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IMAGES IN CLINICAL PRACTICE

SELF-INJURED EPIDURAL HAEMATOMA IN AN ADOLESCENT

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We present the case of a male early-adolescent, diagnosed with attention deficit hyperactivity disorder (ADHD), under methylphenidate, risperidone and fluoxetine. He presented to the emergency department with left-sided toothache and otalgia with two-weeks evolution. No other symptoms reported. The observation revealed dental caries and hyperaemia of the left tympanic membrane, reason why he was empirically treated with amoxicillin and clavulanic acid for acute otitis media (AOM). He returned to the emergency department one week later with an increased left-sided otalgia, which spread to the periauricular and temporal areas. In that period, he also described occipital headache with increasing intensity in supine position and no time preference. The antibiotic therapy was not followed by oral intolerance. The physical exam showed oedema and discrete erythema in the temporal and peri-auricular region and a slight protrusion of the auricle, without erasure of the retroauricular groove. The were no external sings of trauma, namely hematoma, abrasions, lesions of continuity, or other local changes. Palpation highlights a soft consistency swelling in the temporal and peri-auricular region, slightly painful to the touch, without lymph nodes or any other noticeable changes. The patient and the family denied fever, history of trauma, visual changes, morning vomiting, prostration or a perceived abnormal behaviour. There were no other abnormal findings on examination. Worsening of pain complaints, oedema of the periauricular/temporal areas and treatment noncompliance pointed to a local complication of AOM, such as otomastoiditis. Laboratory data showed normal inflammatory parameters. Cranial CT-scan (Figures 1 and 2) unexpectedly revealed: "Discrete inflammatory filling of the left mastoid with maintained permeability of the tympanic cavity. Recent fractures slightly misaligned in the left temporal squama and left epidural haematoma with a 20 mm thickness that compresses the underlying parenchyma" with no other relevant changes.

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Figure 1. Cranial CT-scan revealing left epidural haematoma with a 20 mm thickness, compressing the underlying parenchyma.

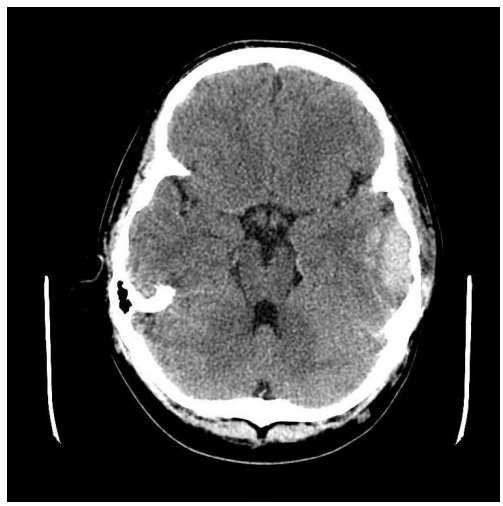
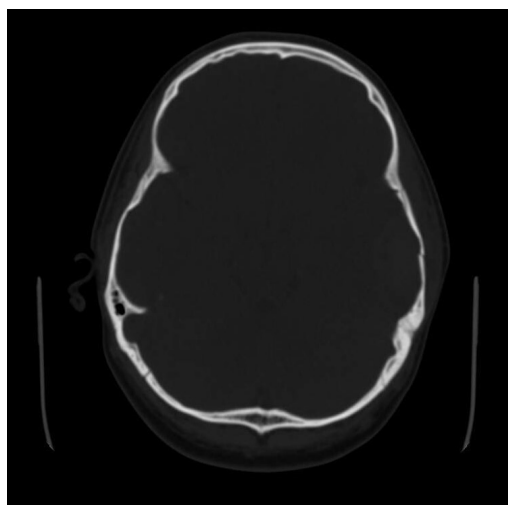


Figure 2. Cranial CT-scan (bone window) revealing left temporal fracture slightly misaligned.



After this finding, the family was again questioned about trauma history, which had been assertively denied in the first approach. The traumatic nature of the injury was then confirmed as a result of continued self-inflicted injuries. The mother reported that he occasionally would hit his head multiple times against the wall, reported as a self-injurious

behaviour with anxiety reduction function. These behaviours had occurred about two weeks before the initial admission. However, neither the patient nor the family were certain of when the last episode had been. Trauma was denied in the previous 72 hours. The patient was transferred to a tertiary hospital with neurosurgery. He was admitted for clinical surveillance, under cardiorespiratory monitoring. A conservative approach was chosen in association to the patient's clinical stability, as well as the time of evolution of the haematoma, despite exceeding 15 mm.[1,2] During hospitalisation, he remained hemodynamically stable, without signs of intracranial hypertension, focal deficits or other changes. Cranial CT-scan after 48 hours revealed no evolution of the haematoma. He was discharged, referred to the neurosurgery and psychiatry consultation. Cranial CT-scan after one-month revealed subtotal resorption of haematoma (3 mm).

What is the diagnosis?

Epidural Hematoma (EDH) is one of the major neurosurgical emergencies and is manly a consequence of traumatic brain injury (TBI).[3] Otalgia, although uncommon, might have been the first symptom of EDH. However, once the self-injurious behaviour was occasionally performed, it is not possible to be sure if the hematoma occurred after his first admission. Self-inflicted TBI with EDH is rarely reported in paediatric population, representing less than 2% of all non-accidental brain injuries.[3,4] Nevertheless, self-injury is becoming more frequent, especially in adolescence. It is also known that adolescents with a mental health condition, such as ADHD, have an increased risk of self-harm and suicidal ideation. It is also established that patients with ADHD are more likely to develop any kind of TBI. The predominance of the impulsive component favours behaviours such as those presented by the patient. It is also possible that the patient suffers from an undiagnosed conduct disorder (frequent comorbidity with AHDH).[5,6,7] In this case, trauma was denied multiple times, which highlights the importance of an empathic detailed clinical history, clinical suspicion and careful examination.

Learning Points

- Self-injury is not a common cause of epidural haematomas, but should be considered.
- Otalgia can be one of the presenting symptoms of epidural haematomas;
- An empathic clinical history and careful examination is very important in every patient.

Compliance with ethical standards

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