



Left outflow tract obstructions

Critical anomalies in neonates

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Centre de Référence Maladies Rares
Malformations **C**ardiaques **C**ongénitales **C**omplexes-**M3C**

Centre de Référence Maladies Rares
Maladies Cardiaques Héréditaires- CARDIOGEN



Coarctation of the aorta

SSVAo

Pulmonary vein
stenosis

Cor triatrial

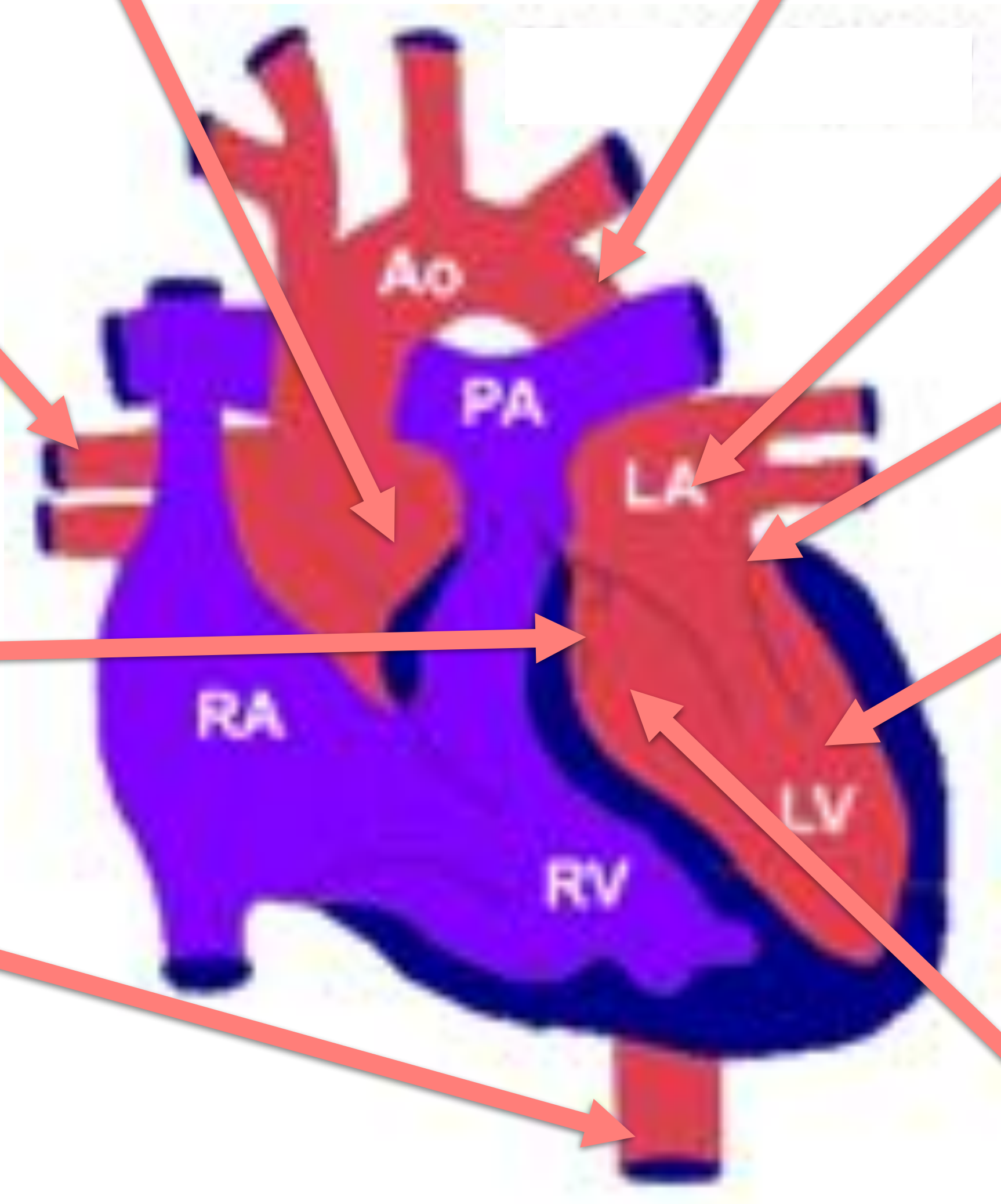
Congenital mitral stenosis

Hypoplastic left heart syndrome

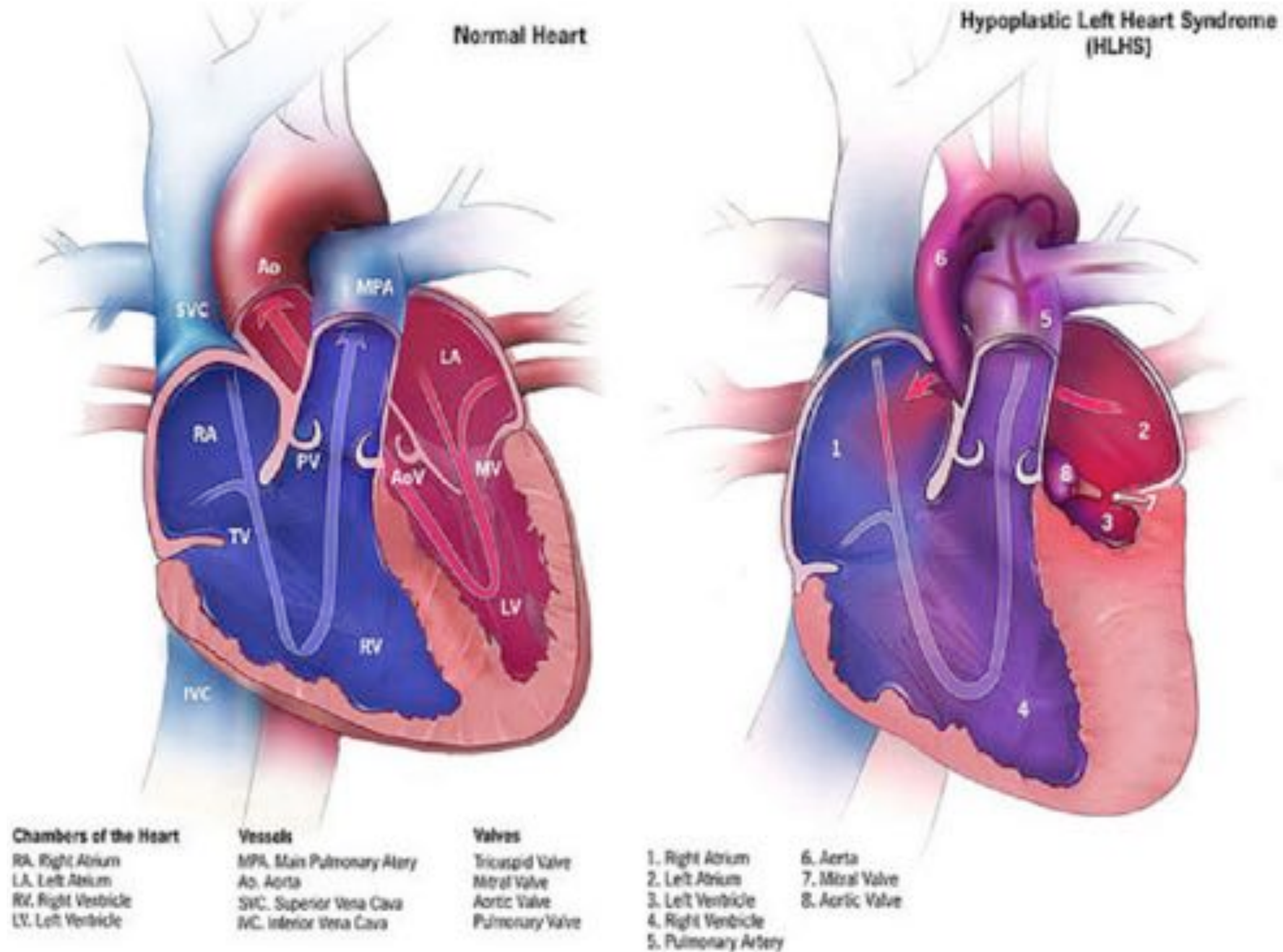
Aortic valve stenosis

Abdominal
coarctation

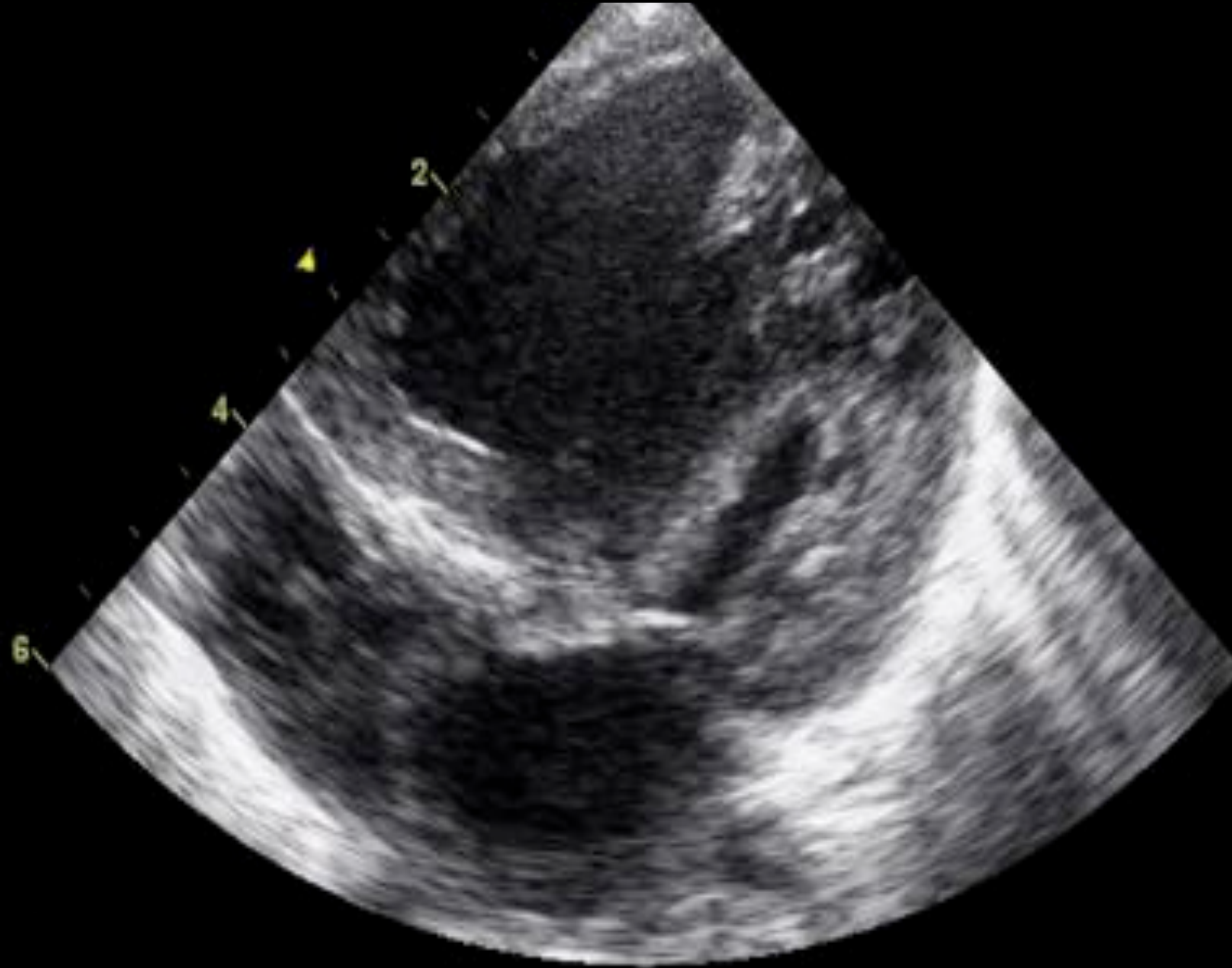
