

Title: Anaesthetic Management of Two Obstetric Patients with Congenital Subaortic Stenosis



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Introduction

Congenital subaortic stenosis accounts for ~6.5% of adult congenital heart disease
Causes progressive **left ventricular outflow tract (LVOT) obstruction**
Severity depends on associated cardiac lesions
Classified as **WHO Class IV maternal cardiac risk** → very high maternal morbidity & mortality

Case studies

Patient A
28-year-old, BMI 47
History:
 Repaired coarctation of aorta (infancy)
 Bicuspid aortic valve
 Subaortic stenosis
Previous **emergency CS at 35 weeks** (cardiac decompensation)
Current pregnancy:
 Severe LVOT obstruction
 Peak velocity: **4.3 m/s** (gradient 73 mmHg)
 EF ~50%
 NYHA Class I → developed breathlessness (3rd trimester)
Management:
 CS at 36 weeks
 Combined spinal–epidural anaesthesia (incremental dosing)

Patient B
20-year-old primigravida
History:
 Repaired atrioventricular septal defect
 Previous subaortic stenosis resection
Findings:
 Severe subaortic stenosis (recurrent)
 Moderate aortic regurgitation
 Mild–moderate left AV valve regurgitation
 Moderate right AV valve regurgitation
 NYHA Class II
Echocardiography (23+3 weeks):
 Peak velocity: **4.64 m/s**
 Gradient: **83.6 mmHg**
Management:
 Elective CS at 37 weeks
 General anaesthesia
 + transoesophageal echocardiography (TEE)

Discussion

Limited literature on severe subaortic stenosis in pregnancy
Key anaesthetic goals:
 Maintain stable haemodynamics
 Avoid worsening LVOT obstruction
Successful outcomes achieved with:
 Individualised planning with MDT
 Careful selection of anaesthetic technique
Both regional and general anaesthesia are viable depending on clinical context

Conclusions

Severe subaortic stenosis = **WHO Class IV**
Requires **early multidisciplinary planning**
Anaesthetic technique must be **tailored to patient condition**
Good outcomes possible with specialised care



References
1. Oliver JM, González A, Gallego P, et al. Discrete subaortic stenosis in adults: increased prevalence and slow progression of obstruction and aortic regurgitation. Journal of the American College of Cardiology. 2001;38:835–842. [https://doi.org/10.1016/S0735-1097\(01\)01464-4](https://doi.org/10.1016/S0735-1097(01)01464-4)
2. Regitz-Zagrosek V, Roos-Hesselink JW, Bauersachs J, et al. 2018 ESC Guidelines for the management of cardiovascular diseases during pregnancy. European Heart Journal. 2018;39:3165–3241. <https://doi.org/10.1093/eurheartj/ehy340>