

Heart to Find? A peripartum cardiomyopathy case series

K Boussouara, S Young, J Hill

Princess Royal Maternity, Glasgow Royal Infirmary, Glasgow

Introduction

Peripartum cardiomyopathy is a rare condition that typically occurs in the third trimester or postpartum, with a variable global incidence. Cardiomyopathies were identified as being responsible for 25% of maternal cardiovascular deaths in the most recent MMBRACE report (1). We reviewed a series of cases in our unit aiming to identify trends to inform future recognition and management.

Methods

Caldicott guardian approval was obtained for a review of a case series that was highlighted to the clinical risk team. We undertook an extensive review of each patient’s electronic record (Badgernet), to obtain the following information:

- demographic details
- medical and family history
- Clinical journey before cardiomyopathy was diagnosed
- Clinical journey subsequent to a cardiomyopathy diagnosis
- Investigation findings
- Follow up

References:

1. MBRRACE-UK_Maternal_MAIN_Report_2022_UPDATE.pdf [Internet]. [cited 2023 Sep 26]. Available from: https://www.npeu.ox.ac.uk/assets/downloads/mbrrace-uk/reports/maternal-report-2022/MBRRACE-UK_Maternal_MAIN_Report_2022_UPDATE.pdf

2. Sliwa K, Hilfiker-Kleiner D, Petrie MC, et al. Current state of knowledge on aetiology, diagnosis, management, and therapy of peripartum cardiomyopathy: a position statement from the Heart Failure Association of the European Society of Cardiology Working Group on peripartum cardiomyopathy. Eur J Heart Fail. 2010;12(8):767–78.

Correspondence: khalid@boussouara.co.uk

Results

5 case notes were reviewed from 2022 to 2023. All patients were of Scottish or British ethnic origin, primiparous, and had a median booking BMI of 29.46. Initial reasons for admission included premature SRM (1/5), planned IOL (3/5), and planned LSCS (1/5). Two patients reported SOBOE antepartum, and four reported SOBOE post-partum. One patient was diagnosed antepartum and underwent operative delivery at the regional cardiac centre under general anaesthesia, and four were diagnosed post-partum following operative delivery under neuraxial anaesthesia (range from day 0 to day 6) for either failed induction (2/5) or failure to progress (2/5). ECG findings included sinus tachycardia (2/5), sinus rhythm with prolonged QTc (1/5), and sinus bradycardia (2/5). ECHO findings are displayed in Table 1.

All patients received a period of higher level care in Obstetric HDU or Cardiac ICU (range 1-4 days), and were successfully discharged from hospital with outpatient follow up. A more detailed summary of how the cases presented is displayed in Table 2.

Discussion

Most patients were diagnosed in the post-partum period after caesarean delivery. Two patients did report SOBOE antepartum before cardiomyopathy was suspected, but this was non specific and would have unlikely lead to earlier diagnosis. Two patients had pregnancy induced hypertension which associated with an increased risk of peripartum cardiomyopathy. Interestingly two of the patients in the case series although symptomatic, would not meet European diagnostic criteria based on their LVEF (2).

Case Number	1	2	3	4	5
ECG Findings	Sinus Tachycardia	Sinus Tachycardia	Sinus Rhythm, prolonged QTc	Sinus Bradycardia	Sinus Bradycardia
NT pro BNP level (ng/ml)	800	2491	3257	Not performed	711
LV Comment	Moderately dilated, global hypokinesis	Sluggish and hypokinetic (except basal/mid lateral)	Global hypokinesis	Moderately dilated	Normal cavity size and thickness
LVEF	30%	41%	37%	59%	53%
Valve Comment	Severe MR	Trivial MR	Trace MR	Mild MR	Trace MR

Table 1: ECG findings, NT pro BNP level, and ECHO findings following suspected cardiomyopathy diagnosis

Case Number	Details
1	Admitted with premature SRM at 35+6. Diagnosed antepartum with clinical features of SOBOE, tachycardia, ankle oedema, and recent nonspecific viral symptoms. Cat 3 LSCS delivery under GA at GJNH.
2	Admitted for planned induction of labour for pre-eclampsia. Cat 3 LSCS under spinal following failed induction. Diagnosed on day 0 postnatal after developing SOB, tachycardia, and hypoxia.
3	Admitted for planned induction of labour for IVF pregnancy. Cat 2 LSCS under epidural top-up following failure to progress. Discharged home and readmitted for epidural blood patch for PDPH. Diagnosed on day 3 postnatal after developing SOB, hypertension, and raised transaminases.
4	Admitted for planned induction of labour for gestational diabetes. Cat 2 LSCS under epidural top-up following failure to progress. Diagnosed on day 6 postnatal after developing hypoxia, epigastric pain, and ankle oedema.
5	Admitted for planned LSCS under spinal due to T2DM. Discharged home and readmitted on day 4 postpartum with SOB. Diagnosed on day 5 postnatal after developing SOB, rib pain, and ankle oedema.

Table 2: Summary of individual cases reviewed