A CASE OF DIET-INDUCED SEVERE DYSLIPIDAEMIA DURING PREGNANCY

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Background

Dyslipidaemia is a multifactorial medical condition associated with a high risk of cardiovascular diseases (CVD), including coronary artery disease and stroke. During pregnancy, physiological changes in lipid metabolism occur due to hormonal fluctuations, leading to increased levels of low-density lipoprotein cholesterol (LDL-C), triglycerides (TG), and lipoprotein(a) [Lp(a)]. Severe dyslipidaemia in pregnancy can result in maternal complications such as acute pancreatitis, pre-eclampsia, pre-term birth, and gestational diabetes[1]. Additionally, offspring of affected mothers may exhibit early fatty streak formation, predisposing them to progressive atherosclerosis[1]. This case discusses the clinical presentation, management and outcomes of a pregnant patient with severe dyslipidaemia.

Aims

This case report aims to contribute to the literature review and to highlight the causes and clinical significance of severe dyslipidaemia in pregnancy.

Case

A 35-year-old woman, pregnant with her second child, presented in spontaneous labour at term. She had diet-controlled gestational diabetes and no significant medical history. She underwent an instrumental delivery and developed postpartum haemorrhage (PPH). The blood during the PPH looked very cloudy. Blood samples during the PPH sent for further investigation revealed lipemic results, with cholesterol levels of 17.13 mmol/L (normal: 0-5.5) and triglycerides of 42.1 mmol/L (normal: 0-2). The patient had no history of blood disorders, dyslipidaemia, or prior medication for dyslipidaemia. There was no genetic or family history of dyslipidaemia or cardiovascular disease (CVD). Additionally, she did not have tendon xanthomata or xanthelasma.

Investigation

In terms of investigation, the patient had lipid profile, full blood examination, liver function test, urea, electrolytes, creatinine, magnesium level, phosphate level, calcium level, lipase, coagulation profile, blood sugar level and haemolytic screen. She had a lipase level of 88 U/L (normal: 10-60)

Management

Management involved a multidisciplinary team, including haematology, endocrinology, cardiology, general medicine, dietetics, pharmacy, and lactation support. Her dyslipidaemia was treated with a glucose-insulin infusion, omega-3 fish oil and very low-fat diet. Managing her lipid levels presented a medical conundrum due to the lack of evidence on lipid-lowering therapy during breastfeeding.

Results

Her severe dyslipidaemia was believed to result from a high-fat diet used to manage her gestational diabetes. The patient reported having peanut butter and milk for breakfast and would eat a lot of fast food during the pregnancy 2-3 times a week which consisted mostly of fried chicken.

Discussion

Dyslipidaemia in pregnancy can have severe consequences for both mother and offspring. It is an undeniable fact that there is not enough evidence on lipid-lowering therapy during pregnancy and breastfeeding. Therefore, this case underscores the need for further research into the treatment of dyslipidaemia during pregnancy and breastfeeding period because lipid level beyond physiologic levels in pregnancy is associated with adverse pregnancy, maternal and foetal outcomes. Postpartum, women with severe gestational dyslipidaemia should undergo long-term cardiovascular risk assessment and possible pharmacologic intervention.

References:
1. Mikhailidis DP, Athyros VG, Kakafika AI, et al. Dyslipidaemia management in pregnant patients: a 2024 update. *Eur Heart J Open*. 2024;4(3):oeae032

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