

INTRODUCTION

- The recent confidential enquiry into maternal mortality highlighted that 13% of cardiac deaths were caused by valvular heart disease (VHD).[1]
- Mitral stenosis (MS) is the most common VHD and is associated with significant maternal morbidity and mortality.[2]

AIMS

- To describe the characteristics, maternal, neonatal and cardiac outcomes of parturients with mitral stenosis (MS) managed by our pregnancy heart team.

METHODS

- Electronic records of all parturients diagnosed with MS from 2015 to 2021 at our tertiary unit were reviewed.
- We compared findings of patients with mild or moderate MS with those presenting with a severe lesion based on the mitral valve (MV) area. Data was analysed using Mann-Whitney *U* and Fisher exact statistics with p<0.05 is considered significant.

RESULTS

- 22 patients were included in our review. 14 (63.7%) were recorded to have severe MS and 8 with (36.4%) mild/moderate MS. Their characteristics, maternal and neonatal outcomes are described in Tables 1-3. The maternal complications observed are highlighted in Figure 1.

	Mild or Moderate n = 8	Severe n = 14	p value
Age, Median	28.5	34.0	p=0.13
Ethnicity - White: British - Ethnic Minority (Non-White)	6 (75.0%) 2 (25.0%)	2 (14.2%) 12 (85.7%)	p=0.0043
Aetiology - Congenital - Rheumatic	6 (75.0%) 2 (25.0%)	2 (14.2%) 12 (85.7%)	p=0.0043
Severity - NYHA Score >II - MV Gradient, Median (mmHg) - MV Area, Median (cm²)	2 (25.0%) 8.0 1.5	11 (78.6%) 14.0 0.9	p 0.014 P<0.0001 p=0.015

Table 1: Baseline characteristics of patients with MS. **MV**: Mitral valve, **NYHA**: New York Heart Association

	Mild or Moderate n = 8	Severe n = 14
Median Gestational Age at Birth	37.0	37.0
Mode of Delivery - Vaginal - Vaginal (Instrumental) - Caesarean Section	3 (37.5%) 1 (12.5%) 4 (50.0%)	4 (28.6%) 3 (21.4%) 6 (42.9%)
Labour Analgesia - Epidural - Remifentanyl Patient-Controlled Analgesia - None	2 (50.0%) 1 (25.0%) 1 (25.0%)	5 (62.5%) 2 (25.0%) 1 (12.5%)
Anaesthesia for Caesarean - Spinal - Epidural - Combined Spinal-Epidural (CSE) - General Anaesthetic	1 (25.0%) 0 (0.0%) 3 (75.0%) 0 (0.0%)	0 (0.0%) 1 (16.7%) 5 (83.3%) 0 (0.0%)

Table 2: Maternal Outcomes.

	Mild or Moderate n = 8	Severe n = 14
Live Births	7 (87.5%)	12 (85.7%)
Termination	0 (0.0%)	1 (7.1%)
Fetal Death >24weeks	1 (12.5%)	1 (7.1%)
Median Birth Weight, (g)	2664	2560
Neonatal Intensive Care Unit Admission	3 (37.5%)	4 (28.6%)

Table 3: Neonatal Outcomes.

- All patients except 1 mild/moderate case were cared for in high-dependency unit / cardiac intensive care postpartum.
- Median length of stay was 3.5 days (mild/moderate) and 5.5 days (severe); p=0.27.
- No maternal mortality was recorded in our study.

