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Headache attributed to foreign body in pericranium as a late complication of cranioplasty: a case report

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Abstract

Cranioplasty is a surgical procedure for the reconstruction of the cranial vault that has become common in recent decades due to the need for decompression of the skull after traumatic brain injury and management of severe stroke. Cranial deformity can lead to many psychological consequences. Repairment brings several benefits for the patient, mainly aesthetic, but also the return of the cerebrospinal fluid flow, intracranial pressure, and brain blood flow. Headache does not appear as a relevant complication after cranioplasty.

Objective

The purpose of this study is to present a patient with a late-onset headache due to displacement of a cranioplasty plate.

Case Report

A 21-year-old female patient presented persistent left-sided headache near a prior craniotomy site; notably, no radiating pain was reported along the surgical scar. Initially mild, the pain progressed to moderate to severe within weeks. Tactile stimuli, like hair brushing or water exposure, significantly exacerbated discomfort. Phenomenologically, the pain lacks distinct characterization, though neuralgiform attributes were explicitly denied. Limited relief from analgesics led to considerable irritability due to the relentless pain.

At age 10, the patient experienced recurring episodes marked by malaise, visual disturbances, and motor deficits, followed by motor aphasia and right hemiplegia. Imaging confirmed ischemic stroke, attributing it to left middle cerebral artery infarction. The progressive decline prompted decompressive craniotomy.

Subsequent persistent intense headaches led to cranioplasty at age 12, involving iliac crest bone graft and titanium plates. While cranial reconstruction improved headaches, carbamazepine and sertraline were prescribed for potential seizures and mood disturbances. Despite moderate motor aphasia, cognitive recovery allowed academic performance.

At 13, the patient sought neurological consultation for new, frequent, left-sided, pulsatile headaches without aura. The craniotomy scar exhibited good healing without pain. Moderate analgesic use and well-controlled mood were noted. CT scan revealed adapted left frontotemporoparietal cranioplasty, gliosis in opercular, insular, and ganglionic areas, and left corticospinal tract degeneration. Topiramate managed headaches effectively.

Loss of follow-up occurred until the patient returned due to continuous headaches. In the context of a young patient exhibiting enduring consequences stemming from a prior stroke, alongside effectively managed migraine episodes, albeit accompanied by persistent and precisely localized head pain, coupled with notable shifts in sensory responsiveness, discerning primary versus secondary headache was challenging due to atypical attributes.

A CT scan revealed cranioplasty plate displacement, overlapping the posterior plate over the anterior one, necessitating replacement and fixation surgery. Immediately after the operation, pain recovery was complete, without soreness in the cranioplasty scar site. Stability persisted, with no headaches or cranial pain for 6 months.

Conclusion

The case discussed in this article could be classified as “headache or facial pain attributed to other disorders of the skull, neck, eyes, ears, sinuses, teeth, mouth, or other facial or cervical structures." Still, the region that caused pain in the patient, the pericranium, is not cited in this classification. Therefore, as far as we know, this case doesn’t apply to any available category in the literature but could be classified as a headache attributed to a foreign body in pericranium.

Palavras-chave: Headache, Craniotomy, Secondary Headache Disorders, Tension-Type Headache