Real Hospital Português de Beneficência de Pernambuco. Diagnosis of ischemic stroke occurred through the presence of an area of restricted diffusion in the magnetic resonance examination within a compatible clinical context. A semi-structured questionnaire was applied to characterize the sociodemographic information, the cerebrovascular disease and the headaches according to the diagnostic criteria of the International Classification of Headache Disorders. The NIHSS Stroke Scale and the HIT-6 scale were also used. Patients were assessed in person by the researchers in the acute phase of stroke and by telephone after 1 year to assess persistent headache attributed to past stroke.

Results

Initially, 221 patients were included, most of them male (59.3%) and whose mean age was 68.2 ± 13.8 years. One hundred and nineteen patients (53.9%) answered the questionnaire by telephone 1 year after the stroke. Persistent headache attributed to a past stroke presented a frequency of 10.1% in the sample (95%CI: 5.3 to 17.0%) 1 year after the stroke. Headache presented a median frequency of 2.5 (1 – 4) days of pain per month. The most frequent clinical features were a headache of moderate intensity and frontal location. The presence of photophobia and phonophobia occurred in half of the patients and the presence of nausea occurred in 66%. Most patients (58.3%) were classified as having a migraine-like pattern. One third of the patients were highly impacted, with the median of the HIT-6 questionnaire being 47.5 (37 – 61). We observed no risk factors for the development of persistent headache attributed to past stroke.

Conclusion

Persistent headache attributed to past stroke is a frequent complication after stroke, has a significant impact on the lives of one third of patients who suffer from it and has a migraine-like pattern as the most frequent phenotype.

Keywords: Ischemic stroke, Cerebral infarction, Migraine, Secondary headache, Vascular headaches.

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Intracranial hypertension secondary to low doses of vitamin A

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Introduction

Chronic Vitamin A toxicity usually occurs with high doses of Vitamin A intake, usually after using >30,000 mcg EA daily for several months. For treatment of skin disorders isused massive doses (50,000 to 150,000 mcg AE daily). Early signs and symptoms can be sparsely distributed rough hair, alopecia of the eyebrows, rough and dry skin, dry eyes and chapped lips. Later, severe headache, intracranial hypertension, and generalized weakness develop. Fractures can easily occur, especially in the elderly.

Objective

To present a case of intracranial hypertension secondary to chronic intake of low doses of Vitamin A.

Method

Revision of medical record.

Case

Woman, 60 years old, thin, presents with worsening headaches for two years. Since childhood, she has had migraine without aura in low-frequency. In the last two years, she has had some changes in headache characteristics, however she still met criteria for migraine. Pain occurred daily and there were four episodes of nocturnal awakenings by pain in the last year. Magnetic resonance imaging of the brain and venous-phase magnetic resonance angiography normal. A cerebrospinal fluid analysis was requested, which showed an opening pressure of 92 cmH2O and a closing pressure of 40 cmH2O. No futher abnormalities. Acetazolamide 250 mg twice a day was started, with intolerance and metabolic acidosis after 3 days of use. It was replaced by topiramate, to which there was also intolerance at a dose of 25 mg twice a day for 7 days of use. Asked again by the use of any medine/vitamin, patient revealed that use two capsules of propolis for fourteen years, whose leaflet showed the presence of 300 mcg EA of vitamin A in each capsule of the compound. Patient was advised to discontinue its use and to repeat cerebrospinal fluid analysis in three months, whose opening pressure was lower (40 cmH2O). New opening pressure six months after suspension of Vitamina A was 28 cmH2O, with the patient being asymptomatic.

Conclusion

There are several substances that can lead to increased intracranial pressure, including high daily doses of Vitamin A. The case above demonstrates that the chronic use of low doses of vitamin A, such 50 times less than the known toxic doses, can also lead to an increase of intracranial pressure, that can normalize after some months of complete suspension of this vitamine.

Keywords: Headache, Intracranial hypertension, Vitamin A.

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Trends in physiopathology research of primary headaches over the last 50 years

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Introduction
The headache field, mainly migraine, is passing through a transformative era of new treatments. These breakthroughs would not be possible without the evolving knowledge on mechanisms of headaches. However, there are still unmet needs for headaches' understanding and treatments.

Objectives
Assess whether there is a trend in the number of publications regarding physiopathology of each primary headache disorders (PHD) in the past 50 years. Secondarily, we aimed to evaluate how the SARS-CoV-2 pandemics impacted on physiopathology research of PHD.

Methods
PHD were divided hierarchically in first- and second-digit, according to ICHD-3 criteria. PubMed database was searched using both the name of the PHD and MeSH terms related to physiopathology. Each search yielded the number of publications for a determined PHD along the period selected (1971-2021). Data were retrieved and separated in two groups: a) per decades (1971-2020); and b) per year (2011-2021). Ratios between every two timepoints in each group were calculated, as well as a total ratio for the whole interval.

Results
Either divided per decades, or divided annually for the last 10 years, migraine had the highest absolute number of pathophysiology publications, significantly above the other PHD.
Divided per decades, with exception of tension-type headache (TTH), all the other PHD groups have increased their number of publications over time. Meanwhile, TTH in the last decade decreased the total number of mechanisms research.
The number of papers published in 2020 was lower than in 2019 for TTH, trigeminal autonomic cephalalgias (TACs) and group 4 "other PHD" (4.OPHD), migraine kept practically the same number.

Conclusion
There is a clear disparity in the number of publications on mechanisms of each PHD, being migraine well above TTH, TACs and 4.OPHD.
As expected, the recent COVID pandemics has clearly impaired pathophysiologic research in the headache field.

Keywords: Headache, Migraine, Mechanisms, Physiopathology, Research.

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Headache in patients with systemic lupus erythematosus: a pilot study

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Introduction

Headache is a symptom frequently reported by patients with Systemic Lupus Erythematosus (SLE), but it remains controversial as to whether the prevalence is higher than in the those without the disease and if there is an association with disease activity.

Objectives

1) to compare the prevalence, monthly frequency and impact of headaches between patients with SLE and a control group without the disease and 2) to compare the prevalence, monthly frequency and impact of headaches between patients with active SLE and those without disease activity.

Methods

This is a case-control study. The case group consisted of patients diagnosed with SLE in regular follow-up at the rheumatology outpatient clinic of the Hospital das Clínicas, Universidade Federal de Pernambuco, excluding those with a previous diagnosis of secondary headache or overlapping autoimmune diseases. A control group, matched for sex and age, consisted of hospital staff and friends and relatives of patients who had no previous diagnosis of secondary headache or autoimmune disease. Data on SLE and headache were collected through interviews and questionnaires administered by a neurologist. Headache impact was assessed using the Headache Impact Test (HIT-6) scale, anxiety and depression symptoms were assessed using the Hospital Anxiety and Depression Scale (HADS) and disease activity was evaluated using the Systemic Lupus Erythematosus Disease Activity Index (SLEDAI)-2K modified scale, considering clinical and laboratory data from the last 30 days. All participants who reported at least one headache attack in the last year were considered as having headache and specific diagnoses were made based on the 3rd edition of the International Classification of Headache Disorders. SLE patients with SLEDAI-2K ≥ 6 were considered as having disease activity. Statistical analyzes were performed in SPSS 28.0 with significance defined as $p < 0.05$.

Results

A total of 102 individuals were included, 51 in each group. The SLE group consisted of predominantly female patients (94.1%), with a mean age of 35.2 (± 12.4) years and a mean time of diagnosis of 10 (± 6.5) years. The prevalence of headache in SLE patients was similar to the control group (92.2% vs 88.2%, $p = 0.505$), as were the scores of the HIT-6 scale (57 ± 9.8 vs 54.8 ± 10.3, $p = 0.313$), but patients with SLE had a higher monthly frequency of pain (9.2 ± 8.9 vs 5.5 ± 7.1, $p = 0.034$). Migraine was the most common diagnosis in both groups (66.7% vs 62.7%, $p = 0.679$), followed by tension-type headache (25.4% in both groups). Patients with SLE and the control group did not differ regarding the frequency of anxiety (62.7% vs 60.8%, $p = 0.839$) and depression (49% vs 35.3%, $p = 0.160$). Patients with active SLE showed no difference in relation to those without activity in terms of headache prevalence (90.9% vs 94.6%, $p = 0.551$), HIT-6 scores (58.8 ± 10 .6 vs 56.9 ± 9.4, $p = 0.606$), monthly frequency in days (7.4 ± 9.7 vs 10 ± 8.8, $p = 0.252$), anxiety (63.6% vs 59 .4%, $p = 1$) and depression (45.4% vs 45.9%, $p = 0.977$).

Conclusion

Headache is a frequent symptom in SLE, but prevalence is similar to the population without the disease. Patients with SLE have a higher monthly frequency, but there is no association with disease activity.

Keywords: Headache, Systemic lupus erythematosus, Autoimmune.

