A case report of recurrent intrahepatic cholestasis in pregnancy (ICP) developed during first trimester in an Aboriginal woman would challenge current understanding of pathophysiology of ICP? - Case Report And Review Of Literature

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Introduction

Intrahepatic cholestasis of pregnancy (ICP) is a hepatic disorder typically presenting in the third trimester (incidence is reported as 0.1% to 1.5%)[1]. Although uncommon, ICP has clinically significant implications on pregnancy outcomes as higher bile acid levels are associated with increased risk of stillbirth. We present a rare case of recurrent ICP presentation during the first trimester in pregnancy.

Objectives

To emphasize the pathogenesis of ICP has not been fully understood yet.

Results

Serum study showed elevated serum bile acids and liver enzymes.No serological evidence of viral or auto immune hepatitis noted.Ultrasound scan of the liver showed Cholelithiasis without cholecystitis

Case

Our patient was 27 years, gravida 6 para 3 woman of Aboriginal origin, with a history of rheumatic heart disease which was detected during her first pregnancy. Her first pregnancy, she was diagnosed ICP at 36 weeks pregnancy. In her third and fifth pregnancies, ICP was diagnosed at 9 weeks and 10 weeks of gestation respectively. The current pregnancy, ICP was diagnosed at 11 weeks of gestation. (Her due date of delivery is on 22/07/2023).

The diagnosis of ICP was made after exclusion of other diseases causing cholestasis including gallstones, viral and autoimmune hepatitis

Discussion

In literature survey, we found only one case of ICP during first trimester in an Invitro fertilisation pregnancy [4]. The pathogenesis of ICP has been linked to genetic mutations in biliary transport proteins [2,3], and high circulating oestrogen and progesterone levels found in multiple gestations and with increasing gestation, which impairs bile acid homoeostasis mechanisms. However, in our patent, recurrent ICP developed during first trimester where estragon and progesterone levels are not that high compared to the third trimester indicating that there are some other molecules or mechanisms involve in pathogenesis for ICP.

References

1.Geenes V, Williamson C, Chappell LC. Intrahepatic cholestasis of pregnancy. Obstet Gynaecol 2016;18:273–81.

2. Song X, Vasilenko A, Chen Y, et al. Transcriptional dynamics of bile salt export pump during pregnancy: mechanisms and implications in intrahepatic cholestasis of pregnancy. Hepatology 2014;60:1993–2007.

3. Rao Z-Z,Zhang X-W,Ding Y-L,et al. miR-148a mediated estrogen-induced cholestasis in intrahepatic cholestasis of pregnancy: role of PXR/MRP3. PLoS One2017;12:e0178702.

4. *Koh K, Kathirvel R,Mathur M. BMJ Case Rep 2021;14:e244254. (doi:10.1136/bcr-2021-244254)*