Sub-valvar aortic stenosis



Hypoplastic left heart syndrome

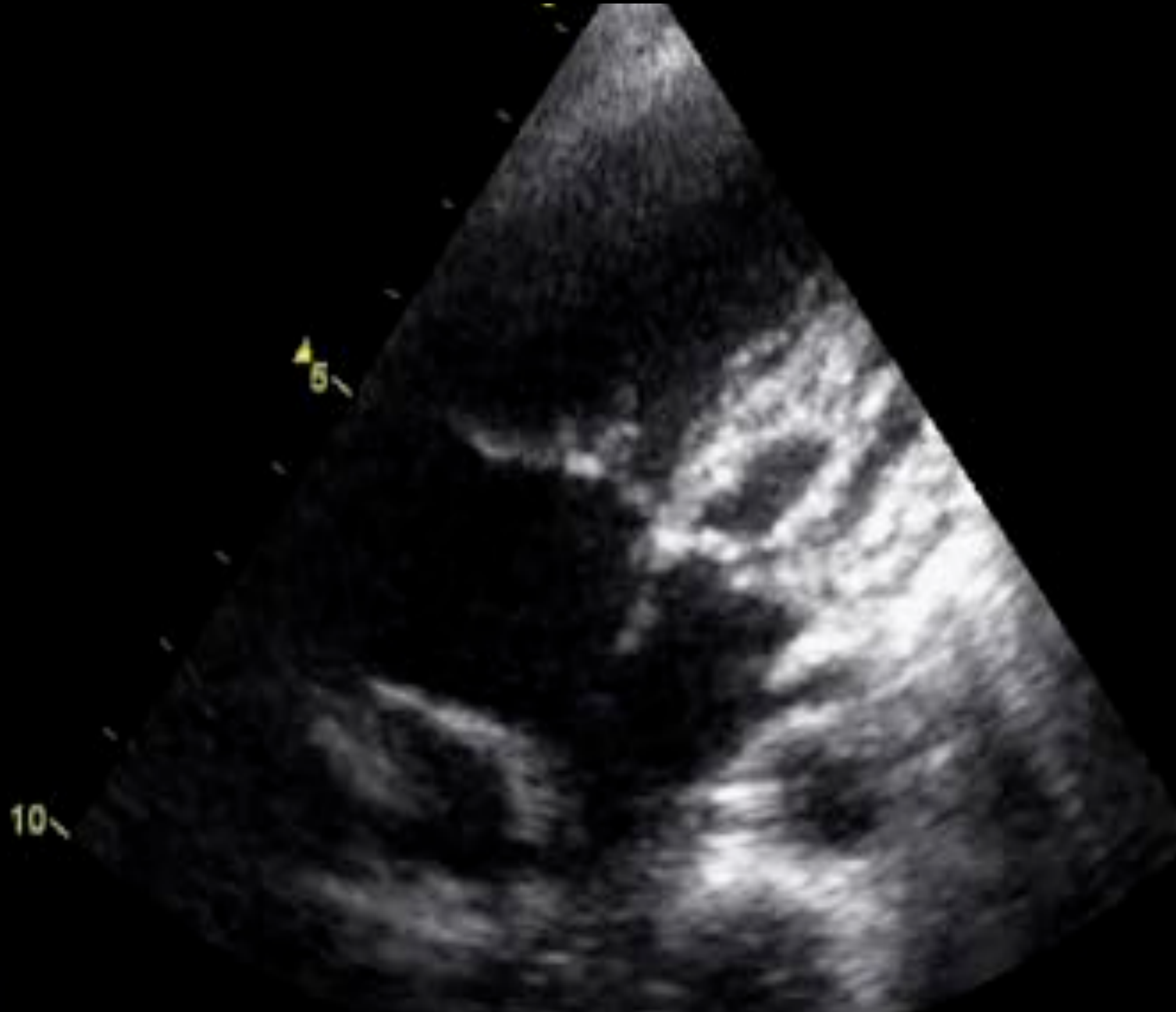


Hypoplastic left heart syndrome

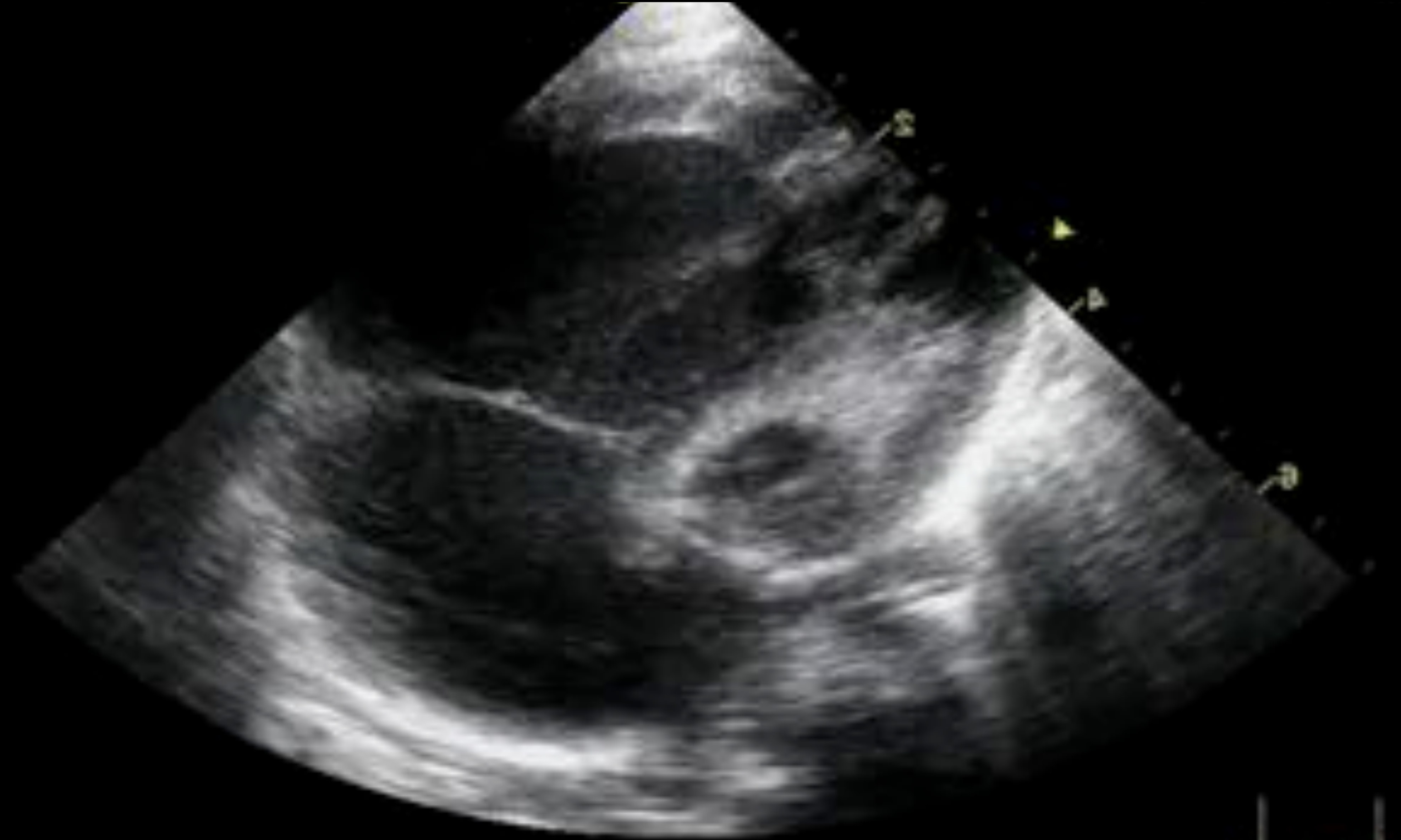


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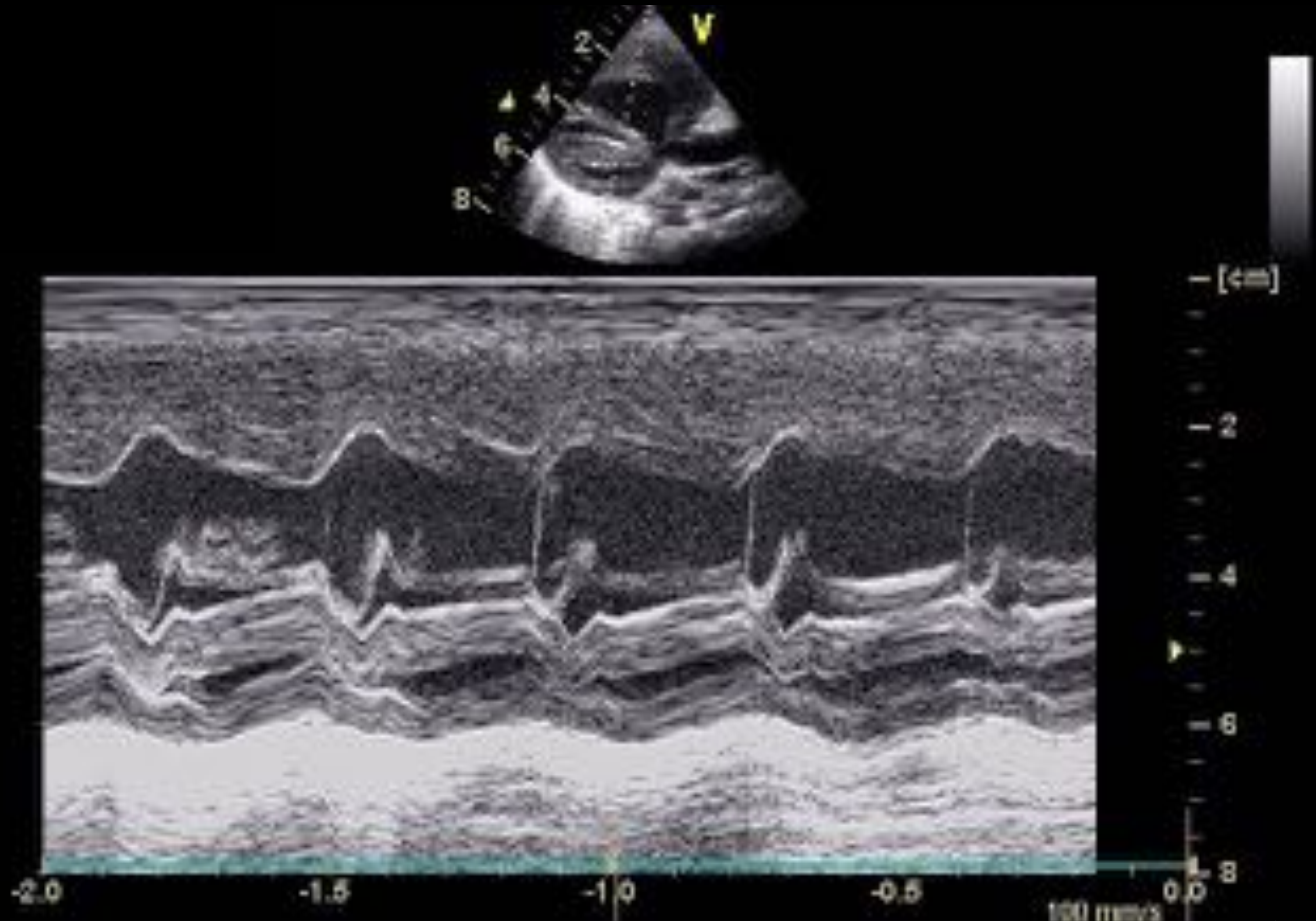
Hypoplastic left heart syndrome