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Prevalence of postpartum depression in patients with migraine

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Introduction

Migraine is a disease of the central nervous system characterized by moderate or severe headache. Migraine is considered the third most prevalent disease and the seventh specific cause of incapacity in the world.

The prevalence of migraine in women increase after menarche compared with the prevalence of migraine in men. According to previous population-based studies, during reproductive years, a woman who has the diagnosis of menstrual migraine experiences the same symptoms throughout pregnancy and postpartum.

Childbirth is a major event in a woman's life. However, some mothers might present symptoms of postnatal depression. Postpartum depression is a mental disorder that reflects on the maternal role. Thus, it has negative consequences for them and their children. Postpartum depression is associated with increased risk for cognitive BB impairment, emotional difficulties and behavioral problems.

Clinically, headache influences the mental and physical health of pregnant and postpartum women. Studies reported that anxiety and depression disorders are two to ten times more common in migraineurs than in the general population. Therefore, it can be a risk for postpartum depression development.

Objective

To verify postpartum depression in migraine and non-migraine parturients.

Methods

Data was collected from a sample of 155 women, older than 18 years old, in the obstetric center of Santa Casa de Misericórdia de Barbacena, between October 2021 and August 2022, in the first 24 hours after labor by the members of the research. Clinic and concomitant disorders were collected from the patient's record. Parturients who did not agree to participate in the study and those with cognitive impairment were excluded.

All the patients signed an informed consent form to participate in the study.

All the patients answered the Edinburgh Postnatal Depression Scale (EPDS) and the ID-Migraine.

The EPDS was developed by Cox at al. in 1987 to identify postpartum depression in clinical environments and researches. It is a 10-question scale with a score to every question. To determine postpartum depression, the mother must score 10 or more. The EPDS score should not override clinical judgment.

The ID-Migraine is a simple three-item questionnaire used for screening migraine cases in primary care settings. It has been used in several researches all over the world and it has been translated to several languages, such as Portuguese.

Results

Based on the sample of 155 postpartum women, 25 (16.13%) achieved the criteria for migraine and 130 (83.87%) for non-migraine. Of the patients with postpartum depression associated with migraine, 4 (16%) were classified as migraine and 8 (16%) as non-migraine. On the other hand, among the patients who had headache during pregnancy 11 (12.22%) had postpartum depression compared to those who did not have headache during pregnancy: 1 (1.54%). In those patients, the OR (OR = 8.9, CI 1.12 - 70) and RR (RR = 7.9, CI 1.05 - 60) were significantly higher compared to those who did not have postpartum depression. The analysis did not find a relation between migraine and postpartum depression. However, a relation between headache during pregnancy and the presence of postpartum depression ($p<0.05$).

Conclusion

Puerperal women do not present significant risks for the development of depression. However, patients who had headache during pregnancy have bigger risk of developing postpartum depression. This finding can contribute to recognizing postpartum depression in pregnant women, as well as early screening of depression symptoms in puerperium.

Keywords: Migraine, Headache, Postpartum depression, Women, Pregnancy.

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Release of CGRP in vivo from rat dura mater: Influence of capsaicin and topiramate

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Introduction

Migraine is a disease that stands out for its high prevalence with changes in the nervous system, abnormal levels of neurotransmitters, neuromodulators, and neuropeptides. The main mechanisms of action of capsaicin are chemical induction through the activation of TRPV1 channels, allowing calcium influx into neurons, activating mast cell degranulation, releasing pro-inflammatory (e.g., histamine, oxide nitric) and vasoactive (e.g., CGRP and substance P) substances. For treatment, classes of drugs are used to act on blood vessels and to prevent vasodilation, as well as depolarization of sensory fibers of the dura mater.

Objectives

To better understand sterile inflammation after exposing the dura mater bilaterally, we created an experimental model to study mechanisms of action of topiramate and capsaicin in mast cell degranulation and release of CGRP in a rat skull preparation in vivo using anesthetized animals.

Methods

Thirty-five Wistar rats were used, divided into two groups: (1) chronic topiramate (GTC) treated with 20 mg/kg/day, gavage/10 days, and (2) acute topiramate (GTA) in situ in the dura mater (10-3M). The animals were anesthetized and cranial windows between the coronal and lambda sutures in the hemicraniums were performed with a drill to expose the dura mater bilaterally. 10-3M capsaicin was placed on the right side and synthetic interstitial fluid on the left side and exposed to contact for 10 minutes to a small cotton ball soaked with the respective solutions so that there is no leakage of the treatment, and posteriorly kept in the freezer (-20°C) for later quantification of CGRP. The percentage of degranulated mast cells was quantified after removal of the dura mater by staining it with toluidine blue. A commercial enzyme immunoassay quantified the release of CGRP from the cranial dura mater.

Results

There was a greater amount of degranulated mast cells in the dura stimulated by capsaicin, females (18.43 ± 0.03% versus 73.11 ± 0.03%; p=0.001) and males (27.21 ± 0.01% versus 75.00 ± 0.02%; p=0.001). In the group treated with topiramate for 10 days, there were fewer cells degranulated by capsaicin (22.80 ± 0.03% versus 77.00 ± 0.03%, p=0.001). Topiramate placed in situ concomitant with capsaicin also attenuated the mast cell degranulation process (35.74 ± 0.04% versus 44.52 ± 0.02%; p=0.001). However, the release of CGRP induced by capsaicin was not significantly different compared to synthetic interstitial fluid.

Conclusion

This study demonstrated that capsaicin is a method of chemical induction and stimulation of mast cells and that topiramate attenuates the effect of capsaicin. We did not see evidence for CGRP in this study because capsaicin did not stimulate CGRP release.

Keywords: Migraine, Pathophysiology, Topiramate, Capsaicin, CGRP, Rat.

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Cephalalgia heterotopica: a case series of lower half face migraine

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Introduction

Migraine is a common and very disabling neurological disease. It typically causes severe throbbing pain or a pulsing sensation, usually on one side of the head. It's often accompanied by nausea, vomiting, and extreme sensitivity to light and sound. According to the definition of headache, the pain should be located in the head or in the face above the orbitomeatal line. Beyond this classical view, recent evidence has shown that it could be an arbitrary boundary, and other clinical features can prevail during the diagnosis process.

Objective

This consecutive case series study aimed to report clinical features, treatment, and outcome of 5 patients with a lower-half facial presentation of migraine.

Materials and Methods

Case series of our Headache Clinic. Data disclosure was authorized by the patients through an informed consent form.

Results

Of the 5 patients, 3 were women and 2 were men. Mean age was 34,6 (13-56 years). The mean age of symptoms onset was 15,2 (11-29 years).

All patients described a throbbing, moderate to severe pain in the malar area.

Four patients reported frequent phonophobia and photophobia accompanying pain attacks. One patient reported great relief of pain with rizatriptan and another with sumatriptan. Preventive treatment with pizotifen, propranolol, flunarizine, amitriptyline, divalproex sodium, and pregabalin was useful. All patients underwent extensive dental and otolaryngological evaluation and treatment, which were worthless.

Conclusion

Migraine orofacial presentation is a diagnostic challenge. Proper recognition of these cases not only prevents unnecessary examination and treatment trials but directly benefits the patients since effective treatment is already available.

A proper case definition of this rare clinical presentation may provide new insight into our understanding of the migraine mechanisms.

Keywords: Facial pain, Migraine, Lower half-face migraine.

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Case report: a paroxysmal hemicrania responsive to verapamil

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Introduction

Paroxysmal hemicrania (PH), a trigeminal autonomic headache, is characterized by unilateral pain in the orbital, supraorbital, and temporal regions, accompanied by nasal congestion and ocular hyperemia, with a predominance (not exclusively) in women, with attacks lasting 2 to 30 minutes and occurring several times daily. Pain crises have been known to cease completely or almost completely with the use of indomethacin. However, in some patients, the side effects caused by taking the drug prevent continuation of treatment. There is also the possibility of a partial response to the first-line drug. In these cases, alternative drugs are chosen, with verapamil being one of the drugs of choice.

Objectives

In this report, we present a case of a patient with a partial response to the first-line drug therapy and good responsiveness to verapamil.

Methods

We collected patient data through the electronic medical record. Afterward, we reviewed the literature regarding paroxysmal hemicrania and its responsiveness to indomethacin and verapamil.

