



Evaluation of Etiological Causes and Demographic Characteristics of Neonatal Seizures in Adıyaman University Training and Research Hospital: A Retrospective Study

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Abstract

I read interestingly the article by Ipek et al¹, which was published in your journal. The authors reported the causes of clinical convulsion in neonates treated in their unit and found that the most common cause of neonatal seizure is hypoxic-ischemic encephalopathy in term babies and germinal matrix bleeding in preterm babies. However, some methodological and interpretative aspects may provide a further contribution to the article.

Keywords: Neonatal convulsion, perinatal asphyxia, ischemia

Adıyaman Üniversitesi Eğitim ve Araştırma Hastanesi'nde Yenidoğan Nöbetlerinin Etiyolojik Nedenlerinin ve Demografik Özelliklerinin Değerlendirilmesi: Retrospektif Bir Çalışma

Öz

Derginizde yayınlanan Ipek ve ark.'nın (1) makalesini okudum. Yazarlar, ünitelerinde tedavi edilen yenidoğanlarda klinik konvülsiyon nedenlerini bildirdiler ve yenidoğan nöbetlerinin en yaygın nedeninin tam doğan bebeklerde hipoksik-iskemik ensefalopati ve erken doğan bebeklerde germinal matriks kanaması olduğunu buldular. Ancak, bazı metodolojik ve yorumlayıcı yönler makaleye daha fazla katkı sağlayabilir.

Anahtar kelimeler: Yenidoğan nöbeti, perinatal asfiksi, iskemi.

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To the Editor,

After reading the article, some methodological and theoretical concerns regarding the article are noted below.

In the introduction section, it is stated that one of the aims of the study is to determine the etiological causes of newborns admitted to the neonatal intensive care unit (NICU) due to seizures. However, the number of patients subjected to imaging (MRI, USG), screened for metabolic diseases, or underwent genetic research has not been specified. In the literature, the rate of neonatal convulsions due to idiopathic (unknown) causes has been reported as 9%.² However, this rate is 37.5% in the study. Similarly, genetic factors constitute approximately 10% to 15% of the cases^{3,4}. Authors should explain how this difference in the distribution occurred and indicate what interventions could be made to reduce this rate.

In the study, more than half of the patients didn't undergo an EEG examination, probably due to unavailability. That means that seizures in most patients were defined clinically, without any neuromonitoring. Since a significant rate of neonatal seizures is only detected electrographically, with minimal or no clinical findings, making a diagnosis solely clinically causes some convulsions to be overlooked⁵⁻⁷. In a study by Murray et al. (n = 526 electrographic seizures), 34% of seizures had a clinical correlation on video and only a 9% detection rate based on clinical observations by experienced clinicians⁶. Therefore, a study with inclusion criteria of clinical diagnosis limits the representativeness of the findings.

The sentence you wrote in the discussion section, 'An APGAR score lower than seven at 5 min, is one of the criteria for perinatal asphyxia. A score lower than three indicates severe, and a score lower than seven shows moderate neuro/cardiorespiratory depression'⁸ is

unfortunately out of date and has no additional contribution to the discussion. The American Academy of Pediatrics (AAP) Guidelines on Neonatal Resuscitation (2020) states the criteria for perinatal asphyxia as follows: Apgar ≤ 5 at one and/or five minutes suggests perinatal asphyxia. Persistently low scores indicate severity. In addition, as you wrote in the discussion section, the most common metabolic cause of neonatal convulsion is not hypocalcemia but hypoglycemia^{9,10} and in the study by Nair et al., which you cited as a reference, the most common metabolic cause was stated as hypoglycemia, not hypocalcemia. This was likely due to misinterpretation and requires an Erratum.

In conclusion, although this study shows the causes of clinical neonatal convulsions in a local NICU, addressing the above-mentioned concerns could enable more effective interpretation of the findings and improve the care of critically ill neonates.

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