

Adverse Drug Reactions to Antiepileptic drugs (AEDs) in Children; A prospective observational study

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Adverse drug reactions (ADRs) consider to be a major clinical problem in both pediatric and adult medicine. A systematic review and meta-analysis of prospective studies showed that 9% of hospitalized children experience an (ADRs) [1]. Objectives : Determine the adverse drug reactions (ADRs) severity of using antiepileptic drugs (AEDs) in children. Methods: A prospective observational study conducted in Prince Sultan Military Medical City (PSMMC) from October 2019 to December 2019. All pediatric patients who ages less than 14 years and receive one or more antiepileptic drugs (AED) were included in the study by a given unique identification number. The investigator has a specific case report form for each patient. The primary endpoint was the number and types of ADRs concerning prescribed anticonvulsants. Results: The study enrolled 81 pediatric patients (60% male and 40% female), 74% of the patients were children (3-11 years), 17% were infants (0-2 years) and only 9% were adolescence (12- 16 years). All the patients were diagnosed with epilepsy and receiving antiepileptic drugs, 53% of the patient have a generalized seizure, 31% have a focal seizure and 16% have undetermined seizure type. The majority of the patients were treated with antiepileptic monotherapy in which levetiracetam was the most frequently prescribed agent, 40% of the patients were controlled by using multiple antiepileptic drugs, Carbamazepine plus Levetiracetam was the most used combination. 18 patients attend the follow-up visit and evaluated for an adverse drug reaction. 3 patients who were receiving valproic acid, topiramate experienced adverse drug reaction which described as vitamin D deficiency, Increase weight, Hormonal disturbance, hematuria and difficulties in school. Vitamin D supplement was given to manage vitamin D deficiency while weight gain and Hormonal disturbance required frequent monitor and topiramate was discontinued due to hematuria and difficulties in school. Conclusion: The majority of the patients were children with generalized seizures and monotherapy is the most common regimen used in children. Some patients experience some mild ADRs with the use of antiepileptic drugs.

may improve brain metabolism, restore mitochondrial ATP production, decrease

reactive oxygen species production, reduce inflammation, and increase neurotrophic factors' function. It has been shown that KD mimics the effects of fasting and the lack of glucose/insulin signaling, promoting a metabolic shift towards fatty acid utilization. In this work, the author reports a number of successful case reports treated through metabolic ketosis

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