Results

A 56-year-old woman presented with a 1-year history of throbbing pain in the left hemiface, and retro-orbital and temporal ipsilateral pain, lasting approximately 30 minutes with a frequency of 5-6 episodes per day and a maximum remission period of 3 months. The headache attacks were associated with nasal congestion and allodynia and had worsened recently. Her medical history was positive for major depressive disorder and hypertension. At the time she presented, she was taking carbamazepine 900 mg per day, which resulted in partial relief of pain. Clinical examination revealed pain on palpation of the trigeminal branches on the left side, bilateral temporomandibular pain, and pain on palpation of the right greater occipital nerve. Magnetic resonance angiography of the head showed no abnormalities. To manage the headache attacks, treatment with indomethacin 300 mg was started at the onset of the pain episodes, along with chlorpromazine 6 mg per day and carbamazepine 200 mg per day, which decreased the intensity of the pain but had no effect on the frequency of the attacks. Therefore, verapamil 80 mg per day was started, with continued use of the previously prescribed medications. Given the normal ECG result, the dose of verapamil was increased to 240 mg per day, and carbamazepine was discontinued. The patient progressed with only two mild episodes of pain per month.

Conclusion

Responsiveness to indomethacin is an important diagnostic criterion for paroxysmal hemicrania, yet some patients have an incomplete response to this therapy. The use of alternative therapies is limited by the lack of research and evidence supporting treatment with other drugs. Among possible therapies, verapamil appears to be a potential therapeutic option for PH with partial response to indomethacin. The present case report describes a chronic PH with partial response to indomethacin and adequate control of symptoms after combination with prophylactic therapy with verapamil.

Keywords: Paroxysmal hemicrania, Trigeminal autonomic cefalalgias, Indomethacin, Verapamil.

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Cephalalgia heterotopica: a case series of extratrigeminal cluster headache

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Introduction

Cluster headache is a very disabling neurological disorder that usually presents with unilateral severe headache associated with ipsilateral cranial autonomic symptoms. Even among the typical cases, there is a considerable diagnostic delay and most patients will have seen three general practitioners before being referred to neurology services, some having been to colleagues in dentistry or otorhinolaryngology. The extratrigeminal presentation of this condition poses a great obstacle to a proper diagnostic workup.

Objective

This consecutive case series study aimed to report clinical features, treatment, and outcome of 3 patients with extratrigeminal cluster headache.

Materials and methods

Case series of our Headache Clinic. Data disclosure was authorized by the patients through an informed consent form.

Results

Two males and one female were evaluated. The ages were 53, 64, and 71 years, respectively. The mean age of symptoms onset was 50, 60, and 66 years, respectively. Two patients described excruciating shoulder pain and one presents severe pain in the malar area. All patients reported prominent autonomic ipsilateral symptoms such as lacrimation, conjunctival injection, nasal symptoms, and restlessness accompanying pain attacks. Preventive treatment with verapamil and occipital nerve block was useful.

Conclusion

Extratrigeminal cluster presentation is a diagnostic challenge. Proper recognition of these cases prevents unnecessary examination and treatment trials and directly benefits the patients since effective treatment is already available.
A proper case definition of this rare clinical presentation may provide new insight into our understanding of the cluster headache mechanisms.

Keywords: Cluster headache, Extratrigeminal headache, Shoulder pain.

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Painful unilateral facial swelling due to superficial temporal artery thrombosis: a rare presentation of antiphospholipid syndrome

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Introduction

Persistent painful unilateral temporal swelling is rarely seen in clinical practice. Antiphospholipid syndrome (APS) is an autoimmune and systemic disorder that causes changes in blood clotting homeostasis, marked by arterial or venous thrombosis, gestational morbidity, and high and persistently positive serum levels of antiphospholipid antibodies (aPL). APS is more common in young women and middle-aged adults, with no preference for race. Among its clinical features, temporal artery thrombosis, associated with headache and temporal and hemifacial edema is extremely rare, with few publications worldwide on this topic.

Objective

This report aims to present the case of a unilateral painful facial edema due to thrombosis of the superficial temporal artery as an unprecedented manifestation of Antiphospholipid Syndrome. Thus, the only record in the English-language literature surveyed in the Pubmed database in July 2022 highlights the rarity of this APS presentation and the consequent challenge in suspecting the correct diagnosis for adequate treatment.

Methods

Case report. Data disclosure was authorized by the patient through an informed consent form.

Results

A 32-year-old woman was presented with pain in the right temporal region of her face. The pain was intense, daily and continuous, pulsating, without irradiation, which worsened with physical activity and presented partial relief with common analgesics. After 20 days, she developed a right pale temporal edema (Figure 1) associated with a significant worsening of pain and intense right unilateral headache attacks triggered by chewing and speaking. She has a history of deep vein thrombosis in the left lower limb. Physical examination and imaging tests showed significant cold edema of the right temporal region with asymmetry of the temporal muscles, which was extremely painful on palpation and made it difficult to open the mouth. There were no other changes in the general physical or neurological examination. During evolution, hypertrophy of the masseter muscles on the right was also noted. She presented erythrocyte sedimentation velocity (ESR) tests with high values, subcutaneous edema in the right temporal region on magnetic resonance imaging (MRI) of the brain, and a biopsy of the right temporal artery revealed a residual histological picture of the previous thrombosis. In the case of suspected hematological disease, serial investigations were performed for aPL markers, which were positive, and for systemic lupus erythematosus, which was negative. Evolved with improvement of edema and pain with the use of indomethacin and low molecular weight heparin.

Conclusion

This report demonstrates a persistent painful unilateral temporal swelling due to a temporal artery thrombosis resulting from APS. This is a very rare presentation of this condition, highlighting the importance of a high level of clinical suspicion for directing laboratory investigation and appropriate treatment.

Keywords: Secondary headache disorders, Antiphospholipid syndrome, Antiphospholipid antibodies, Thrombosis.

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Caliber and type of needle are associated with the risk of spontaneously reported post-dural punction headache

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Introduction

Post-dural punction headache (PDH) is defined as an orthostatic headache that develops within the first few days after performing a spinal tap and it is related to extravasation of cerebrospinal fluid (CSF) into the epidural space, resulting in hypovolemia and CSF hypotension. The risk factors for PDH are not yet fully understood.

Objective

To evaluate the risk of spontaneously reported PDH according to the size and type of spinal tap needle.

Methods

A total of 4,589 patients undergoing outpatient lumbar puncture were included. All CSF collections were performed at Senne Liquor Diagnostico, a laboratory specialized in CSF collection and analysis. Patients were instructed to report by telephone the onset of orthostatic headache during the first 7 days after the puncture to the medical team of the laboratory. Patients with previous headache were instructed to report any change in the headache pattern during the same period.

Needle gauge was classified into two groups: 1) 25G or less and 2) greater than 25G. Two types of needles were used and compared: 1) Pencil point and 2) Quincke.

Comparisons of the percentages of spontaneous reports of PDH were made using the chi-square test.

Results

141 patients (3.07%) reported PHD to the laboratory's medical team. Needles of 25G gauge or less were used in 31.8% of cases. The percentage of patients reporting PHD in the group of 25G or less needles was 1.9% versus 3.6% in the group of greater than 25G needles (P=0.003). Pencil point needles were used in 10.6% of cases. The percentage of PHD among pencil point group was 1.4% versus 3.2% in Quincke group (P=0.026).

Conclusion

25G or finer gauge needles as well as pencil point type needles significantly reduced the risk of spontaneously reported PHD.

Keywords: Post-dural punction headache, Spinal tap, Spinal tap needle.

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Spontaneous bleeding of an arachnoid cyst: a rare cause of thunderclap headache

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Introduction

A thunderclap headache is a severe headache that starts suddenly and may be a sign of a condition that can be life threatening.

Objective

To present a case of a rare cause of thunderclap headache.

Case presentation

A 37-year-old female patient was admitted in the neurological emergence service of a private hospital in the city of São Paulo. She had sudden, explosive, and pulsatile headache, with photophobia and phonophobia. The neurological examination had no focal signs. She had deep vein thrombosis in 2014 in the past and since then she has been irregularly using Warfarin.

She underwent CT and MRI of the skull that showed enlargement of the bilateral retrovermian and retrocerebellar cerebrospinal fluid space, with thin membranes/septations inside, and heterogeneous content, with deposition of hemoglobin degradation products. Such findings are consistent with a retrovermian arachnoid cyst with hemorrhagic content. The INR was 1.

Conservative and symptomatic treatment was started, and control CT was performed on the second day of hospitalization, demonstrating almost complete reabsorption of hematic material.

The patient was discharged after 2 days of hospitalization with complete headache improvement.

Conclusion

Arachnoid cysts are collections of fluid located between the meningeal membranes. They are congenital and are formed due to a valve defect in the arachnoid membranes leading to a collection of cerebrospinal fluid (CSF) in its interior.

Most arachnoid cysts are an incidental finding. About 1 to 2% of the population has an arachnoid cyst and symptoms appear when the cyst increases in size or bleeds.

Our patient had a are complication of and arachnoid cyst not related with the use of anticoagulant.

Keywords: Thunderclap headache, Arachnoid cyst bleeding, Arachnoid cyst.