Hypoplastic left heart syndrome



Hypoplastic left heart syndrome

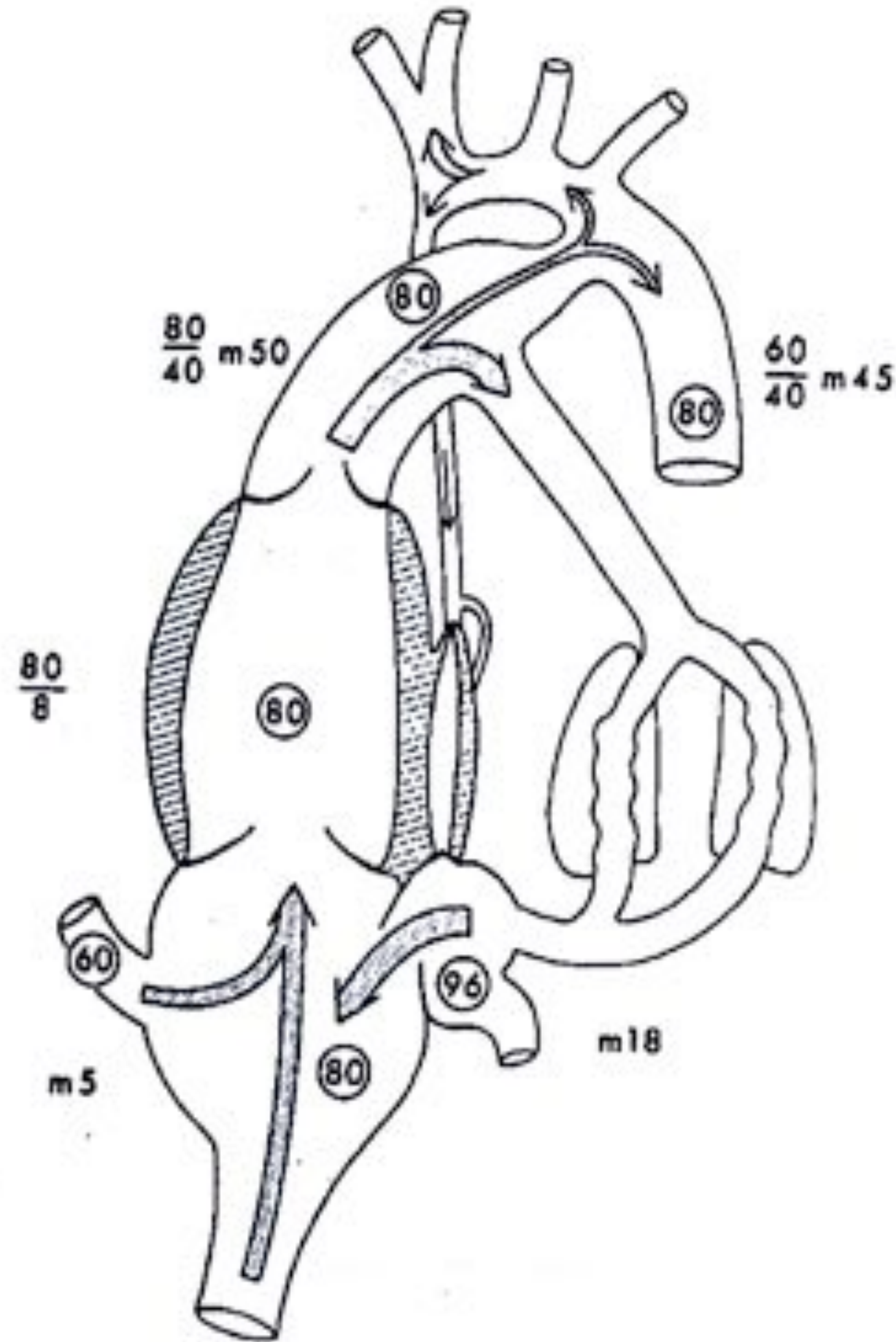


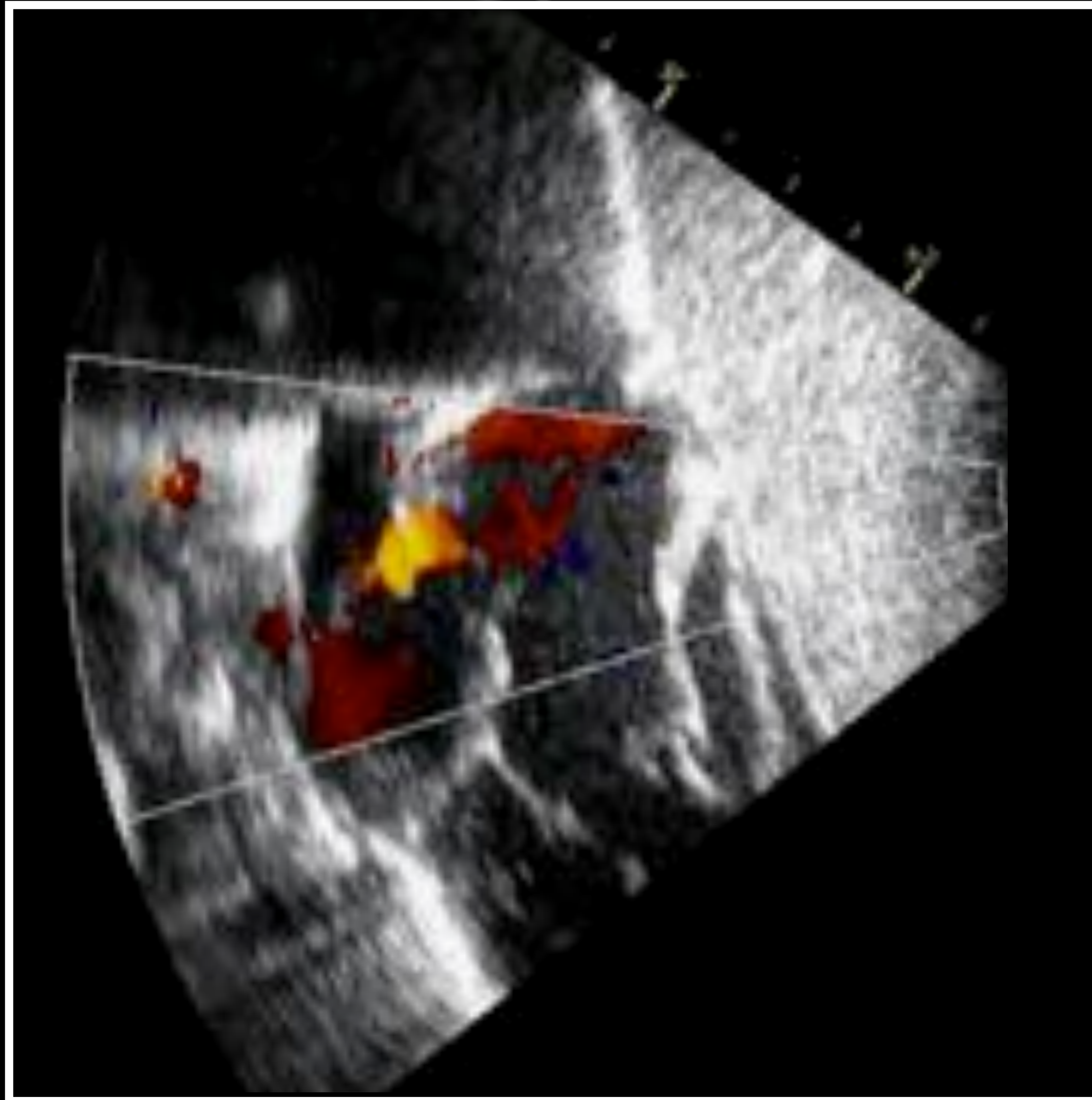
Hypoplastic left heart syndrome



Hypoplasie du cœur gauche

