

Myocardial infarction in pregnancy: an atypical presentation leading to maternal death

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Case Background

A 39 year old woman of Sri Lankan origin booked her first pregnancy at 26+6, having transferred her antenatal care from India. The pregnancy was conceived via IVF for unexplained infertility. She was diagnosed with Gestational Diabetes (GDM) and given Metformin. There was no past medical history or family history. Her BMI was 27. Serial growth scans were normal. Induction of labour was started at 38+2 for IVF pregnancy and GDM. 36 hours later, the mother felt nauseated, appeared agitated and began to make unusual motions with her mouth. She became unresponsive, cardiac arrest was confirmed and resuscitation was commenced. A perimortem Caesarean Section was performed within 5 minutes. She was consistently in pulseless electrical activity (PEA). Return of spontaneous circulation (ROSC) was briefly obtained 3 times during resuscitation. She rapidly developed disseminated intravascular coagulation (DIC). Reversible causes of cardiac arrest were considered and not identified. Bedside echo did not suggest pulmonary embolism. After 2 hours, resuscitation was discontinued as all efforts had been attempted. Amniotic fluid Embolism (AFE) was suspected to be the likely cause. Post-mortem showed cause of death was myocardial infarction secondary to coronary artery atherosclerosis. Pregnancy and induction of labour were contributing factors.



Discussion

This patient had an unusual presentation of myocardial infarction (MI). She didn't have symptoms or major risks for cardiac disease and therefore no cardiac investigations were performed antenatally. AFE was a strong differential diagnosis due to her initial symptoms, sudden clinical deterioration and rapid progression into DIC.

Cardiac disease is a leading cause of indirect maternal death. Atherosclerosis is most common, followed by coronary artery dissection. MI classically presents with chest pain radiating to the arm or neck. Symptoms of MI in pregnancy can be atypical, including non specific pain, nausea and vomiting, and agitation. Cardiac arrest is a rare presentation. The 2024 MBRRACE report found cardiac disease was the third most common cause of death, contributing towards 13% of cases. Women of Asian ethnicity were 1.7x more likely to die, and those aged over 35 were 3x more likely to die. .

Conclusion

Coronary artery disease is not typically screened for in pregnant women, but pregnancy can be an exacerbating factor. This case demonstrates that MI in pregnancy can present with atypical symptoms and cardiac arrest. The symptoms can mimic an AFE.