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Spontaneous pneumorrachia: a rare cause of thunderclap headache

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Objective

To present a rare cause of thunderclap headache

Case presentation

Female patient, 39 years old, was admitted to the emergency department of a private hospital in the city of São Paulo, after a sudden and explosive headache followed by two episodes of syncope and motor deficit in the left upper limb. Neurological examination showed weakness of the left upper limb without sensitive impairment. She had previous history of bipolar affective disorder, chronic anemia, and overweight with previous bariatric surgery.

The patient was submitted to computed tomography (CT), arterial angiotomography of the skull and cervical neck, which showed rare small gaseous foci in the perivertebral soft tissues and extradural site on the left side in the craniovertebral transition, near the foramen magnum. Small foci of pneumocephalus were found in the posterior fossa, near the left sphenopetrous fissure. Electroneuromyography (ENMG) of four limbs and brain and cervical magnetic resonance imaging (MRI) were performed 48 hours after initial CT scan. ENMG was normal and MRI showed no more expression of the changes described on CT. She was treated with analgesia and was discharged with full reversion of initial symptoms.

Conclusion

Spontaneous pneumorrhachia is rare disease and is characterized by the presence of air in the spinal canal, both in the intradural and extradural compartments. It is usually benign with spontaneous resolution. Our patient was included in a stroke investigation protocol, due to the thunderclap headache and focal motor deficit. CT revealed the diagnosis. The cervical CT that was performed in the context of cervical CT angiography of the stroke protocol allowed the correct diagnosis.

Keywords: Thunderclap headache, Spontaneous pneumorrhachia, Cervical computed tomography angiography.

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Neurological sequelae in a patient with previous neurocysticercosis

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Introduction

Teniasis and cysticercosis are caused by the platelminth *Taenia solium*, a parasite that has in its cycle the pig and man. Teniasis occurs with the ingestion of raw or undercooked contaminated pork containing cysticercus. On the other hand, human cysticercosis occurs through ingestion of *T. solium* eggs through fresh vegetables, raw meat or contaminated water, in the body, the larvae migrate and acquire the cystic form, usually in the host's muscle tissue. Neurocysticercosis (NCC) develops when the invasion of the larvae occurs in the human central nervous system, found in the nervous tissue or in the intraventricular, subarachnoid, and spinal cord spaces, where there is circulation of CSF, leading to different clinical manifestations and prognosis.

Objective

To report the case of a patient with NCC with neurological complications at IIER.

Case description

Female, 37 years old, carrier of diabetes mellitus type 2 (DM2), migraine and structural epilepsy. She has a previous history of rheumatic fever in childhood and NCC since 2001, contracted when she lived in the interior of Bahia where she raised pigs and ate this meat, treated at IIER in May/2019. A headache associated with absence and vertigo crises began in October/2020 as consequences of NCC, reasons for which the patient was hospitalized and later referred to the neurology outpatient clinic, after CSF analysis without evident alterations.The patient was admitted to the IIER with a history of intermittent vertigo for 2 days and shooting headache in the right frontal region of the skull, in addition to the return of absence seizures until then extinct since the last hospitalization in October/2020, accompanied by the neurologist physician who increased valproic acid from 1.25 g to 1.5 g a day, also reported that this time, presents very significant worsening of vertigo.The patient presents multiple calcifications of marked hyposignal with predominance in the cortico-subcortical regions on magnetic resonance imaging (MRI) and also evidenced on computed tomography (CT).

Discussion

Due to the different locations of the cysticercus in the CNS, the number, size, age and vitality of the patient, the stage of evolution and their reactions on the host and immune response, different signs and symptoms occur in NCC. The parenchymal form usually presents with headache and seizures, with a good prognosis, as it tends to respond well to anticonvulsant therapy. In this case, the patient had vertigo, headache in the right frontal region, and absence seizures. Chronic calcified CCHN is formed due to an inflammatory response from the host, the calcified lesion is not completely inactive and may cause seizures.The patient had a predominance of hypodense nodules on CT characterizing calcified lesions bilaterally in the brain parenchyma, in which in most cases, may be the only evidence on neuroimaging. In addition to having calcifications, on MRI from previous admissions there was a single central encephalic lesion with a hyposignal halo on T2, with features compatible with the colloid nodular stage. Treatment is based on brain involvement and the specific type of disease. When there are one or more cystic or degenerative lesions antiparasitic and symptomatic treatment is given, when there are only calcified cysts, it is managed according to the symptoms.

Keywords: Neurocysticercosis, Cysticercus, *Taenia solium*.

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Headache frequency among 71,267 admissions to an adult medical emergency in the city of Recife in 2021

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Introduction
Pain is a warning sign that can mean great suffering and risk of death, and makes the patient seek a medical emergency for evaluation by specialists.

Objective
To verify the frequency of patients with headache disorders among those with pain admitted to the emergency department of a private hospital in Recife, Brazil, during the year 2021, using the international classification of diseases (ICD).

Methods
This is a retrospective study. The authors used the Business Intelligence (BI) tool to verify the number of admission by the ICD 10 recorded in 2021 in the emergency room of Hospital Unimed Recife III. The sample described in this study covers only the ICDs that had the word DOR (pain in Portuguese) or pain be the main symptom of the condition represented by the respective ICD.
We selected only ICDs used in at least five admissions in 2021 (January to December), independent of readmission of the same patient.

Results
There were 71,267 consultations in 2021 using 2,296 different ICDs. Of these, the Headache (CEFALEIA) ICD was the 6th most frequent (n= 2,121) behind the following ICDs: Unspecified viral infection (n=4,327); Influenza with other respiratory manifestations, due to unidentified virus (n=3,335); Respiratory infection by the new coronavirus (Covid-19) (n=2,927); Low back pain (n=2,759) and Diarrhea and gastroenteritis of presumptive infectious origin (n=2,739).
In 27,853/71,267 (39.1%), the consultations were related to pain in any part of the body (with 258 ICDs).
In the group of patients with pain of traumatological, orthopedic, or rheumatic origin, there were 10,148 consultations (142 ICDs); Abdominal or pelvic pain (5,675, with 23 DICs); Spinal pain (3,805, with 10 ICDs); and Chest pain, including coronary ischemia (1,786, with 10 ICDs).
Twenty-eight different ICDs (4,314 admissions/71,267 total admission, 6.05%) were used to classify patients who reported some type of headache, e.g., Headache (CEFALEIA, n=2,121), tension-type headache (n=363), migraine without specification (n=232), migraine without aura (n=128), other forms of migraine (n=100), migraine with aura (n=85), complicated migraine (n=29), chronic post-traumatic headache (n=18), other specified headache syndromes (n=14), atypical facial pain (n=11), trigeminal neuralgia (n=7), herpes zoster ophthalmicus (n=5), and benign intracranial hypertension (n=5). Neck pain (n=595), torticollis (n=203) and temporomandibular joint disorders (n=43) were other ICDs included. Twelve ICDs (n= 355) were related to head trauma, a condition in which pain is common.

Conclusion
Of all patients assisted in the emergency department of Hospital Unimed Recife III, 6.05% received ICD that represented diseases with headache as a symptom. At least 39% of patients treated at the Unimed Recife III emergency room in 2021 reported some type of body pain, and the headache was the second most reported type of pain, coming after low back pain. Most patients who received the diagnosis of Covid-19 suffered from headaches. Thus, this analysis must be underestimated. The ICD of admission is not always the same at the moment of hospital discharge; a definitive diagnosis is often confirmed during the investigation.

Keywords: Emergency, International classification of diseases, Headache, Migraine, Pain.

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Ramsay-Hunt syndrome in HIV patient

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Introduction
Ramsay-Hunt syndrome (RHS) type II is defined by the combination of herpes zoster oticus to acute peripheral facial nerve paralysis, described in 1907 by James Ramsay Hunt. Reactivation of latent varicella-zoster virus in the geniculate ganglion of the facial nerve will cause RHS, resulting in inflammation, edema, and compression of the VII cranial nerve. However, nerve involvement, and in turn the development of RHS, manifests in less than 1% of infected patients. It is the second most common cause of atraumatic peripheral facial palsy (PFP) and has an incidence of 5 cases/100,000 people, with no sex predilection. Currently, RHS is classically described as a triad of otalgia, ipsilateral facial paralysis, and vesicles near the ear and ear canal; however, motor, sensory, and autonomic impairment when combined result in diverse neurological damage and may cause different symptoms, its diagnosis is mainly clinical.

Goal
To report the case of an HIV patient associated with HRS, seen by IIER between May and June/2022.

Case Report
Male, 49 years old, sought care on 05/20/22 in a hospital with complaints of vertigo and intense headache, associated with nausea and vomiting with onset of symptoms one day ago. His personal history was HIV+, diagnosed in 2013 and under regular treatment. On 5/25/22 resurfaced with the same symptoms of vertigo in conjunction with the appearance of an erythematous and painful vesicle in the right auricular region with edema and flushing of the region in association with PFP symptoms. On 05/30/22 he returned to the clinic with the same symptoms as before, and a magnetic resonance imaging of the temporal bones was done, showing an inflammatory process through the contrast at the bottom of the internal auditory canal suggestive of Bell's palsy. On 06/03/22 he sought care in the IIER ER due to lesions in the left auditory pavilion and paralysis in the right hemiface, without the ability to close the right eye, he was diagnosed with SRH. He took acyclovir 900 mg IV associated with prednisone 25 mg VO for 10 days, with improvement and was discharged.