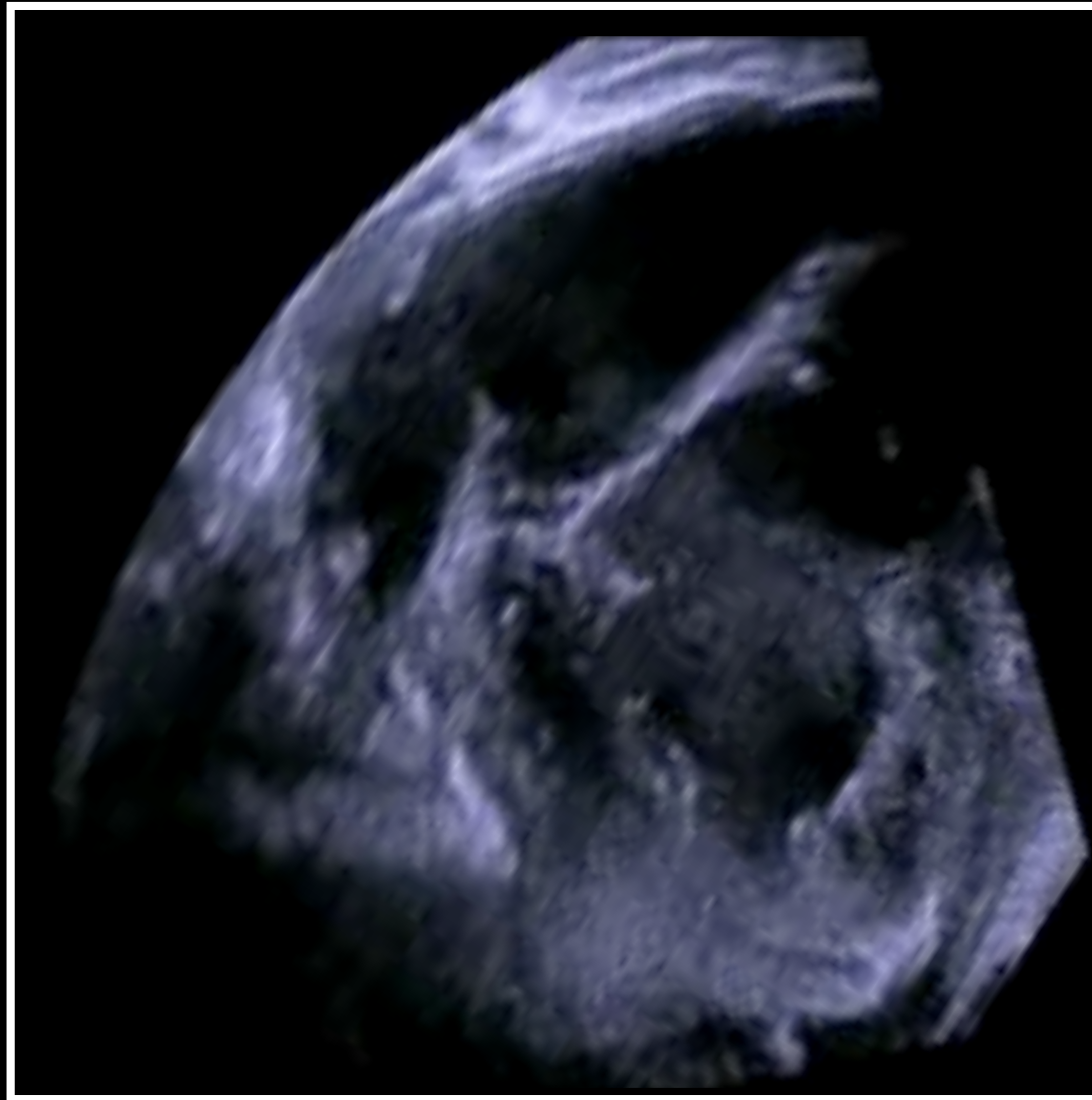
Physiologie foetale





Hypoplastic left heart syndrome
Restrictive PFO





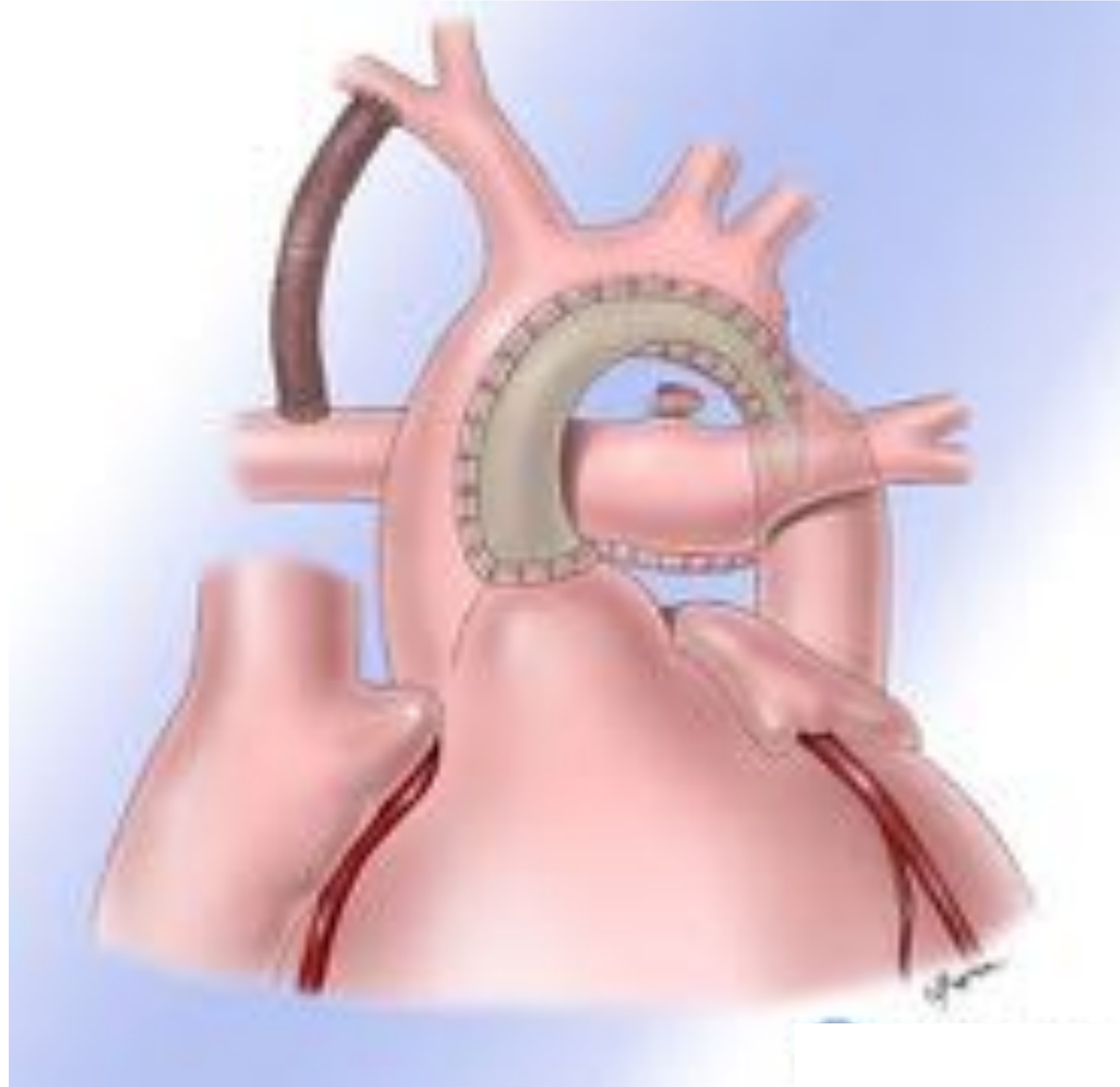
**Hypoplastic left heart syndrome
Restrictive PFO after Rashkind**



