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A Broken Heart? Unexplained Cardiac Ischaemia After Intrauterine Fetal Death

K. Taleb[1], M.A. Walters[2]
1: CT3 Anaesthetics, 2: Consultant Anaesthetist

William Harvey Hospital, Ashford

Introduction

Cardiac disease is the leading cause of maternal death in the UK (1). We present the case of a woman with late intrauterine fetal death (IUFD) and intrapartum cardiac ischaemia. A family history of limb girdle muscular dystrophy (LGMD) may be relevant.

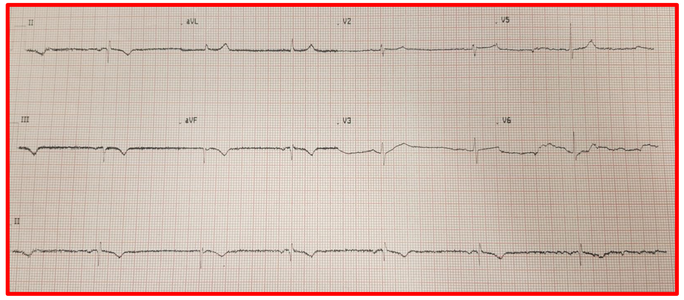


Figure 1: ECG taken when bradycardia was discovered

Case Report

A 23-year-old primiparous woman at 39/40 gestation presented with reduced fetal movements and IUFD was sadly confirmed. She had no medical history, and despite 2 first degree relatives with LGMD she was asymptomatic and had not been tested. Uterine contractions started and in the early hours of the morning epidural analgesia was initiated with a test dose of 0.1% levobupivacaine 10ml with 20mcg fentanyl.

Shortly thereafter the woman was found to be bradycardic at 35-40 bpm. All other observations were normal and she was asymptomatic with no detectable sensory or motor block. 12 -lead ECG showed inferior T-wave inversion (Fig 1) and serial troponins were markedly elevated (Fig 2).

Caesarean section (CS) under general anaesthesia was performed at maternal request later that morning and was uneventful. Postpartum transthoracic echocardiogram demonstrated dilated left atrium, left ventricular akinetic and hypokinetic segments and ejection fraction 45-50%.

The next day the woman developed chest pain and desaturated. CTPA and CT coronary angiogram were normal. Oxygenation improved and other than sporadic chest heaviness she remained well and was discharged 4 days post CS. No medication was given on discharge. Cardiology follow-up including cardiac MRI was arranged but did not occur due to a communication breakdown.

Post-mortem of the fetus found no cause for the IUFD and no features of LGMD. The woman suffered a miscarriage 4 months after this but delivered a healthy baby at elective CS 2 years later. During the latter pregnancy cardiology input from a tertiary centre was requested but did not occur due to the covid pandemic. An echocardiogram in the third trimester was normal and the woman has been well since.

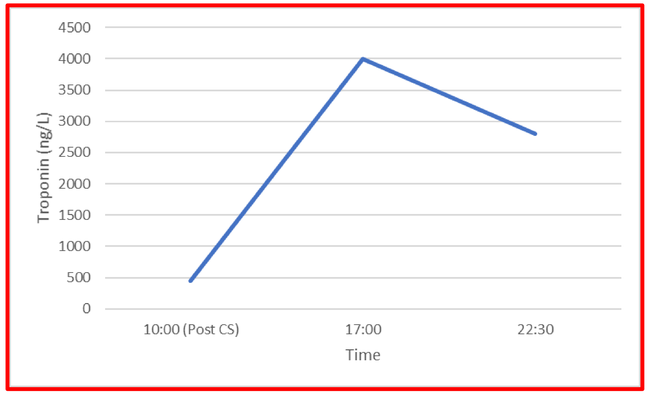


Figure 2: Troponin trend over first day (Normal 0 – 34ng/L)

Discussion

Troponin rise is abnormal in pregnancy and requires investigation. IUFD in itself can lead to sequelae requiring a low threshold for investigation. (3) The family history in this case is autosomal dominant type 1B LGMD, associated with cardiomyopathy and arrhythmias. (2) The woman has declined testing and the cause for the peripartum cardiac disease remains unknown. The recovery and recent uneventful pregnancy suggest Takotsubo's cardiomyopathy or coronary vasospasm as additional possible diagnoses. This case also underlines the importance of sensitive communication in cases of IUFD to ensure women are investigated and not lost to follow-up.

Key Points:

- **Cardiac disease is the leading cause of maternal death in the UK**
- **Troponin rise is not normal in pregnancy**
- **Low threshold for investigation in IUFD**
- **LGMD is associated with cardiac complications**
- **Sensitive communication is mandatory in IUFD**

References

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