

Abdominal Migraine as Cause of Recurrent Abdominal Pain

Source: Carson L, Lewis D, Tsou M, et al. *Abdominal migraine: an under-diagnosed cause of recurrent abdominal pain in children. Headache.* 2011;51(5):707-712; doi:10.1111/j.1526-4610.2011.01855.x

Researchers from the Children's Hospital of the King's Daughters, Norfolk, VA, conducted a study to determine if abdominal migraine (AM) is an underdiagnosed cause of recurrent abdominal pain in children. The investigators reviewed the medical records of children seen in a pediatric gastroenterology clinic for recurrent abdominal pain in 2006 and 2007. The International Classification of Headache Disorders (ICHD-2) criteria¹ were used to classify study patients as having AM. These criteria define AM as an idiopathic disorder characterized by attacks of midline, moderate to severe abdominal pain lasting 1 to 72 hours, with vasomotor symptoms, nausea, and vomiting. A key feature of AM is the complete resolution of symptoms between attacks. A diagnosis of AM is excluded if another etiology for the abdominal pain is found.

During the study period 2,443 children were evaluated for recurrent abdominal pain; the medical records of 600 patients were randomly selected for review. Among this cohort of 600 study children (ages 1-21 years; 59% females), 142 (24%) were excluded on the basis of a diagnosed cause. Reasons for exclusion from the diagnosis of AM included irritable bowel syndrome (41%), renal disease (4%), pre-existing neurologic disorder (7%), inflammatory bowel disease (16%), eosinophilic esophagitis (4%), and "other" (28%). Of 458 patients with chronic, idiopathic, recurrent abdominal pain, 20 (4.4%) met ICHD-2 criteria for AM and another 50 (11%) had probable AM, lacking at least one criterion for the diagnosis. During the study period no child seen in the pediatric gastroenterology clinic was diagnosed with AM.

The authors conclude that AM is an underdiagnosed cause of recurrent abdominal pain in children. Increased awareness of cardinal features of AM may result in improved diagnosis and early use of specific therapy.

Commentary by

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Dr Millichap has disclosed no financial relationship relevant to this commentary. This commentary does not contain a discussion of an unapproved/investigative use of a commercial product/device.

The American Academy of Pediatrics Subcommittee on Chronic Abdominal Pain includes AM as a form of "functional abdominal pain."² AM is included among the periodic syndromes of childhood that are precursors of migraine. Other migraine variants are cyclic vomiting syndrome, benign paroxysmal vertigo, and benign paroxysmal torticollis.³ The differential diagnosis of chronic recurrent abdominal pain in children is broad and may require the expertise of pediatrician, gastroenterologist, psychiatrist, and neurologist. Diagnosis is based on exclusion criteria and positive criteria. Positive

PICO

Question: Among children with chronic, recurrent abdominal pain, is abdominal migraine an underdiagnosed cause?

Question type: Diagnosis

Study design: Retrospective cohort

criteria for AM are listed in the ICHD-2 classification and include the frequency, character, duration, and other symptoms associated with attacks.¹ Among exclusionary criteria, neurologic disorders include "abdominal epilepsy." Epilepsy as a cause of abdominal pain may be differentiated from migraine by the occurrence of other features of partial seizures, the family history, and an EEG showing interictal epileptiform discharges. As suggested by the data from the current study, AM is more common in patients with a family history of migraine, and accounts for 4% to 15% of patients referred for idiopathic recurrent abdominal pain. Migraine and epilepsy remain uncommon causes of recurrent abdominal pain, and investigation of other systemic causes is paramount.

Dietary factors may play an important role in the precipitation of migraine in children and adolescents, and are frequently neglected in favor of preventive drug therapy.⁴ The list of foods, beverages, and additives that trigger migraine includes cheese, chocolate, citrus fruits, hot dogs, monosodium glutamate, aspartame, fatty foods, ice cream, alcoholic drinks, and caffeine withdrawal. Tyramine, phenylethylamine, histamine, nitrites, and sulfites are involved in the mechanism of food intolerance migraine. Immunoglobulin E-mediated food allergy is an infrequent cause. Dietary triggers influence release of serotonin and norepinephrine, causing vasoconstriction and vasodilatation, or by direct stimulation of trigeminal ganglia, brainstem, and cortical neuronal pathways.

Avoidance of dietary triggers may also be important in the management of AM. Treatment begins with a diary of AM attacks and diet. Simultaneous elimination of all potential food triggers is generally not advised. A well-balanced diet is encouraged, with avoidance of fasting or skipped meals. Long-term prophylactic drug therapy may be appropriate only after exclusion of migraine trigger factors. Serotonin-specific reuptake inhibitors that decrease the corticotropin-releasing hormone response to stress are proposed as a new approach to migraine treatment, based on the emerging field of epigenetics and the role of early life stress and abuse in the pathogenesis of migraine, impacting girls more than boys.⁵

Editors' Note

Since this study was based on patients referred to a subspecialty practice, readers should be wary about generalizing the findings to all children with recurrent abdominal pain.

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