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A five-year review of parturients with valvular heart disease: experience in a tertiary obstetric centre

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Introduction

Cardiac disease remains the leading cause of indirect maternal death (2.10 per 100,000 maternities).[1] It is important to identify and optimise patients with cardiac disease during pregnancy and birth. We reviewed anaesthetic management and outcomes of parturients with valvular heart disease presenting to our institution over a five-year period.

Methods

All maternity patients with congenital or acquired valvular heart disease who delivered at the John Radcliffe Hospital between December 2014 and January 2020. Electronic hospital records and paper maternity notes were reviewed and data analysed using a proforma. Data collected included:

- Demographics
- Cardiac disease and WHO risk stratification
- Antenatal assessments (obstetric / fetal / cardiac)
- Medical treatment required
- Planned timing and mode of delivery
- Anaesthetic assessment and involvement
- Maternal and neonatal outcomes
- Obstetric and cardiovascular complications

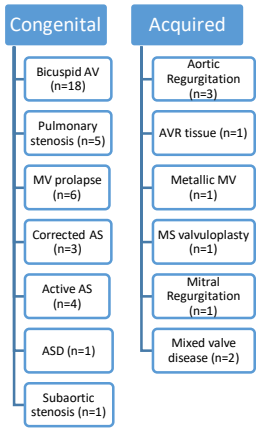


Fig 1. Valvular heart disease in 47 women over a five-year period

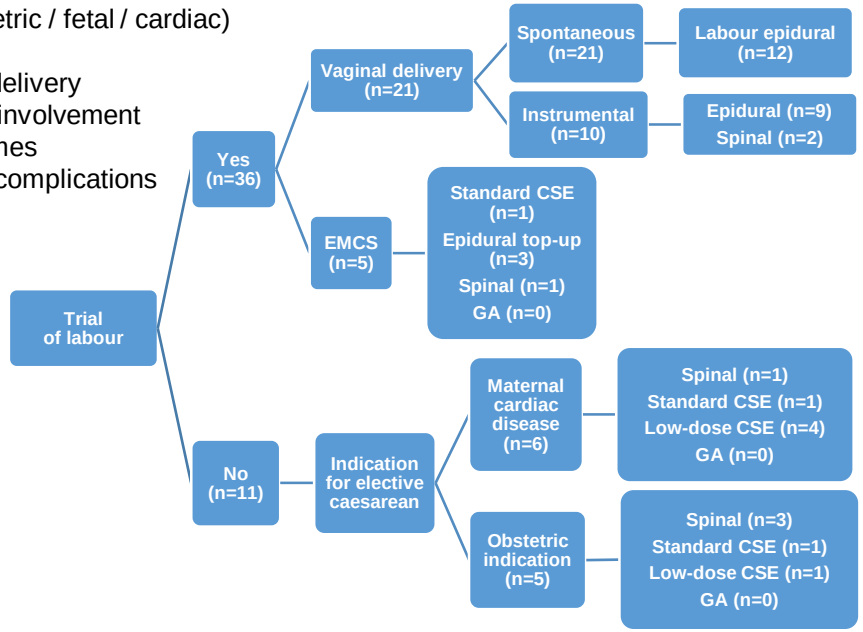


Fig 2. Obstetric and anaesthetic management

Results

A total of 47 women were included. Figure 1 shows the cardiac pathologies identified. All women had antenatal obstetric, anaesthetic and cardiac assessment with consultant input.

Mean maternal age was 31 years and gestational age was 39 weeks [range 35^{+3}- 42]. Figure 2 outlines anaesthetic and obstetric management. Thirty-one women were advised to receive labour epidural analgesia and eight were recommended to have peripartum invasive arterial pressure monitoring. Twenty-one proceeded to spontaneous vaginal delivery, 10 required instrumental delivery and five had an emergency caesarean section (CS). Labour epidurals were sited in 64%: 74% who were recommended to have epidural labour analgesia actually did. Six women had intrapartum invasive arterial monitoring. Sixteen women were delivered by CS; 11 electively and five as an emergency, all were under neuraxial anaesthesia; spinal (n=5), epidural top-up (n=3), combined spinal-epidural (CSE) (n=3), and low-dose incremental CSE (n=5).

Mean postnatal hospital stay was three days [range 1-8]. There were 19 cases of PPH (EBL >500 mL), while in two cases MOH was activated (EBL >1500 mL). Three cases required blood product transfusion. There was one admission to adult ICU and no maternal deaths. Six babies were admitted to the special care birth unit post-delivery and one to neonatal ICU.

Discussion

Senior clinicians from all specialties, with bespoke management plans for the peripartum period in this group of high-risk patients should be involved. A total of 74% of women who were advised to have an epidural actually did, a similar rate to a previous audit in our institution.[2] A higher level of intervention, particularly operative vaginal delivery was noted (21%), suggesting that counselling women with valvular heart disease more specifically could be recommended. Anaesthetic counselling is essential when managing this group of women, particularly about bleeding risk, intervention rates, epidural analgesia uptake and overall outcomes.

References

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2. Smith A, Grange C. A review of parturients with cardiac disease presenting over a one-year period: experience in a tertiary obstetric centre. Int J Obstet Anesth 2018; 35: S42