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# Headache in the context of cocaine exposure and in a patient with acute myocardial infarction and stroke due to cervical artery dissection: a case report

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**Introduction**
Cocaine use is associated with a wide range of acute cardiovascular and cerebrovascular complications due to its potent sympathomimetic effects, including vasospasm, endothelial dysfunction, platelet activation, and increased thrombotic risk. Although myocardial infarction and ischemic stroke are well-recognized complications of cocaine exposure, their simultaneous occurrence is uncommon and poses significant diagnostic and therapeutic challenges. Headache is a frequent presenting symptom among cocaine users and may represent a benign manifestation or the initial sign of a severe vascular event.

**Case presentation**
A 35-year-old woman, with a history of hypertension and inappropriately using medication, was admitted to the emergency room after cocaine and alcohol abuse. She subsequently developed (without specifying the time) typical chest pain, nausea, diplopia, right hemicranial headache and right hemiparesis. She presented with right hemiparesis grade IV, right hemiataxia and axial ataxia, bilateral paresis of the VI cranial nerve, with oscilloscope findings.

**Discussion**
Initial exams, including an electrocardiogram, showed T-wave inversion in leads V4-V5 and V6, without ST-segment elevation, with elevated troponin. Transthoracic echocardiography demonstrated a low left ventricular ejection fraction (37%, Teicholz method), with hypokinesis of all mid and apical segments. Coronary catheterization showed no abnormalities, concluding that it was Takotsubo Syndrome. Cranial computed tomography (CT) scan showed no abnormalities, and cranial angio-CT scan showed no contrast enhancement in the intracranial segment of the right vertebral artery (occlusion/dissection?). The patient was admitted to the intensive care unit (ICU) for further neurological investigation and underwent brain magnetic resonance imaging (MRI), which revealed recent ischemic vascular injury in the right medulla oblonga and narrowing with filling defect in the intracranial segment of the right vertebral artery, suggesting dissection. The patient continued to experience headaches in the same location as reported upon admission throughout her hospital stay. She left the hospital against medical advice before completion of the diagnostic workup while awaiting cerebral angiography.

**Conclusion**
This case emphasizes the importance of a comprehensive assessment of headache in the emergency department, particularly when associated with focal neurological deficits after cocaine use, to ensure timely diagnosis and appropriate treatment of potentially serious conditions.

**Keywords:**
Headache
Cervical artery dissection
Cocaine

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