



MRI Findings in Children with Headache Seen in a Third-Level Centre

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The recent review by Jang et al.¹ confirms a low prevalence of significant intracranial abnormalities found in adult patients with headache, as documented in existing literature.

In our third-level Child Neurology and Psychiatry Unit we do not have an Emergency Department, but patients with headache are quite often seen as outpatients sent by their general paediatrician with a priority access (“deferred urgency”). When deemed necessary after first clinical assessment by the child neuropsychiatrist, these children can be hospitalized to undergo a full evaluation.

In 2017, eighty-four patients (mean age 11 years old) were hospitalized for this reason. They received an in-depth physical examination for associated neurological and psychiatric problems and a detailed history was taken to assess headache frequency; they also underwent different instrumental exams (chosen according to clinical data) and all of them underwent brain-MRI to clarify their diagnosis.

The patients’ clinical diagnosis (according to the ICHD III) were: tension-type headache 46%, migraine with aura 17% and without aura 21%, headache with mixed characteristics 12%, cluster headache 4%. Comorbidities were present in 37.5% of patients: psychiatric 44%, both psychiatric and neurological 34%, general medicine comorbidities 22%. Brain MRI showed normal findings in 70.3% of patients, anatomical variants in 8.3%, findings of uncertain pathological significance in 19% and pathological alterations in about 2.4% (1 case of pseudotumor and 1 of cerebellar astrocytoma correlated with headache). Ear, Nose, Throat (ENT) disorders were documented in 24% of

patients: 5% nasopharynx hypertrophy, 19% paranasal sinus disease, 5% mastoid involvement.

These data are interesting for two main reasons. First, it is important to highlight that 24% had ENT disorders not detected during clinical assessment; it is worth noting that these unrecognized ENT disorders were easily treatable (at follow up, this treatment also produced a cessation of headache). This means that for these patients MRI was in fact an exam that changed the treatment prescribed and/or increased its effectiveness. Second, the prevalence of significant alterations in our study was lower than the usually reported.²

Jang et al.¹ describe the existing concerns about performing unnecessary neuroradiological exams. This poses serious ethical concerns, given on one hand the importance of the early identification of potentially life-threatening diseases and on the other hand the cost of these procedures both for the child (procedural sedation, X-rays in the case of CT) and for the health system. Moreover, inconsequential findings can lead to further unnecessary examinations and can be used as a defence to avoid the exploration of other potentially relevant factors, such as the psychological functioning of the child.^{3,4} This is especially important because of the relevance of psychological factors for treatment and prognosis of childhood headache is well established.⁵

Our data support the need of robust prospective studies to better define clinical factors predicting (or excluding) the utility of MRI in children and adolescents with headache.

Conflicts of Interest

The authors have no potential conflicts of interest to disclose.

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