CORRESPONDENCE

Severe Headache in Emergency Room: Migraine or Digital Eye Strain

Among primary headaches in children, tension type headache and migraine form the most common causes of headache. With the increasing use of digital devices globally, digital eye strain (DES) or computer vision syndrome (CVS) has been increasing, with the 2016 digital eye strain report documenting a self-reported prevalence of nearly 65% [1]. Headache has been considered to be one of the five most common symptoms associated with DES according to American Optometric Association [2].

A 14-year-old girl presented to the emergency room with the complaints of severe bitemporal headache with heaviness in eyes, vomiting and undocumented fever for past 15 days. The headache was severe enough to hinder studies, and she had to quit her online examinations due to the headache. Vitals of the patient were within normal ranges and she was afebrile during hospital stay. No signs of meningeal irritation were present. Fundus evaluation was normal. Lumbar puncture and magnetic resonance imaging of brain were done to rule out causes of secondary headache, and were found to be normal. A provisional diagnosis of migraine without aura was made but there was neither previous history of such attacks nor any positive family history. Since the girl had a history of watering of eyes while watching television (TV), an ophthalmic evaluation was performed that revealed dry eyes and a refractory error of -0.25D in both eyes. On further detailed history, it was found that the adolescent was having a screen time of 7 hours daily for past 10 months (4 hours of online classes on smartphone due to the pandemic and 3 hours of TV watching). A computer vision syndrome questionnaire (CVS-Q) [3] was used to rule out digital eye strain as the cause of headache, and the total score was found to be 18 indicating severe CVS. Initially the patient was given oral analgesics and was advised to have a reduced screen time for next 4 weeks. After one week, the analgesics were stopped. Presently the patient is asymptomatic.

Educational screen use, with appropriate precautions, was advised. The symptomatology of DES or CVS can be related to extraocular, ocular surface or accommodative mechanism leading to severe headache [4]. So objective visual assessment of such patients should not be limited to the assessment of refractory error alone but should also include an orthoptic vision screening for detecting errors of accommodation including unilateral and alternate cover and uncover tests at near vision [5]. Even small aberrations in these tests can lead to symptoms, and may continue progressing uncorrected.

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Non-availability of Parenteral Preparations of Vitamin A: Is a Silent Surge of Bronchopulmonary Dysplasia Happening in India?

Bronchopulmonary dysplasia (BPD) continues to be one of the most important challenges in the care of the preterm infants, affecting approximately one-quarter of very low birth weight infants [1]. With better availability and improved quality of care of neonatal intensive care units (NICUs) in India, more and more such babies are surviving. As vitamin A is accumu-lated mainly in the third trimester, preterm infants may have low vitamin A levels at birth, which may contribute to an increased risk of developing BPD. With the large number of preterm babies surviving, there is possibility of an increase in number of BPD cases.

Most of randomized trials to study efficacy of vitamin A supplementation to prevent BPD used parenteral preparations. Globally, trials testing efficacy of oral vitamin A supplemen-tation in preventing BPD has not shown its role [2].

During the last few years there is increasing difficulty in getting intramuscular preparations of vitamin A. Thus currently

virtually no vitamin A injections are available in Indian market, making it one of latest addition in orphan drugs. India still lacks appropriate policy framework for orphan drugs, making a country-specific Orphan Drugs Act (ODA), need of the hour [2]. Well-designed multicenter trials should be done in Indian setting to study role of oral vitamin A in preventing BPD. Until efficacy of oral vitamin A is proved, Indian Academy of Pediatrics should engage with the government to ensure easy availability of injection vitamin A throughout the country.

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Dexmedetomidine vs Midazolam for Sedation in Mechanically Ventilated Children: Few Concerns

We read with interest the recently published research paper on dexmedetomidine vs midazolam for sedation in mechanically ventilated children [1]. We have the following concerns related to the study.

The recommended approach for noninferiority trials is to perform both intention to treat and per protocol analysis and to conclude noninferiority if both analysis produce the same result [2]. Although we could infer from the study flow chart that per protocol analysis was done, but there could be doubt in the minds of the readers if modified intention to treat or per protocol analysis was done. The estimated sample size in the methods section is written as 39 per group whereas in the discussion section the intended sample size is written as 36 in each group. Bradycardia in dexmedetomidine group is mentioned as 17.4% in the results section as well as in the fourth paragraph of discussion section while it is mentioned as 14.4% in the first paragraph of discussion section.

We understand your concern of not giving bolus of dexmedetomidine in your study to avoid bradycardia and hypotension as it has been reported in many studies. There have been few pediatric randomized control trials in which bolus dose of dexmedetomidine was given and there was no difference in the occurrence of bradycardia and hypotension and they found that the rate of adequate sedation was higher in the dexmedetomidine group with lower requirement of rescue drugs and shorter onset of sedation time [3]. We are of the opinion that not giving bolus dose of dexmeditomidine could have been a contributory factor in non-establishment of non-inferiority of dexmedetomidine as compared to midazolam in your study, and this point could have been discussed in the discussion section.

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AUTHORS' REPLY

We thank the readers for their interest in our study [1]. The analysis was a per-protocol analysis; the same is highlighted in the study flow chart.

The errors in discussion section in the values of adverse events in dexmedetomidine group as well as the sample size are typographical errors.

The authors have opined that not giving bolus dose of dexmedetomidine could have been a contributory factor in non-establishment of non-inferiority of dexmedetomidine as compared to midazolam in our study. The median (IQR) duration of dexmedetomidine infusion was 26 (14, 48) hours and even without bolus dose, the serum levels of the drug are likely to be in the therapeutic range to cause desired sedation. Moreover, the frequency of adverse events in the dexmedetomidine group argue against the lack of therapeutic levels. Hence, we feel that bolus dose of dexmedetomidine would not have changed the outcomes.

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