Familial hypercholesterolemia in pregnancy: Management challenges

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ABSTRACT

Introduction: Familial hypercholesterolemia (FH) affects approximately 1 in 250 individuals worldwide and is characterised by markedly elevated low-density lipoprotein cholesterol (LDL-C) levels, leading to premature atherosclerotic cardiovascular disease. During pregnancy, physiological hyperlipidemia occurs to support fetal development. However, in women with FH, this compounded lipid burden increases the risk of vascular complications, including myocardial infarction, thromboembolism, and stroke. Lipid-lowering agents such as statins can sometimes be difficult to improve lipid profile hence, other safer strategies are needed. **Case Description:** We report a 41-year-old primigravida with FH diagnosed a decade earlier and was maintained on monthly lipoprotein apheresis via a left distal arteriovenous fistula. She had a background of two-vessel coronary artery disease, previously treated with percutaneous coronary intervention. At booking (10 weeks' gestation), she was also found to have protein S deficiency. Multidisciplinary care involved cardiology, nephrology, and haematology teams. She received prophylactic low-molecular-weight heparin, aspirin, and continued monthly lipid apheresis until 26 weeks, after which the frequency was increased to biweekly due to rising LDL-C levels. At 26 weeks, pravastatin therapy was reintroduced. Serial fetal assessments showed fetal growth trajectory at the lower centile. Non-invasive prenatal testing and nuchal translucency screening were normal. Pregnancy surveillance and delivery planning were coordinated via multidisciplinary discussions. **Discussion:** Managing FH in pregnancy necessitates individualised care. The use of statins, which were previously cautioned during pregnancy, has now been shown to be safe. Lipoprotein apheresis remains the cornerstone of therapy in severe cases, especially when pharmacotherapy is limited. This case highlights the complexity of FH management in pregnancy and accentuates the need for multidisciplinary strategies to optimise maternal and fetal outcomes.