Discussion
RHS is a rare otologic complication, and may present in several clinical forms, due to the different cranial nerves involved. The patient presented the classic triad, facilitating the diagnosis. Besides the common symptoms, other manifestations such as nausea accompanied by vomiting and vertigo are seen in this case, due to lesions in the vestibular nerve. There are risk factors reported in the literature that can cause reactivation of the virus, such as aging, emotional stress, and immunosuppression. While the incidence of herpes zoster is 15 times higher in HIV-infected patients, SRH in HIV patients is uncertain due to few published reports. In this case, the patient has HIV, which may be one of the triggers for the development of the syndrome. Bell's palsy is more common and has a better prognosis than RHS. It is more common for the appearance of vesicles in the pinna to precede or appear together with the PFP, but their development may be late, making the condition indistinguishable from Bell's palsy, even with suggestive radiological findings such as lesions in the external ear, which started together with the PFP, so the diagnosis was easier. For antiviral treatment of RHS, acyclovir associated with corticosteroid is used early. The follow-up treatment of the case was according to the current recommendation and led to clinical improvement of the patient.

Keywords: Ramsay-Hunt, Herpes zoster, Peripheral facial palsy.

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Effect of melatonin on degranulation of dura mater mast cells in Wistar rats

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Introduction

Migraine is a highly prevalent neurological disorder that affects about 15% of the world's population. Involved in migraine pain, the cranial dura mater is a richly vascularized and innervated membrane, where we also find mast cells, and immune cells that help in the formation of the inflammatory process. As one of the treatments for migraine, we have melatonin, a hormone produced in the pineal gland and with properties such as circadian cycle regulation and antioxidant action. Capsaicin, a bioactive compound found in peppers and with a pungent and burning effect, also has an action in the painful process and serves as a tool in the study of physiopathogenic processes.

Objectives

To evaluate the degranulation of dura mater mast cells from Wistar rats stimulated in *situ* with capsaicin and synthetic interstitial fluid (SIF) and previously treated with melatonin.

Methods

Twenty-five male Wistar rats were used, obtained from the Department of Antibiotics - Danti of the Federal University of Pernambuco - UFPE and with use authorized by the Ethics Committee in the Use of Animals - CEUA of UFPE, according to protocol n° 0084/2019. During the adaptation period, the animals were acclimatized under standard laboratory conditions, with water and food *ad libitum*. After this period, they were separated into two groups: a control group (CG) (n = 12) and a melatonin group (GM) (n = 13), and underwent a daily treatment for 10 days with the intraperitoneal application. The GM received a dosage of 10 mg/kg of the animal weight of melatonin diluted in a saline solution at 0.9% and the GC was treated only with the vehicle. After the treatment, the animals were anesthetized and submitted to an experimental surgery, which consisted of opening two cranial windows in the right and left parietal bones for bilateral exposure of the dura mater. After exposure, the dura mater was stimulated in situ with SIF on the left side and capsaicin on the right side, following the following protocol: a 10 μl solution of SIF with 0.1% ethanol was placed on the left side and right, 10 μl of 10-6 M capsaicin diluted in 0.1% ethanol for 5 min. In sequence, two units of cotton soaked with 60 μl of the respective solutions were placed on each side for another 10 min. At the end of the experiment, the animals were euthanized and the skulls with the dura mater were dissected and fixed in 10% buffered formalin for 24 hours. After the fixation time, the dura mater samples were detached from the skulls, washed in distilled water for 1 min, stained with toluidine blue at a concentration of 0.1%, and fixed on histological slides. The slides were photomicrographed under 400X magnification to quantify the degranulated mast cells. The collected data were submitted to Student's t-test and the results were displayed in percentage value (%) and mean ± standard deviation, considering a significance value of $p<0.05$.

Results

A comparison of mast cell degranulation rate was performed between the dura mater segments of each group. Thus, the GC, when stimulated on the right side with capsaicin, presented a percentage of degranulation of 49.2 ± 15.2%. On the right side of the GM, this same stimulation showed an average of 52.6 ± 34.3% of degranulated mast cells. Thus, there was no statistically significant difference in this analysis. As for the left side, stimulated with SIF, for the GC an average rate of 40.6 ± 29.7% of degranulated mast cells was found. On the other hand, the observation of this same side in the group that was treated with melatonine was observed 24.2 ± 16.9% of degranulated mast cells ($p=0.01$).

Conclusion

Melatonin inhibited dural mast cell degranulation. These findings favor the understanding of one more of the mechanisms by which melatonin helps in the treatment of patients with migraine.

Keywords: Headache, Migraine, Dura mater, Melatonin, Capsaicin, Rat.

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Analysis of sleep, pain and anxiety correlation in individuals with TMD: an analytic transversal study

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Introduction
Temporomandibular disorder (TMD) is a pathology of the stomatognathic system, considered the main cause of non-dental orofacial pain. Several signs and symptoms are present in the face from this pathology, and among them, there is the possibility of pain in the joint and associated regions.
Pain is defined by International Association Study of Pain as an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage. Although it relates to adaptive processes, it can cause adverse effects on social and psychological function and well-being, influenced to different degrees by biological, psychological and social factors. Individuals with chronic pain, further to the pains, have oscillation in their emotional behaviors and sleep disturbances.
The anxiety and depression in the pathogenesis of temporomandibular disorders have been investigated since the entry of Research Diagnostic Criteria (RDC) for TMD in 1992, approached in Axis II of this instrument. Studies indicate that the health of the individual and quality of life are influenced negatively by the pain and/or for the stress caused by TMD, which can compromise daily activities, cognitive and affective balance, the physical activities and sleep.
As shown above, TMD is considered an important health problem nowadays, and is also important to consider the psychological aspects related to it and the impacts on the quality of the individuals affected by this disorder.

Objective
The aim of this study is to analyze the correlation of sleep, pain and anxiety in individuals with TMD.

Methods
This work is a cross-sectional study that uses data from research realized in Federal University of Pernambuco (UFPE), approved by the Ethics and Research Committee and labeled under the number 81287.9.0000.5208. In a sample of 35 people were analyzed sleep issues of Axis II of RDC, tissue sensitivity to pain measured on the algometer, and the level of anxiety recorded in the Hamilton scale and analyzed statistically using Spearman correlation test, considering the significance of $p<0,05$.

Results
This work showed a positive correlation between sleep and anxiety, and a negative correlation between sleep and tissue pain threshold of the left masseter and upper trapezius muscle. The recording of anxiety showed a direct relation with the sensitivity of the left medial temporal muscle. Bases on the results, individuals with TMD presented negative sleep alteration, anxiety qualified by Hamilton and greater tissue sensitivity to pain.

Conclusion
In the correlation analysis, the data showed the worse the sleep, the greater the anxiety. Moreover, the lower the pain sensitivity, the better the quality of sleep, and the lower the anxiety.

Keywords: Temporomandibular disorder, Pain, Anxiety, Sleep.

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Human choroid plexus in a patient with intracranial hypertension and hydrocephalus: scanning electron microscopy

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Introduction
The daily production of 500 ml of cerebral spinal fluid (CSF) is largely carried out by the choroid plexus (CP), which is located in the cerebral ventricles. In recent years, much importance has been given to studies of the choroid plexus for a better understanding of the mechanism of headache associated with idiopathic intracranial hypertension or other etiologies. A few drugs acting on the CP to reduce CSF secretion are used to treat headache in patients with benign intracranial hypertension.

Objectives
To show scanning electron microscopy images of CP obtained from pediatric patients with hydrocephalus.

Method
The CP sample was collected during a surgical procedure of a third ventriculostomy and CP coagulation as a treatment for hydrocephalus in a 2-year-old boy. A sample of uncoagulated CP (5 mm) was removed and immediately immersed in glutaraldehyde solution and refrigerated at 4°C. In the electron microscopy laboratory of UFPE, the sample was studied. The CP was fixed with Karnovsky solution (2.5% glutaraldehyde, 4.0% formaldehyde and 0.1M sodium cacodylate buffer), later postfixed with 1% osmium tetroxide, dehydrated in an increasing series of alcohol (30%, 50%, 70%, 90% and 100%) and carried out the critical point for total drying. The samples were placed in metallic stubs containing a double-sided carbon tape and then metalized with gold-palladium in the Ion Sputter JFC-1100 (JEOL) equipment. Images were performed using the EVO LS-15 scanning microscopy (ZEISS).

Results
We present images of CP segments at 20,000 to 40,000x magnification, showing surface projections suggesting microvilli. Due to ethical issues, we do not have a control sample of healthy individuals for comparative purposes.

