Hypertrophic Cardiomyopathy Newly Diagnosed in Pregnancy: Literature Review

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Hypertrophic cardiomyopathy (HCM) is the most frequently encountered phenotype of cardiomyopathy in clinical practice after dilated cardiomyopathy. It is an autosomal dominant condition characterised by unexplained thickening of the myocardium. Sudden cardiac death (SCD) is unpredictable complication in HCM patients.

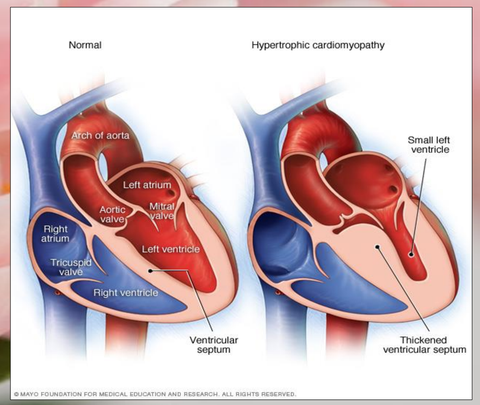
Case Report:
32 years old, Gravida 4 para 3 with previous 3 normal vaginal deliveries, presented to us at booking 12 weeks high risk consultant antenatal clinic. She has familial history of hypertrophic cardiomyopathy. She was asymptomatic in previous three pregnancies. A year ago, she presented with atypical chest pain and investigated for the same. Her Echocardiogram and Holter monitoring were normal. Her Genetic testing was positive for beta myosin mutation same as for her mother, sister, and father. She is currently 36 weeks in her pregnancy and being managed by multidisciplinary team. Intrapartum care has been planned continuous monitoring for mum and baby, emphasising on reducing second stage of labour and prevention of post-partum haemorrhage. There is no contraindication to vaginal delivery

Recommendations for the management of women with hypertrophic cardiomyopathy before and during pregnancy 2014 ECS guideline

Before pregnancy
- Assessment of symptoms
- Echocardiography (LV systolic and diastolic function, LVOT obstruction, mitral regurgitation)
- Exercise testing
- Start medication (beta-blocker, preferably metoprolol) when symptomatic
- Risk assessment and counselling
- Genetic counselling

During pregnancy
- Follow-up each trimester (low-risk) or monthly/bimonthly (increased risk)
- Clinical assessment, echocardiography
- Multidisciplinary team involvement
- Continue beta-blocker or start when symptomatic
- Prompt treatment of atrial fibrillation
- Growth scans for baby monitoring

Intrapartum
- Blood pressure and rhythm monitoring
- Monitor preload echocardiographically when necessary
- Cautious use of epidural or spinal anaesthesia
- Continuous CTG monitoring
- Replace fluid loss, avoiding overhydration
- Oxytocin only as slow iv infusion
- Cut short second stage of labour
- Vaginal delivery appropriate
- Active third stage of labour
- HDU observation for at least 24 h post-delivery



Conclusion: Despite overall favourable outcomes with modern treatment and early recognition of disease through cascade clinical screening and genotyping of often asymptomatic relatives, adverse events are known to occur during times of physiological stress including vigorous exercise and pregnancy. One must be vigilant about myocardial ischaemia, Mitral regurgitation, and sudden cardiac death.