DOI:10.4274/tnd.09815
Turk J Neurol 2017;23:90-91

Prophylactic Treatment for Migraine in Children: Amitriptyline or Topiramate?

Pediatrik Migrenin Önleyici Tedavisi: Amitriptilin mi Topiramat mı?

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Keywords: Pediatric, migraine, amitriptyline, topiramate
Anahtar Kelimeler: Pediatrik, migren, amitriptilin, topiramat

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Migraine headache is frequently seen in children and causes deterioration of quality of life. Prophylactic treatment is required if the frequency of headaches is more than one per week or headaches cause severe disability. Prophylactic treatment is used to reduce frequency, severity and duration of attacks, improve response to acute treatment of attacks, reduce disability, and improve quality of life. There are limited randomized- controlled studies on the treatment of migraine in children and there is no proven drug for use in migraine prophylaxis in children aged below 12 years (1). A double-blind, placebo-controlled crossover study showed that flunarizine was effective in migraine prophylaxis in 70 children aged between 5-11 years (2). In line with the results of this study, the American Academy of Neurology reported that flunarizine was probably effective in migraine prophylaxis in children, but flunarizine is not approved in the United States of America (1). For this reason, a multi-center, double-blind, randomized, placebo-controlled study was designed to compare the efficacy of amitriptyline and topiramate with placebo, which are widely used by physicians who specialize in pediatric headache (3). In the study, 328 patients whose ages ranged between 8 and 17 years and who were diagnosed as having migraine with or without aura or chronic migraine without daily headaches according to the International Classification of Headache Disorders were included. Patients were randomly assigned to receive amitriptyline (1 mg/kg/day), topiramate (2 mg/kg/day) or placebo for 24 weeks and the efficacy of amitriptyline and topiramate was compared against placebo.

The outcomes of the study were:

1. Relative reduction of 50% or more in the number of headache days in the comparison of the 28-day baseline period with the last 28 days of a 24-week trial.

2. Headache-related disability, headache days, number of trial completers, and serious adverse events that emerged during treatment.

With the exception of adverse events that emerged during treatment, there were no significant between-group differences in primary and secondary outcomes. Patients who received amitriptyline or topiramate had higher rates of several adverse events than those receiving placebo, including fatigue and dry mouth in the amitriptyline group, and paresthesia and weight loss in the topiramate group. The proportion of patients who left the study due to adverse events was recorded as 5%, 6%, and 2% in the amitriptyline, topiramate, and placebo groups, respectively.

As a result, there were no significant differences in reduction in headache frequency or headache-related disability in childhood and adolescent migraine with amitriptyline, topiramate, or placebo over a period of 24 weeks. Amitriptyline and topiramate were associated with higher rates of adverse events compared with placebo.

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Received/Geliş Tarihi: 31.12.2016 **Accepted/Kabul Tarihi:** 31.01.2017

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