Conclusion
To the best of our knowledge, this is the first time human CP images of a patient with hydrocephalus are presented using scanning electron microscopy.

Keywords: Choroid plexus, Headache, Intracranial hypertension, Hydrocephalus, Microscopy.

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Residents: how is headache care in general, including emergency

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Introduction

Headaches are pains in any region of the head with variable intensity, as well as its location. They can be localized or diffuse, acute or chronic, associated or not with other symptoms and have numerous causes.

More than 90% of people report a history of headache during their lifetime. In addition, an overload is observed in emergency units and outpatient clinics due to inadequate initial care for a headache.

Objective

1) Conduct an epidemiological survey of headache care in emergency care units, analyzing the conduct of resident physicians. 2) Estimate the resolvability of headache cases in the emergency room and provide actions through continuing education if a deficiency in the care provided by professionals is demonstrated.

Methods

This is a descriptive observational study (cross-sectional cohort) in which we applied an online questionnaire to resident physicians who will be providing treatment in general to the patients in the city of Catanduva and neighboring cities. This is a semi-structured interview aided with self-administrated questionnaire (annexed in online in private cloud to guarantee confidentiality) which was sent via email and WhatsApp. Before joining the study, the participants filled out the informed consent form. After applying the forms, Excel spreadsheet was generated in order to process the statistical analysis. The inclusion criteria was: be a resident physician in any area of activity. The exclusion criteria: resident withdrawal at any time during the study. Number of the project in the ethics committee: 44857315.5.0000.5430

Results

A total of 115 residents physicians answered the questionnaire. The average age is 27.6 years and the majority are specializing in Clinical Surgery, Internal Medicine and Clinical Specialties. Twenty residents reported they didn't see any headache patient and the other 95 cared weekly for an average of 4.87 patients with this complaint, in which most part of the symptoms were mild to moderate. 49.5% of the residents classified headache as a symptom of another comorbidity. 6.1% of the resident physicians claimed migraine is equivalent to headache. 22% would use opioids to treat headaches. 60% of the residents didn't know or didn't research further about the damage of opioids for headache. 35% didn't know or had a superficial knowledge about chronic daily headache or abuse medication use headache. 98% of the residents had at least 1 episode of headache in their life, but only 31% searched medical care due to the pain.

Conclusion

The epidemiological survey has shown a significant piece of overall treatments being inadequate based upon Brazil's "National Protocol of Diagnosis and Management of Headaches in Urgent Care Units" stablished by the Brazilian Academy of Neurology – Headache's Scientific Department from Brazilian Headache Society. The application of well-structured classes and clinical case discussions during residency to these future specialists will serve them significantly better.

Keywords: Headache, Treatment, Symptoms, Medical attendance, Migraine.

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Brain volumetry by voxel-based-morphometry in migraineurs: comparison between groups and clinical correlations

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Background

Migraine was previously interpreted as "benign" disease since the major part of patients were asymptomatic between attacks and brain lesions are absent in primary headaches. Advances in structural neuroimaging have changed this point of view. Voxel-based-morphometry is an accurate technique to evaluate objectively structural brain damage. Our hypothesis was that some clinical features of migraine, as aura and attack frequencies, are more related to volumetric changes in migraineurs brains.

Objectives

To compare brain lobes volumetry between migraine patients (episodic migraine, with and without aura, chronic migraine) and healthy controls. To evaluate the correlations of brain volumetric variables with clinical variables.

Methods

This is a cross-sectional study performed with 60 female volunteers, aged between 18 and 55 years old, equally allocated into four groups: episodic migraine without aura, episodic migraine with aura, chronic migraine and controls. The sample was clinically characterized by the following variables: age, number of days with headache in the last month, number of days with aura in the last month, average pain intensity in the last month, disease duration calculated in number of years from the migraine diagnosis to the MRI performance, and the use of prophylactic drugs for migraine. Volunteers underwent brain MRI, and Free Surfer software was used to perform volumetric studies. Statistical analyses included Mann-Whitney test, Kruskal-Wallis test, Dunn test and Spearmann correlations.

Results

No statistically relevant differences were found in cerebral lobe volumes and supratentorial white matter in the comparison between groups. Regarding to clinical correlations, age influenced the brain lobes volumetric reduction, as expected, except for the parietal lobe, for which the correlation was not important. The disease duration was correlated with the reduction of the frontal ($p<0.001/r=-0.531$), temporal ($p=0.003/r=-0.433$), parietal ($p=0.004/r=-0.431$) lobes; when adjusted by age, correlations were maintained for the frontal ($p=0.013/r=-0.376$) and temporal ($p=0.017/r=-0.362$) lobes. No significant correlations were found between cerebral lobe volumes and attack frequency, aura frequency, headache intensity and use of migraine prophylactics.

Conclusion

There are no difference between migraine types and control groups regarding brain volumes. Disease duration, adjusted by age, was negatively correlated with frontal and temporal lobes volume, and no other correlations were found between cerebral brain volume and clinical variables. New studies that correlate structural and functional neuroimaging, as well as long-term follow-up cohorts are needed to better understand whether migraine influence brain structure.

Keywords: Migraine, Magnetic resonance, Volumetry, Voxel-based-morphometry.

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"Not otherwise specified headache" in emergency department: an analysis of 149,603 visits to nine Upa's 24h in Fortaleza

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Introduction
Headache is one of the most common neurological symptoms and is almost a universal experience that requires medical attention on many occasions. Patients often seek medical advice for headaches in primary or secondary health care systems. In these scenarios, establishing the correct diagnosis of headache and referring further treatment to a specialist is essential. Hundreds of low-complexity Emergency Care Units (called UPAs 24h) were opened throughout the country in the last decade. Working 24/7, many UPA 24 h are one of the preferred places by patients to treat acute headaches.

Objectives
This study aims to evaluate the frequency of the "Not otherwise specified headache diagnoses" in patients who seek UPA's 24-h for headache.

Methods
We evaluated the ED charts of 149,603 visits motivated by headache to nine UPAs 24h in Fortaleza, Ceará, from January 2017 to April 2022. In addition to the demographic data, the care flow chart, the MTS classification, the times of each step of care (from risk classification to discharge or death), and the final diagnosis coded by the attendant physician using the International Classification of Diseases (ICD-10). Data were analyzed using statistical software, and a $p < 0.05$ was considered for significance.

Results
The 149,603 consultations, which represented 3,5% of the total, were made by men and women (72 and 28% respectively) with 38.2 (± 14.6) years of age, on average. Regarding the diagnosis, only 25,121 (16.8%) patients received the diagnosis of migraine, and 4,671 (3.1%) were diagnosed with "other cephalic algic syndromes". The remaining 119,811 (80.1%) had the not otherwise specified headache discharge diagnosis in their charts.

Conclusion
The UPA´s 24 h represents an important care channel for patients with acute headaches; however, most patients in this setting do not receive the correct diagnosis, which undoubtedly contributes to inadequate treatment and prognosis. A training program for the health professionals who work there is urgently needed to improve the care of thousands of headache patients.

Keywords: Migraine disorders, Emergency medical services, Headache, Demography.

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Intracranial hypertension associated with treatment of acute promyelocytic leukemia with all-trans retinoic acid (ATRA): a case report

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Case presentation

Female, 18 years-old, without relevant family history, referred to Neurology by Hematology for headache. Three years ago, she was diagnosed with Acute Promyelocytic Leukemia (APL) currently on maintenance therapy with All-Trans Retinoic Acid (ATRA). The patient reports that in all previous cycles presented headache with the following characters: one-side temporal location, pulsating quality, moderate intensity, with nausea and vomiting, photophobia and phonophobia, uncertain duration, with simple analgesics response. In the current cycle, she relates continuous pain, severe intensity and unresponsive to medication. On examination, there were no focal neurological findings and on funduscopic examination there was no papilledema. MRI and laboratorial tests were normal. Cerebrospinal fluid (CSF) opening pressure was 35 cmH2O, no other alterations. 15 milliliters of CSF were removed, with a closing pressure of 25 cmH2O. A hypothesis of Intracranial Hypertension associated with use of ATRA was made. Afterwards, there was important improvement of the headache, with residual pain of mild intensity. Therefore, acetazolamide was started at a dose of 250 milligrams every 12 hours with complete resolution of symptoms.

