Features of chronic primary headaches (CPH) in children and adolescents referred to two third level headache centers.

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Objectives

Our aim was to investigate the clinical features of CPH in a cohort of pediatric patients.

Chronic migraine (CM), Chronic tension-type headache (CTTH) and new daily persistent headache (NDPH) are the main forms of CPH reported in the ICHD-III beta version. Medication-overuse headache (MOH) is classified among secondary headache but it generally affects patients with a pre-existing primary headache.

Methods

We retrospectively reviewed the charts of patients attending the Headache Centre of Bambino Gesú Children and Insubria University Hospital. The ICHD-III criteria were used for diagnosis. Statistical analysis was conducted by SPPS version 22.0 and $\chi 2$ test was used to study possible correlations between: - CPH and population features (age and sex); - CPH and headache qualitative features; - CPH and risk of MOH; -CPH and response to prophylactic therapies.

Results

Headache Features. We included 377 patients with CPH (66.4% female, 33.6% male, age between 0 and 18 years). The most frequent CPH type was CM (73.5%), followed by CCTH (13.5%) and NDPH (13%). MOH was detected in 10.9% of total patients. CPH are less frequent under 6 years of age (0.8%; $p < 0.05$); significant greater frequency in females than in males was found in the age group between 0-6 years (23/31 F, 8/31 M) and between 15-18 years (41/51 F, 10/51 M) ($p<0.05$). No correlations between age/sex and different CPH types were detected. We found a more frequent incidence of vegetative symptoms (photo/phonophobia and vertigo) in female sex ($p< 0.05$). Nausea and vertigo are the two most frequent vegetative symptoms under 10 years of age ($p<0.05$) while photo/phonophobia are more frequently in patients older than 15 years ($p<0.05$). Possible development of MOH has been found correlated with CM types ($p<0.05$) and age above 15 years ($p<0.05$).

Response to therapy.

Our results show that 272 (72.1%) out of 377 CPH patients received a prophylactic therapy. Among them, 190 patients received amitriptyline, 29 patients topiramate, 15 patients L-5 hydroxytryptophan, and 8 patients flunarizine. Thirty patient performed two or more drugs. Positive response to therapy (reduction of attacks by at least 50% in a month) was detected in 54% of patients, while no outcome data were obtained from 29.4% of cases. Amitriptyline and topiramate had the highest efficacy ($p<0.05$). We found that 59.2% of patients who received amitriptyline showed significant reduction in the attack frequency, while 48.4% patients receiving topiramate improved their headache attack frequency ($p>0.05$). However, for both drugs more than 30% of patients did not have follow up data.

Conclusions

-Our results showed that CPH presented a correlation with patients' age and sex. No significant differences were found between CPH types and population/pain features. Development of MOH was related with CM onset and adolescent age. Amitriptyline and topiramate had the best effectiveness. However, it is to be underlined that follow up data could not be issued from a moderate percentage of patients. It will be useful in the future to reduce the number of missing patients by improving patients'compliance and promoting the concept of migraine as a disease that can cause relevant disability.