Hypoplastic left heart syndrome
Aortic atresia

Hypoplasie du cœur gauche

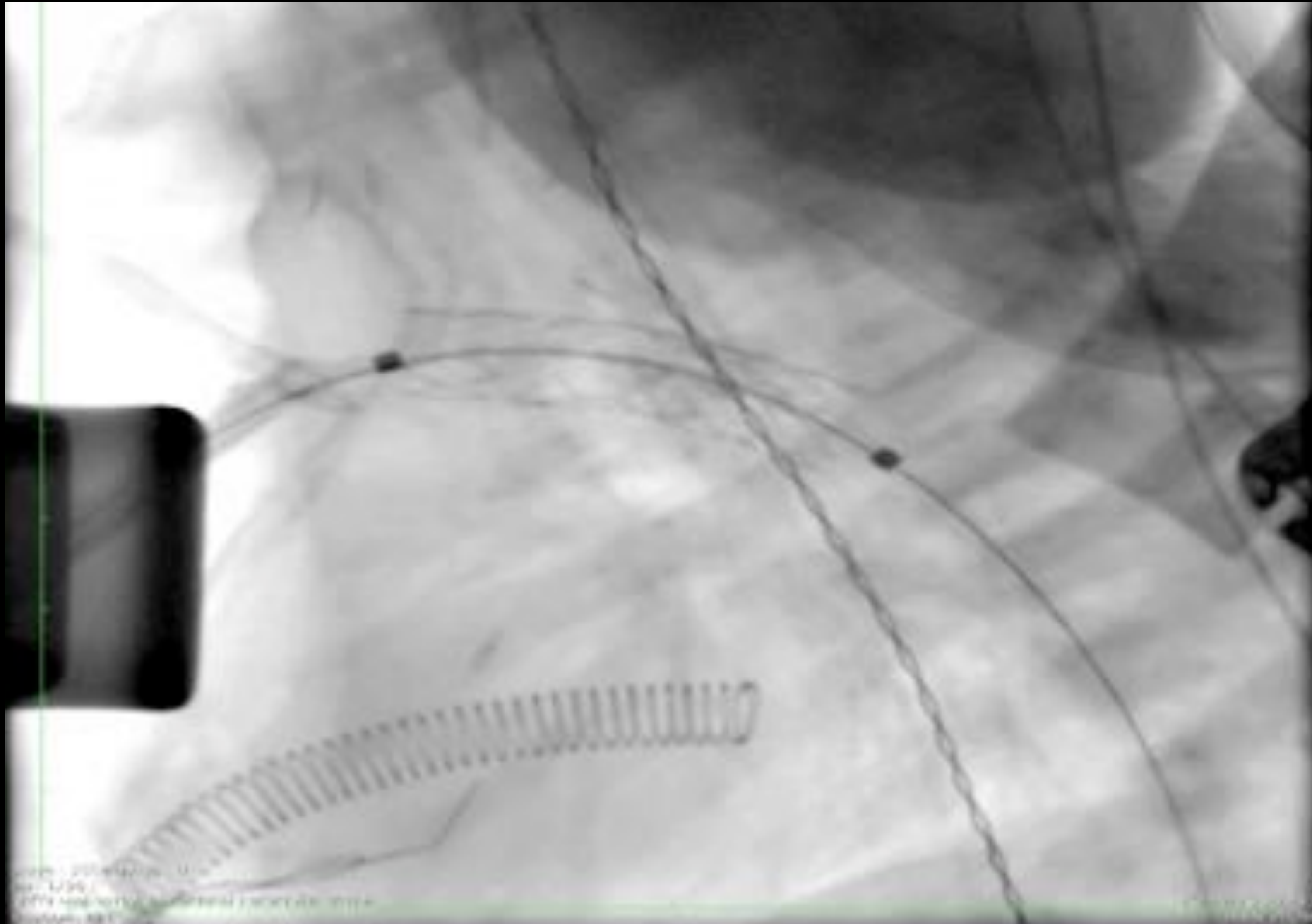
1er temps de l'opération de Norwood





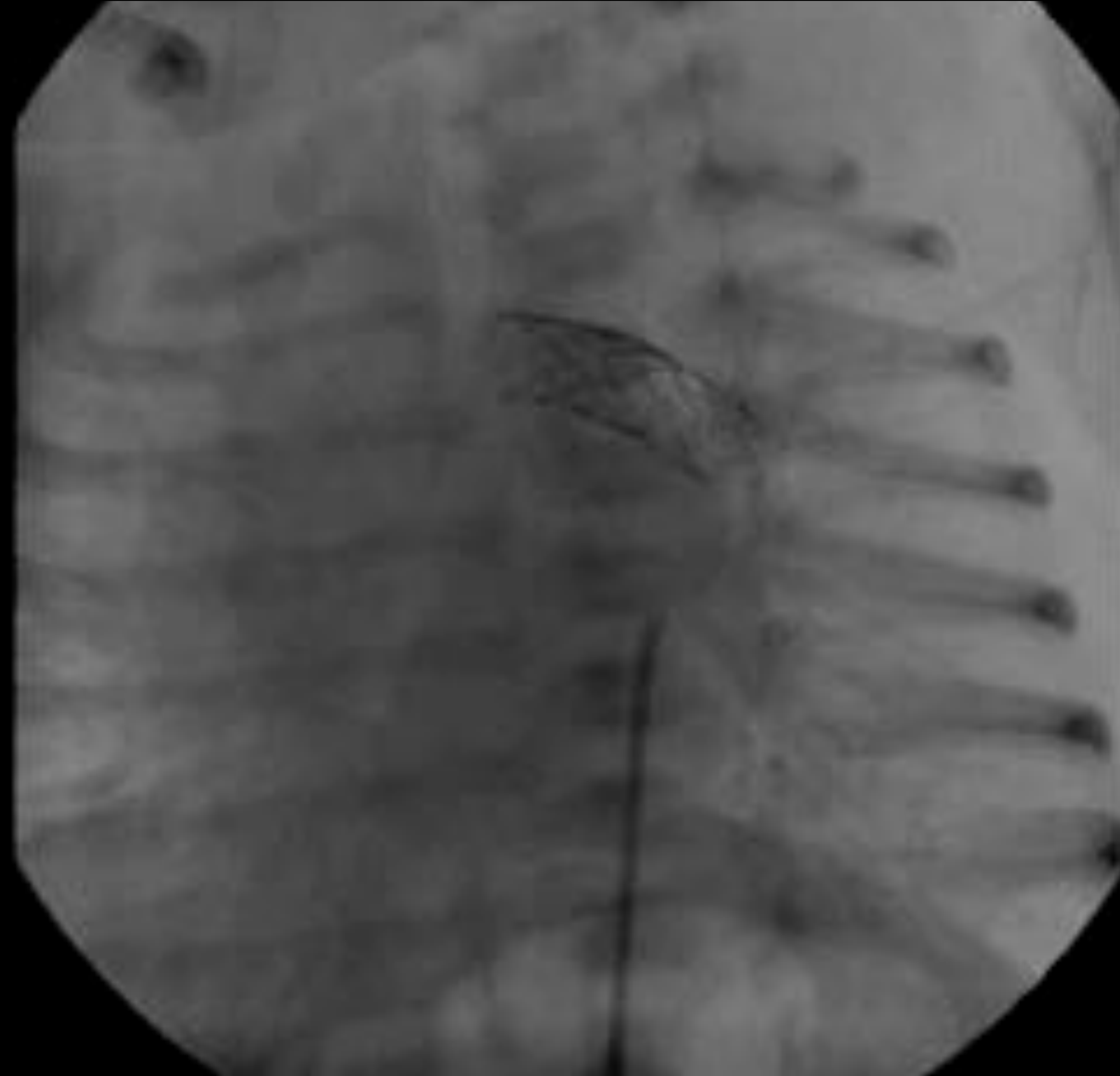
Hypoplasie du cœur gauche

1er temps de l'opération de Norwood-Hybride



Hypoplasie du cœur gauche

1er temps de l'opération de Norwood-Hybride



Programme de Norwood

- Stage 1: Blalock ou tube VD-AP (Sano)
- Complications post-opératoires
 - Coarctation
 - Dysfonction VD ou IT
 - Sténose des branches pulmonaires
- Stage 2 : DCPP
- Stage 3 : DCPT



The Heart Cancer





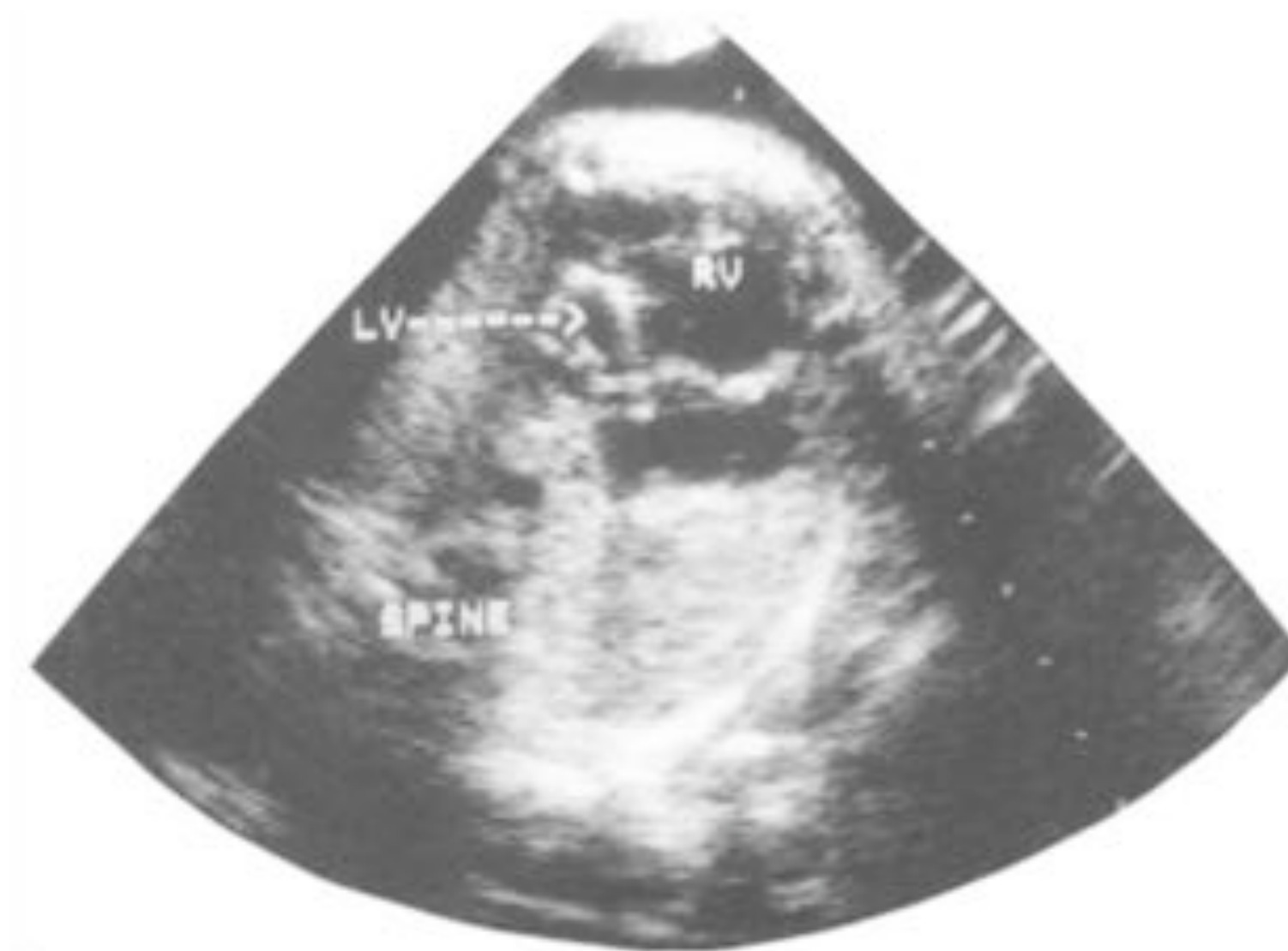
Critical aortic stenosis

Fetal aortic stenosis

[Allan, Int. J. Cardiology 1989]