Discussion

Acute myeloid leukemia (AML) comprises a heterogeneous group of aggressive blood cell cancers that arise from clonal expansion of malignant hematopoietic precursor cells in the bone marrow. Acute promyelocytic leukemia (APL) is a biologically and clinically distinct variant of AML. APL is classified as acute promyelocytic leukemia with PML-RARA. The cytogenetic hallmark of APL is a translocation involving RARA, the retinoic acid receptor alpha locus on chromosome 17. Without treatment, APL is the most malignant form of AML, with a median survival of less than one month. A key component of this therapy is the use of all-trans retinoic acid (ATRA), which promotes the terminal differentiation of malignant promyelocytes to mature neutrophils. The use of ATRA can cause intracranial hypertension (IH), more common in children and adolescents, and low doses reduces the risk of this complication. The diagnosis of IH is suspected in patients with headache, papilledema, and/or vision loss. Evaluation includes a physical examination, evaluation of the optic nerve, lumbar puncture, and cerebral imaging studies. The diagnosis is confirmed in patients with increased intracranial pressure, normal CSF and negative cerebral imaging studies. Papilledema is common, but not necessary for the diagnosis. Some patients may require serial lumbar puncture or intracranial pressure monitoring to document sustained elevated pressures. On occasion, the symptoms improve after the initial diagnostic lumbar puncture. If this occurs, no further medical treatment is necessary. If symptoms persist, therapeutic options include the temporary discontinuation or dose reduction of ATRA, analgesics, and/or the administration of steroids and acetazolamide.

Final Comments

The use of ATRA may cause intracranial hypertension. Lumbar puncture and brain imaging studies are useful to confirm the diagnosis of IH and institute the appropriate treatment. In the case of APL, the patient needs to receive ATRA because of high efficacy of medication in reduces mortality, and then acetazolamide may help to control headache.

Keywords: Acute promyelocytic leukaemia, All-trans retinoic acid, Idiopathic intracranial hypertension.

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Diagnostic challenges in sporadic hemiplegic migraine: a case report

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Case presentation

Female, 62 years old, history previous of hypertension and multiple cavernomatosis, admitted to our service emergency room with hypothesis of stroke. The patient presented headache associated with nausea and phosphenes in the right eye, with evolution for right hemiplegia. However, she showed complete and spontaneous reversal of symptoms, in a few minutes. The patient presented similar symptoms with annual recurrence since 2019, always following migraine attack. She denied familiar history of migraine. Brain MRI showed multiple cavernomatosis, with no signs of old or recent ischemia. Brain and cervical CT angiography and laboratorial tests were normal. She was then diagnosed with sporadic hemiplegic migraine, with no family report of the disease. She received treatment with amitriptyline 50 mg per day, without further recurrences.

Discussion

Hemiplegic migraine (HM) is a rare form of migraine with motor aura, which includes fully reversible motor weakness. The aura of HM is most probably caused by cortical spreading depression, a self-propagating wave of neuronal and glial depolarization that spreads across the cerebral cortex. Patients who are the first member of their family to have hemiplegic migraine are classified as having sporadic hemiplegic migraine. Some cases of sporadic hemiplegic migraine are caused by one of the genetic variants that cause familial hemiplegic migraine. The treatment of HM is empirical and mainly relies on principles of management of the common types of migraine, except for triptans use, medication historically contraindicated because of vasoconstrictor properties.

Final comments

Hemiplegic migraine is an important differential diagnosis with stroke in patients with migraine. Correct recognition of this condition can be a crucial factor in the treatment and prognosis of the patient in the emergency room.

Keywords: Hemiplegic migraine, Motor aura, Stroke mimics.

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Spontaneous intracranial hypotension syndrome presented with sixth cranial nerve palsy: a case report

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Introduction

Spontaneous intracranial hypotension (SIH) is a secondary cause of headache often misdiagnosed and underdiagnosed disorder. The main presentation is orthostatic headache. An uncommon symptom is cranial nerve palsy. We described a case of SIH that presented to our service with sixth cranial nerve palsy.

Case Report

Female, 39 years old, no relevant medical past or history of trauma, awoke due intense holocranial headache, associated with vomiting and photophobia, worsening in orthostasis. In the general emergency department, she was release with prescription of analgesics and topiramate, without resolution. After a week, the patient reported diplopia and was referred to our service, a tertiary center. In admission, she kept an intense orthostatic headache and in neurologic examination she presented right sixth nerve palsy, no other deficits. Laboratorial tests were normal, including metabolic and infectious marks. Cerebrospinal fluid (CSF) opening pressure was low (50 mmH2O) and analysis showed elevated protein levels (158 mg/dl). MRI showed diffuse pachymeningeal enhancement and venous sinus distension, mainly in superior sagittal venous sinus. CT myelogram detected a spinal CSF leak in transition C1-C2. Initially, performed hydration and bed rest, while patient with partial improvement of headache. An epidural blood patch was then performed using 15 ml of autologous blood with compatible contrast and lidocaine. There was complete resolution of pain after the procedure and four weeks later complete resolution of right sixth nerve palsy.

Discussion

According to International Classification of Headaches Disorders, third edition (ICHD-3), the headache attributed to SIH is descripted as a headache has developed in temporal relation to low CSF pressure (<60 mm H2O) and/or evidence of CSF leakage on imaging.

A key aspect of SIH is that headache may not be orthostatic, although orthostatic headache is the most common symptom, present in 97.7% of cases, according to a systematic review with 1,694 patients. Another's symptoms are nausea/vomiting, neck pain, tinnitus and dizziness. In some cases, there are photophobia and other visual symptoms. Diplopia was described, in same review, in only 3.9% of cases. Less commonly reported, cranial nerve palsy was described in few cases. In our case, the patient showed an isolate sixth nerve palsy, and the probable mechanism of palsy is traction in nerve course, due to low CSF pressure.

The main findings of SIH in brain MRI are pachymeningeal enchantment, brain sagging, venous distension sign and pituitary engorgement. Spine imaging are important because the demonstration of a leak can confirm the diagnosis and may guide treatment. The CSF leaks are grouped into 3 mechanisms: meningeal diverticula, ventral dural tears and CSF-venous fistulas. CT myelogram is the golden standard for detection of CSF leaks, mainly in high-flow leaks. MRI is also used in detection of spinal leaks, but due use of intravenous contrast, CSF-venous fistulas are not found. Other options are dynamic images studies using fluoroscopy and MRI with intrathecal gadolinium but are not accessible in daily practice.

Conservative treatment (hydration and rest) was effective in 28% of cases, while epidural blood patches resolved symptoms in 64% in first intervention. A review of 738 patients no showed serious adverse effect after epidural blood patch. In our case, the patient present complete improvement after blood patch.

Conclusion

We report a case with an atypical presentation of spontaneous intracranial hypotension, with diplopia and sixth cranial nerve palsy. Furthermore, our case illustrates the effectiveness of blood patch treatment for SIH, a reversible cause of secondary headache.

Keywords: CSF leak, Epidural blood patch, Spontaneous intracranial hypotension.

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Neurological adverse events after vaccination against Sars-Cov-2 in the municipality of Parnaíba, Piauí

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Introduction
At the end of 2019, a new disease that would come to be known as Covid-19 emerged in Wuhan, Hubei province, China, caused by a virus called novel coronavirus or SARS-CoV-2. The infection has spread worldwide, causing many deaths, however, at the end of 2020, the first vaccines against this new virus appeared, approved by regulatory bodies as being effective and safe. However, since the beginning of immunization, there has been much speculation within the general population both about the supposed low efficacy and the correlation with serious post-vaccination adverse events (APVE), including deaths. Furthermore, it is highlighted in the literature that neurological manifestations are one of the main sources of AEFI. Objective: Therefore, the objective of this study is post-vaccination adverse events against Covid-19 in the municipality of Parnaíba, Piauí.

Objectives
1) Investigate the occurrence of post-vaccination adverse events of a neurological nature of vaccination against SARS-CoV-2 in the municipality of Parnaíba, Piauí.

Methods
This is a cross-sectional, observational, descriptive and epidemiological quantitative study. Data were collected from the Information Sistema de Informação de Eventos Adversos Pós-Vacinação (SI-EAPV) of Secretaria de Estado da Saúde do Piauí, in the period from January 2021 (date of the beginning of vaccination against Covid-19 in Brazil) to September 2021. The study population was concentrated in the municipality of Parnaíba, located in the state of Piauí, Brazil. According to the Instituto Brasileiro de Geografia e Estatística (IBGE), the estimated population for the municipality in question is 153,863 people. The dependent variable is the presence of neurological manifestation as an outcome: yes/no. The other variables analyzed were color/race, sex and the description of the vaccine used.

Results
The research results showed a total of 2,079 patients who had some AEFI, of which 846 (40.7%) had some neurological manifestation. From this last data, the other variables were evaluated, with the majority of cases concentrated in the female public (n= 661, 78.1%) and in brown color/race (n= 439, 51.89%), although the latter represents a percentage similar to the demographic condition of the region, with no statistically significant difference. According to the descriptions of the vaccines used, Covid-19-Covishield-Oxford/AstraZeneca (n= 521) was the immunizer that presented the most neurological AEFI, although it was also the most applied vaccine, not showing any significant correlation. with the symptoms. Regarding the neurological manifestations, headache is the most prominent effect, present in 740 (87.47%) of the patients. Other more frequently reported neurological symptoms were dizziness (n=83, 9.8%), somnolence (n=31, 3.6%) and tingling/numbness/paraesthesia (n=27, 3.2%). Some of the neurological cases presented that were associated with AEFI stand out, such as seizures (n=12, 1.4%), fainting/syncope (n=8, 0.9%), meningoencephalitis (n=2, 0.2%), stroke (n=2, 0.2%), Guillain Barré syndrome (n=2, 0.2%) and viral encephalitis (n=1, 0.1%). Although these cases have been correlated with AEFI, they represent a very low rate among all manifested cases, without an important statistical correlation.

