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Case Report

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Fetal Warfarin Syndrome: Case Report

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Abstract

Fetal warfarin Syndrome is rare condition due to antenatal exposure to warfarin. Warfarin is low molecular weight anticoagulant needed for few medical indications during pregnancy. It crosses the placenta and cause variety of congenital anomalies related to cartilage, cardiac diseases and dysmorphism. These characteristics are known as fetal warfarin syndrome (FWS). Here we present a case of FWS.

Keywords: Congenital Anomalies; Pregnancy; Warfarin

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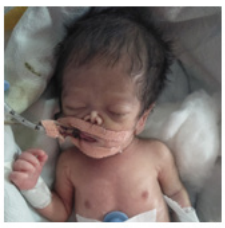
Introduction

FWS has been identified in 15%-25% of fetuses exposed to warfarin during the first trimester. Fetal Warfarin syndrome (FWS) results because of maternal warfarin intake during pregnancy. FWS has a range of characteristic facial features. Here we present a case of neonate with history of maternal warfarin intake and classical features of FWS.

Case Report

An elderly prime mother delivered a small for date male newborn at 34 weeks gestation. Mother was a known case of rheumatic heart disease and was on oral warfarin after valve replacement surgery. She was receiving 10 mg warfarin daily from last 16 years. During the pregnancy she continued the warfarin. Although she had three antenatal Ultrasonography (USG) for fetal wellbeing, but the malformation was missed.

The baby was delivered vaginally and required initial steps during resuscitation at birth. Soon after birth the baby developed respiratory distress attributed to congenital pneumonia. Baby was managed as per protocol. On examination baby was a small for date (<10 percentile) and microcephaly (<10 percentile). He had nasal hypoplasia, absent nasal bridge, hypo-plastic lower limb, small feet with overlapping toes, drumstick fingers, wide open anterior fontanel and hypotonia (Figure 1). Ophthalmic evaluation was normal. USG abdomen revealed thickened urinary bladder wall and B/L hydronephrosis likely probably due to posterior urethral valve. X ray had shown multiple stippled epiphyses of vertebrae and femur head while 2 D echocardiography revealed normal heart. Based on history and physical finding the diagnosis of fetal warfarin syndrome was obvious.



Discussion

Warfarin was discovered at the University of Wisconsin in 1950s under the brand name Coumadin. It blocks the γ-carboxylation of glutamate residues in prothrombin, factors VII, IX, X and endogenous anticoagulant proteins C and S. Warfarin crosses the placenta and cause hemorrhagic disorder in the fetus. It can cause abnormal bone formation [1,2]. Warfarin may inhibit arylsulfatase enzyme, the cause of X-linked recessive chondrodysplasia punctata, which has a phenotype identical to warfarin embryopathy.

Kumar M, et al. (2012) reported the case of fetal warfarin syndrome [3]. Anomalies include nasal hypoplasia, choanal atresia, laryngeal abnormalities, upper airway obstruction, short neck, hypoplasia of distal phalanges, brachydactyly and short limbs. The characteristic radiographic finding is pronounced epiphyseal stippling of vertebrae and long bones during early childhood and disappears with age [4]. All the above results are from exposure to warfarin in the first trimester of pregnancy. The greatest susceptible period for developing warfarin embryopathy is between the sixth to the ninth week of gestation. Nasal hypoplasia and chondrodysplasia punctate are the two most consistent features of the syndrome [5]. Other teratogenic effects in fetuses exposed to warfarin after second or third trimester include optic atrophy, blindness, corneal opacity, deafness, microcephaly,

hydrocephalus, epilepsy, Dandy-Walker malformation, and mental retardation. The management is supportive. Prognosis of the children depends on the severity of the defects. In immediate neonatal period airway management is essential. Those with hemorrhagic and CNS anomalies have poor outcomes. Our case was diagnosed with FWS because of the significant warfarin intake history and the baby being late preterm SGA, low birth weight, depressed nasal bridge, the short neck, posterior urethral valve, drumstick fingers and stippled epiphysis on x-ray.

This case report sensitizes the physicians and gynecologists about the teratogenicity of warfarin and to limit its use in 6th to 12th week of gestation. Younger female on warfarin should be warned about teratogenic effects of the drug. Pediatricians should alert and prepared at time of delivery accordingly.

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