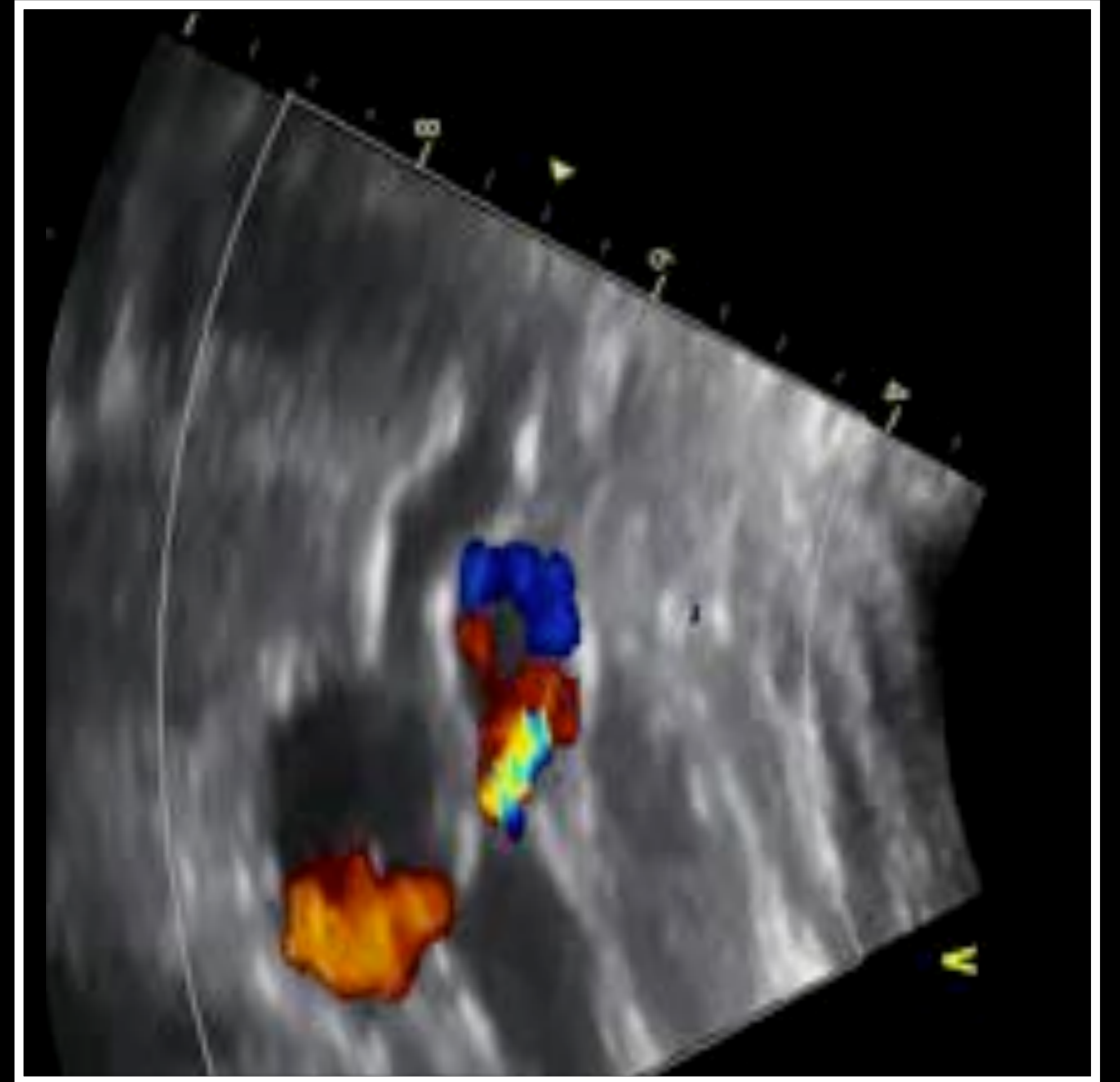
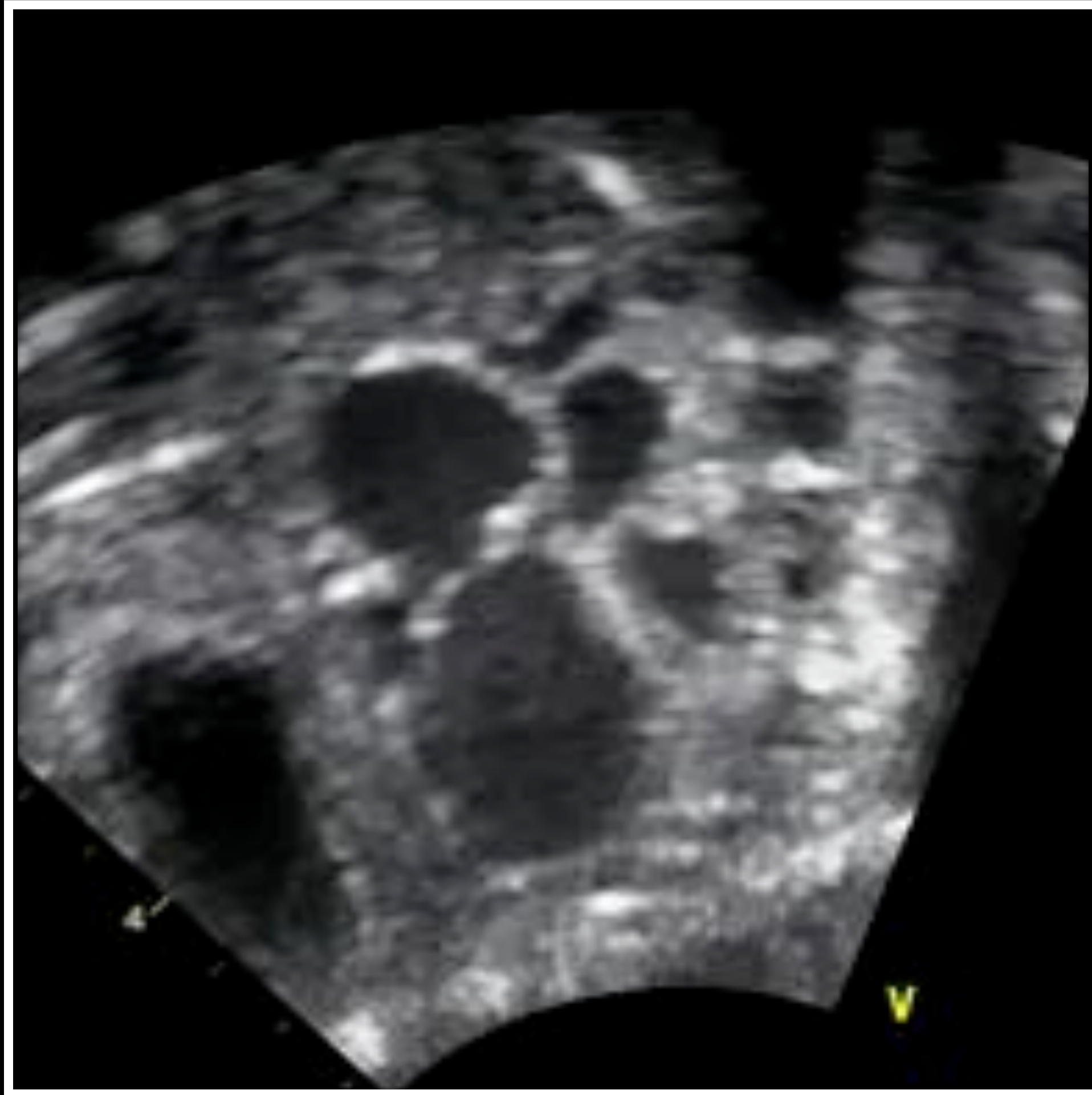