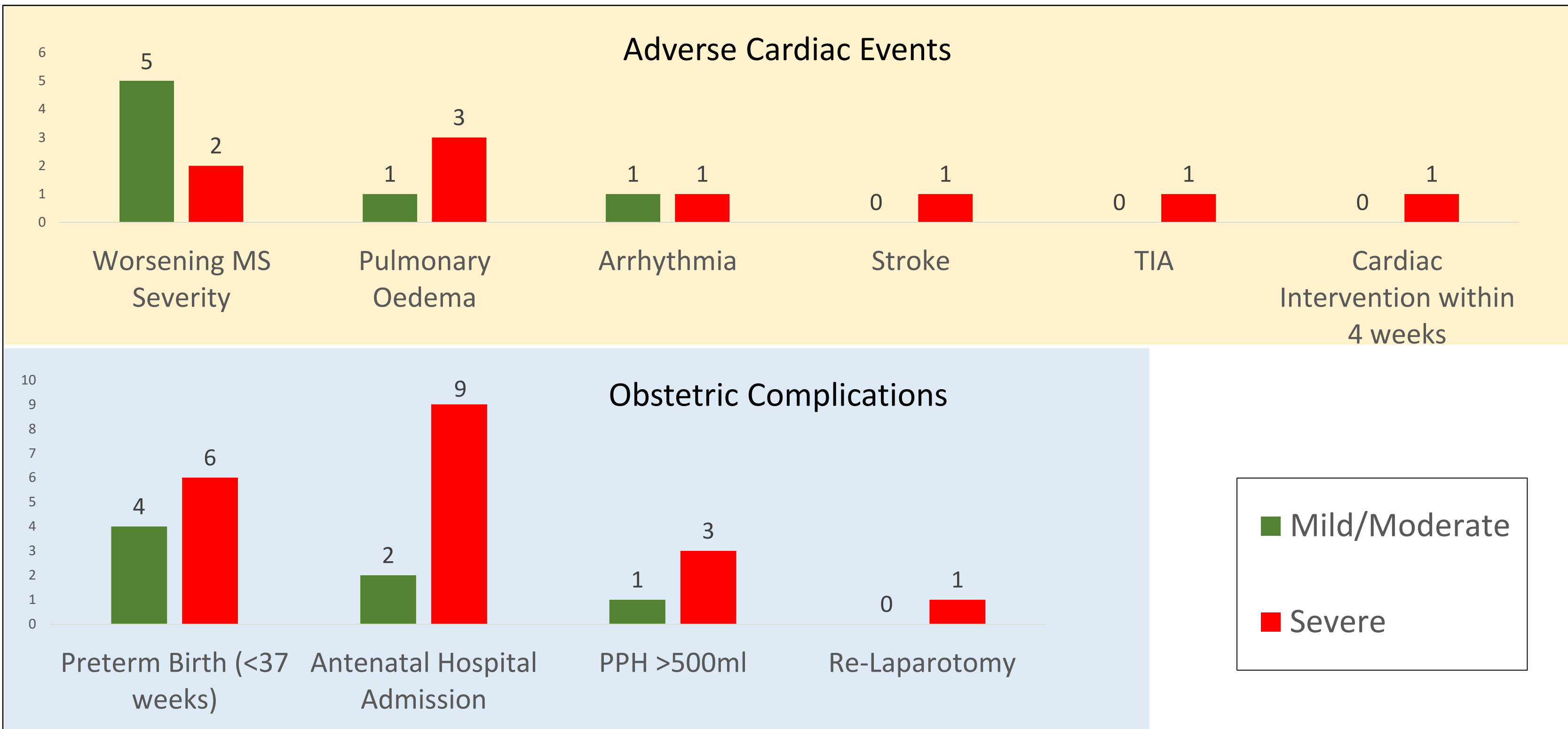


Figure 1: Maternal Complications.

DISCUSSION

- Patients of ethnic minority backgrounds presented with severe MS mostly of rheumatic origin.
- Neuraxial anaesthetic techniques were safely and successfully utilised even in severe lesions and should be considered anaesthetic technique of choice.
- Patients with severe MS were more likely to be admitted to hospital antenatally for optimisation, experience pulmonary oedema and experience complications related to anticoagulation (e.g. stroke / re-laparotomy).
- Pre-pregnancy counselling is recommended for all patients with MS and the maternal, fetal and cardiac risks highlighted. These patients should be managed in a tertiary centre by the multidisciplinary obstetric cardiac team due to significant morbidity observed in this cohort.
- Ideally, patients with severe MS should be advised against pregnancy and should undergo cardiac interventions prior to conception.[3]

REFERENCES

- Knight M, Bunch K, Patel R, et al. Saving lives, improving mothers' care: Lessons learned to inform maternity care from the UK and Ireland confidential enquiries into maternal deaths and morbidity 2018-20. MBRRACE-UK 2022.
- Ducas RA, Javier DA, D'Souza R, et al. Pregnancy outcomes in women with significant valve disease: a systemic review and meta-analysis. Heart 2020;106:512-9.
- Vahanian A, Beyersdorf F, Praz F, et al. 2021 ESC/EACTS Guidelines for the management of valvular heart disease: Developed by the Task Force for the management of valvular heart disease of the European Society of Cardiology (ESC) and the European Association for Cardio-Thoracic Surgery (EACTS), European Heart Journal 2022;43(7):561-632.