

Migraines in childhood and adolescence associated with having colic as an infant

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In a study including children and adolescents 6 to 18 years of age, those who have experienced migraine headaches were more likely to have had colic as an infant, according to a study in the April 17 issue of *JAMA*.

"Infantile colic is a common cause of inconsolable crying during the first months of life," according to background information in the article. "The [pathogenesis](#) and the age-specific presentation of colic are not well understood. Infantile colic is usually interpreted as a pain syndrome and may be multifactorial. ... Migraine is a common cause of [headache pain](#) in childhood. Whether there is an association between these 2 types of pain is unknown."

Silvia Romanello, M.D., of the APHP-Hospital Robert Debré, Paris, and colleagues conducted a study to investigate the possible association between migraine and colic. The case-control study included 208 children 6 to 18 years of age presenting to the [emergency department](#) and diagnosed as having migraines in 3 European tertiary care hospitals between April 2012 and June 2012. The [control group](#) was composed of 471 children in the same age range who visited the emergency department of each participating center for minor trauma during the same period. A structured questionnaire identified [personal history](#) of infantile colic for case and [control participants](#), confirmed by health booklets. A second study of 120 children diagnosed with tension-type headaches was done to test the specificity of the association.

The researchers found that children with migraine were more likely to

have experienced infantile colic than those without migraine (72.6 percent vs. 26.5 percent). The subgroup analysis for migraine subtypes confirmed the association between infantile colic and either migraine without aura (73.9 percent vs. 26.5 percent) or migraine with aura (69.7 percent vs. 26.5 percent). This association was not found for children with tension-type headache.

"The link between infantile colic and migraine could be based on a pathogenetic mechanism common to migraine without aura and also migraine with aura. We found that among migraine characteristics, only pulsatile pain was more frequent in children with a history of infantile colic than among children with migraine but without infantile colic. Infants with colic might experience a similar sensitization of the perivascular nerve terminals in the gut, although this hypothesis needs to be tested," the authors write. They add that molecules known to be involved in the modulation of sensory activity could also be involved.

Longitudinal studies are needed to further explore the association between colic and childhood migraines, the researchers conclude.

Leon G. Epstein, M.D., and Phyllis C. Zee, M.D., Ph.D., of the Feinberg School of Medicine, Northwestern University, Chicago, comment in an accompanying editorial on the reasons the study by Romanello et al is important:

"First, both colic and migraine are common conditions. Colic occurs in approximately 16 percent to 20 percent of infants. The prevalence of migraine headache by age groups is 1.2 percent to 3.2 percent from 3 to 7 years old, 4 percent to 11 percent from 7 to 11 years old; and 8 percent to 23 percent from 11 to 15 years old. The morbidity and economic costs associated with these conditions are significant. Second, if colic is an early form of migraine, this suggests that migraine disorders may represent a continuum from colic in infancy to cyclic vomiting syndrome

in young [children](#) to childhood and adult migraine. The expanding knowledge of the genetics and pathophysiology of [migraine](#) may be applicable to these age-specific clinical presentations and offer the potential for new, empirical therapies. Finally, this elegant study demonstrates that observational studies can provide important insights about fundamental scientific questions for common disorders."

More information: *JAMA*. 2013;309(15):1607-1612
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