Case Report

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Fetal Valproate Syndrome – A Case Report

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Abstract

Background: *Fetal Valproate Syndrome (FVS) results from prenatal exposure to valproic acid (VPA).*

Case characteristics: *A four year old female child presented with facial dysmorphism and features of autism spectrum disorder (ASD). She had in-utero exposure to valproic acid (VPA).*

Message: *VPA to be avoided in pregnancy and in Dysmorphism or ASD children maternal anti- convulsant drug history must be taken.*

Keywords: Valproic Acid, Dysmorphism, Pregnancy, Autism

Introduction

VPA is used for the treatment of epilepsy and other neuropsychological disorders. Sometimes it may be the only treatment option for women of childbearing potential. However, prenatal exposure to valproate is associated with many major and minor congenital malformations [1]. Multiple factors influence the teratogenic effects of VPA such as- polytherapy, drug dosage, the gestational age of the foetus at exposure, and hereditary susceptibility [2]. We here present a case of FVS based on phenotype and maternal use of VPA during antenatal period.

Case Report

A three and half years old female child presented in our institution with complain of delayed speech and abnormal behavioural pattern. She was the first child born of a non-consanguineous marriage. Her mother was a known case of epilepsy and was controlled on valproic acid (VPA) 1200mg/day for last 5 years. She has been taking the drug at the same dose throughout her pregnancy. The child was born at term by caesarean section due to oligohydramnios. Her birth weight was 2100 grams. She cried immediately after birth and postnatal period was uneventful. The possibility of teratogenic effects of sodium valproate was not considered at that time. Later the parents noticed that the child failed to attain developmental milestones as per age and was having abnormal behavioural pattern. She learned to sit at 8 months, stand at 2 years. She cannot hold a pen with fingers. At present she can utter only monosyllables. She does not play in a group or smile at her parents. She prefers to stay alone with repetitive hand flicking movements.

On examination features of facial dysmorphism [Figure 1] such as prominent metopic sutures, tall forehead, microcephaly, epicanthal folds, medial deficiency of eyebrows, forehead hirsutism, low set large ears, flat nasal bridge, prominent nares and thin upper lip were present. She had poor eye contact, lack of interest in the surrounding and was doing repetitive hand slapping movements suggestive of autism spectrum disorder (ASD). Limbs, hands, feet, palate and genitalia were normal. Echocardiography, X-ray spine were within normal limits. Based on typical facial dysmorphism, and ASD in the setting of maternal VPA consumption during antenatal period, diagnosis of FVS was made.

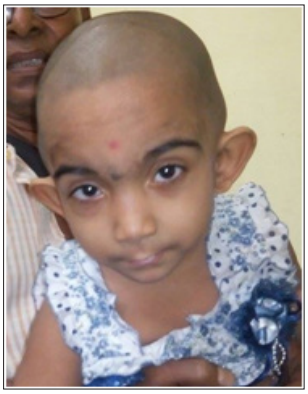

Figure 1: typical facial dysmorphism in the child with FVS

Discussion

VPA is used mainly as an anticonvulsant and mood-stabilizing drug. Multiple pregnancy registries have indicated that VPA causes a significant dose-dependent increased risk of both anatomical and behavioural teratogenic effects [3].

DiLiberti et al in 1984 first reported FVS and described a consistent facial phenotype [4]. Similar cases have been reported by Jäger

Roman E et al in 1986[5].Meador et al. revealed in his meta-analysis that gestational VPA is associated with a 10.7% (95% CI: 8.16–13.29) risk of MCMs. The risk of MCMs increases when VPA is utilized in the polytherapy treatment regimen [5]. The facial features described by the previous studies were similar to that found in our case.

Interestingly our case has additional features of ASD which is rare in FVS. Only a single study by Christensen J et al in 2013 showed maternal use of VPA during pregnancy was associated with a significantly increased risk of ASD in the offspring [6].

VPA is a preferred anticonvulsant drug because of its broad spectrum activity and lack of sedative side effects. But its potential teratogenic effects has to be kept in mind while prescribing the drug to pregnant women.

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