Conclusion
It is concluded, therefore, that vaccination against Covid-19 is a safe action and presents mostly mild to moderate AEFI. The important role of the population to be vaccinated is reinforced so that the risk of infection and hospitalization for this disease is low.

Keywords: Vaccines, SARS-CoV-2, Drug-related side effects and adverse reactions, Nervous system diseases.

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Trigeminal autonomic cephalalgias and intranasal lidocaine: a symptomatic management option

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Introduction

Trigeminal autonomic cephalalgias (TAC) are excruciating headaches with limited treatment options. In addition to drug therapy, there are some studies regarding nerve blocking and nerve stimulation with acceptable results. We had a sequence of three difficult to treat patients because of the disease or some associated condition that made us try something not so usual. Lidocaine, by blocking voltage-gated Na+ channels can reduce the excitability of neurons and thus prevent or reduce the sensation of pain, which can relieve neuropathic pain, hyperalgesia, and complex regional pain syndrome.

Objective

Observe if intranasal lidocaine could be effective and safe for patients with TAC.

Methods and Results

The three patients signed a consent permission form. (1) 29-year-old pregnant woman with a history of headaches for about 3 years. Pain was localized in the right periorbital region with the severity of about 7 out of 10. Attacks of excruciating pain associated with ipsilateral tearing 5–8 times a day - Paroxistic Hemicrania. She was diagnosed with prolactinoma two years ago. The management of the tumor had resolved the pain. With the pregnancy, bromocriptine has been stopped. So, 1 month later, the pain returned. As indomethacin could not be used in this situation, we opted to prescribe intranasal lidocaine. After the first dose, the patient had control of the pain. It was prescribed 2% lidocaine, 2 mL intranasal (IN) until four times a day. (2) 56-year-old man with a history of headaches for about 4 months. Pain was localized in the right periorbital region with the severity of about 10 out of 10. Attacks of excruciating pain associated with ipsilateral tearing and conjunctival injection lasting for 30-90 seconds and occurring as single stabs 30-50 times a day - short-lasting unilateral neuralgiform headache attacks with conjunctival injection and tearing (SUNCT). It was prescribed lamotrigine, he received a nerve block and, as he had no response to sumatriptan SC, we prescribed intranasal lidocaine (the same dosis), which brought a control of the attacks. (3) 38-year-old man with a history of headaches for about 12 months. Pain was localized in the left periorbital region with the severity of about 10 out of 10. Attacks of excruciating pain associated with ipsilateral tearing and conjunctival injection lasting for 5-120 seconds and occurring as single stabs 50-90 times a day - Short-lasting unilateral neuralgiform headache attacks with conjunctival injection and tearing (SUNCT). It was previously prescribed verapamil, topiramate, duloxetine, without any improvement. We started lamotrigine, he received a nerve block with lidocaine plus dexamethasone and, as he had no response to indomethacin, sumatriptan SC, we prescribed intranasal lidocaine (the same dosis), which brought complete control of the attacks.

Conclusion

For our three patients intranasal 2% lidocaine, 2 mL, was an effective, short cost, and safe option of abortive treatment for two TAC pain: Paroxistic Hemicrania and SUNCT.

Keywords: Trigeminal autonomic cephalalgias, Lidocaine, Pregnancy, Safety, Cost-effective.

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Executive and attentional functions in patients with migraine

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Introduction
The Executive Functions (EF) allow the individual to direct behaviors to the goal, evaluate his/her efficiency and appropriateness, and eliminate ineffective strategies by other efficient and functional ones to solve short, medium, and long-term problems. To this end, attention is fundamental to learning and problem solving.

Objective
To relate executive and attentional functions with the presence or absence of migraine.

Methods
A cross-sectional study on the presence of attentional and EF alterations in migrant patients, with a target sample of 42 subjects, 30 migrants and 13 non-migrants. Subjects above eighteen (18) years of age, recruited consecutively by convenience at the *Centro Acadêmico Multiprofissional Dr. Agostinho Paolucci of the Faculdade de Medicina de Barbacena - CAM FAME, Faculdade de Medicina and Centro AMA de Desenvolvimento*, were included in the study, regardless of sex, after completion of the free and informed consent form - FICF. Subjects with migraine were in accordance with the criteria of the International Classification of Headaches (ICHD-3). All subjects diagnosed with migraine and undergoing neuropsychological evaluation were included. The Psychological Attention Assessment Battery (APB) was used for the attention test and the Five Digits Test was used for the EF test. The APB measures the attentional performance in 3 (three) distinct types of attention, related to 1) the ability to maintain the focus of attention on a given stimulus for a prolonged time; 2) the ability to distribute attention resources for the simultaneous execution of multiple tasks; 3) the ability to alternate attention resources among different stimuli. The Five Digits Test verifies the speed of reasoning and response, its accuracy and assertiveness, and can also be used as a measure of attentional processes and their accuracy. The tests estimated executive and attentional functioning as a function of the presence of headache. The analyses set the type I error at 0.05.

Results
Of the final sample, 13 (30.9%) individuals reported no headache, 29 (69%) met criteria for migraine. The Concentrated Attention Test showed difference between the groups ($p = 0.033$), obtaining difference between the means in non-migraineurs and migraineurs, respectively, 99% and 87.8% when evaluating the raw score for concentrated attention. To obtain the comparison of the means the statistical tests T and Wilcoxon with two samples were used. The Alternate Attention Test showed a difference between groups of $p = 0.11$. The General Attention Test showed a difference between groups of $p = 0, 033$. All of them point to reduced attentional potential in migrants when compared to non-migrants. The 5 Digit Test showed lowering in the migraineurs group when compared to the non-migraineurs (inhibition = 0, 3092; flexibility = 0, 2323). Multivariate analysis identified a relationship between EF, Attention, and migraine ($p<0.05$). This can be observed in three isolated profiles: percentile by age group, has $p= 0.129$; percentile by education, has $p= 0.061$; by raw value, has $p= 0.335$.

Conclusion
Individuals with migraine have lower EF and attentional skills when compared to non-migraineurs. The time spent, both in the EF and Attentional Skills, tends to be higher in the migraine group, which can help in understanding the cognitive processes under the action of headache, leading to rehabilitation strategies that favor the skills studied, as well as the individual's quality of life and productivity.

Keywords: Headache, Migraine, Executive functions, Attention.

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Improvement in the quality of care for patients with headache treated in emergency units in a private hospital network

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Introduction

Patients with headache complaints are among those who most frequently seek care in emergency units. Unfortunately, the assistance provided to these patients frequently does not reflect the best scientific evidence, compromising clinical results and exposing patients to unacceptable risks and unnecessary procedures. Among these errors, we cite the high rate of prescription of opioids for primary headaches, the excessive number of unnecessary CT scans, high stay rates in emergency units, and high rate of hospital admissions.

Objectives

To evaluate changes in care outcomes after beginning a care protocol in a private hospital network.

Methods

We evaluated all the headache data in the emergence units of Americas Serviços Médicos, a private hospitals network with 18 units distributed in 3 regions of Brazil. Headache was identified in the electronic medical record system through the international code of diseases (CID). The following data were collected: rate of opioids prescription, rate of TC scan, time of stay in emergence room, hospitalization rate, and hospital length of stay. Data were collected in the four months before the protocol (pre-protocol) and in the last four months (post-protocol). Categorical data were evaluated with chi-square and continuous data with unpaired t test.

Results

The data of 9,060 patients in the pre-protocol and 8,828 patients in the post-protocol periods were assessed. The rate of opioids prescription reduced from 19.9% to 18.5% (P=0.0173). The rate of CT scan was 16.75 in pre and post protocol periods P=1). The stay time in emergence room was 227.46±61.07 minutes in the pre and 196±16.11 in the post protocol period (P=0.37). The rate of hospitalization increased from 1,53% in the pre to 2.24% in the post protocol period (P=0.005). The length of hospital stay reduced from 5.9±2.2 in the pre to 3.5±0.6 in the post protocol period (P=0.05).

Conclusion

Although the results are still preliminary and are below the protocol goals (which are less than 5% of opioid prescription and of CT scan indication), these initial data show the potential of this protocol to improve outcomes and the quality of care for these patients.

Keywords: Analgesics, Opioid, Headache, Emergency service, Prescriptions.