22 weeks gestation

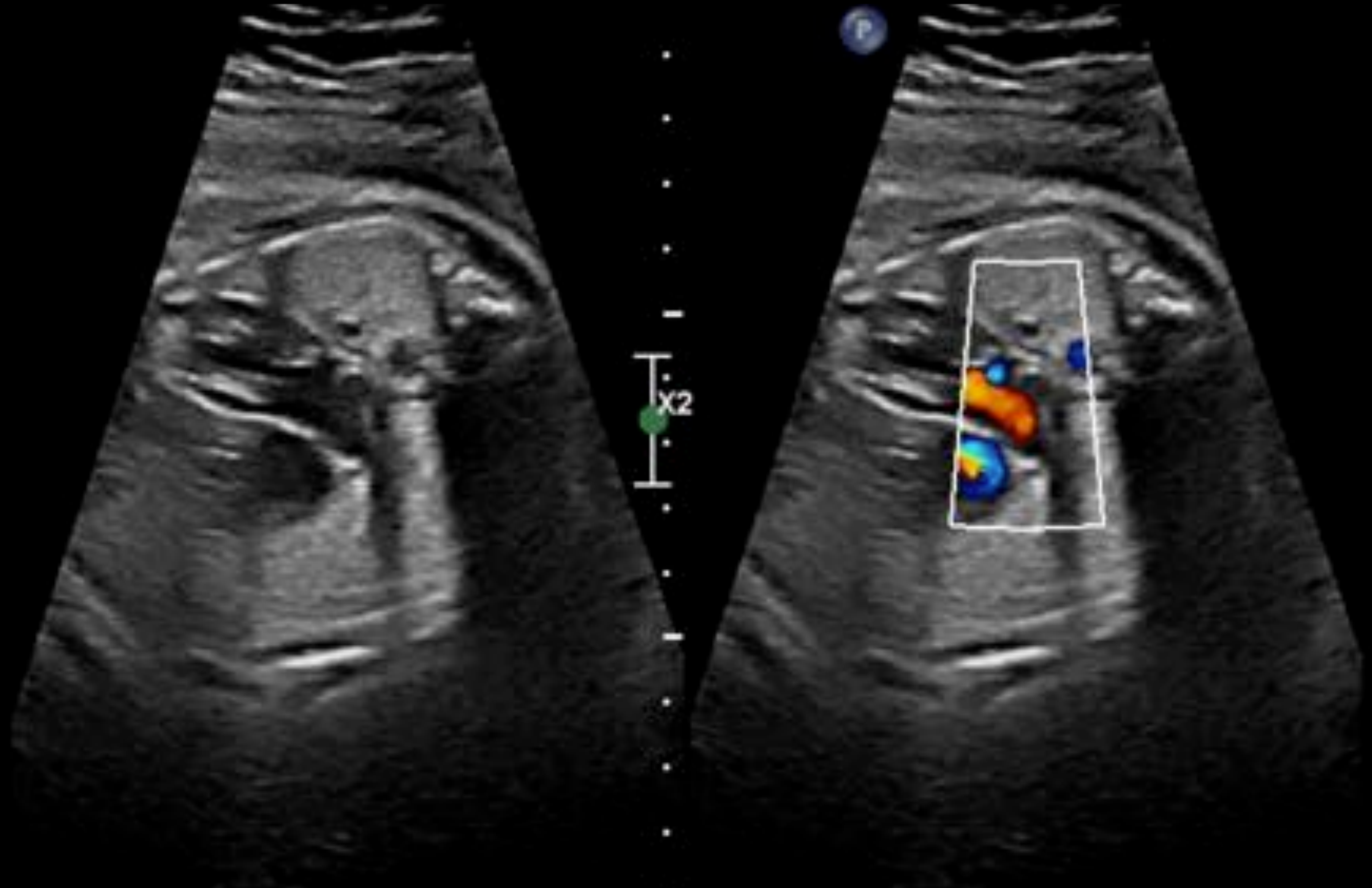


32 weeks gestation

Fetal aortic stenosis



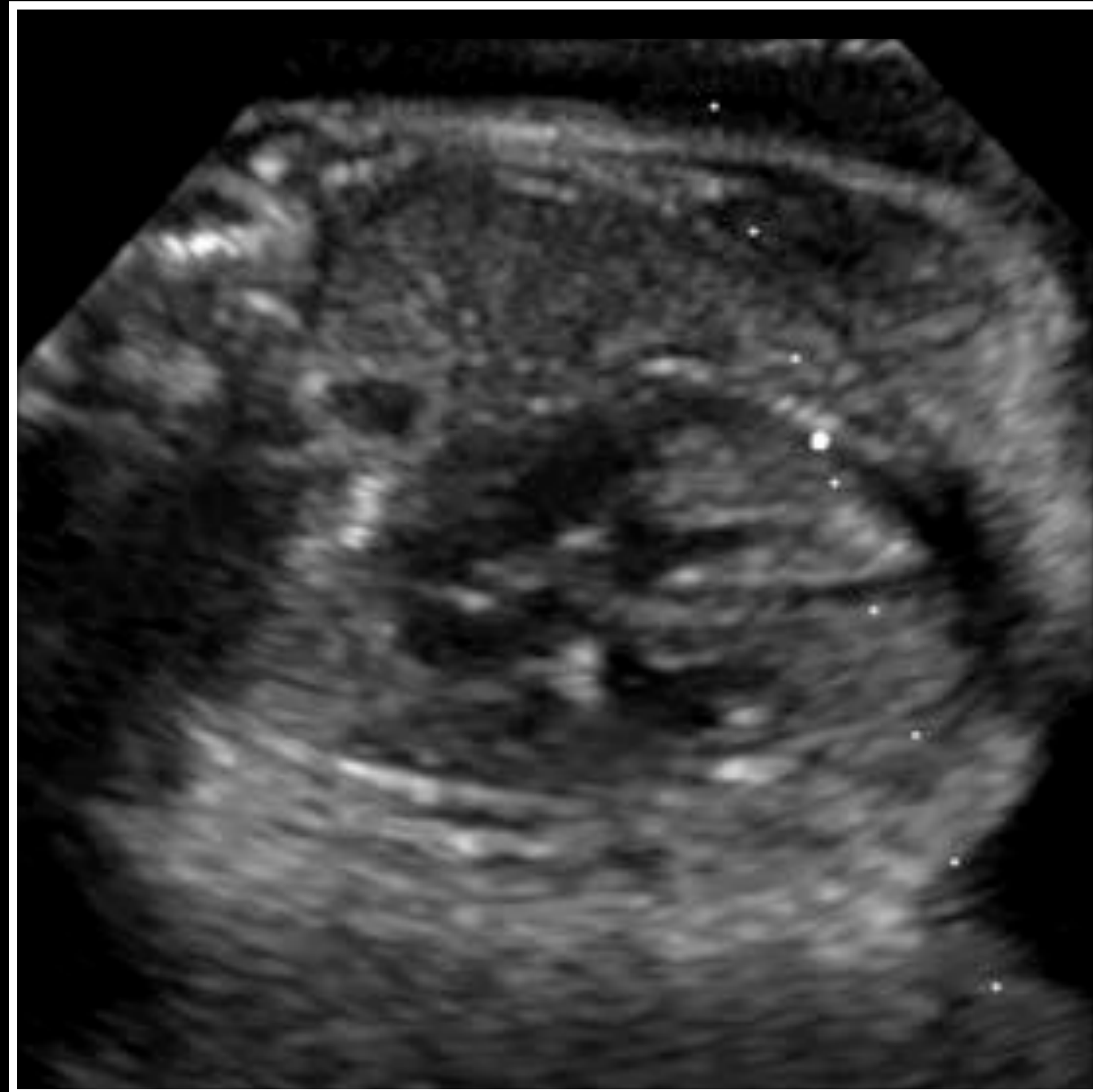
Fetal aortic stenosis



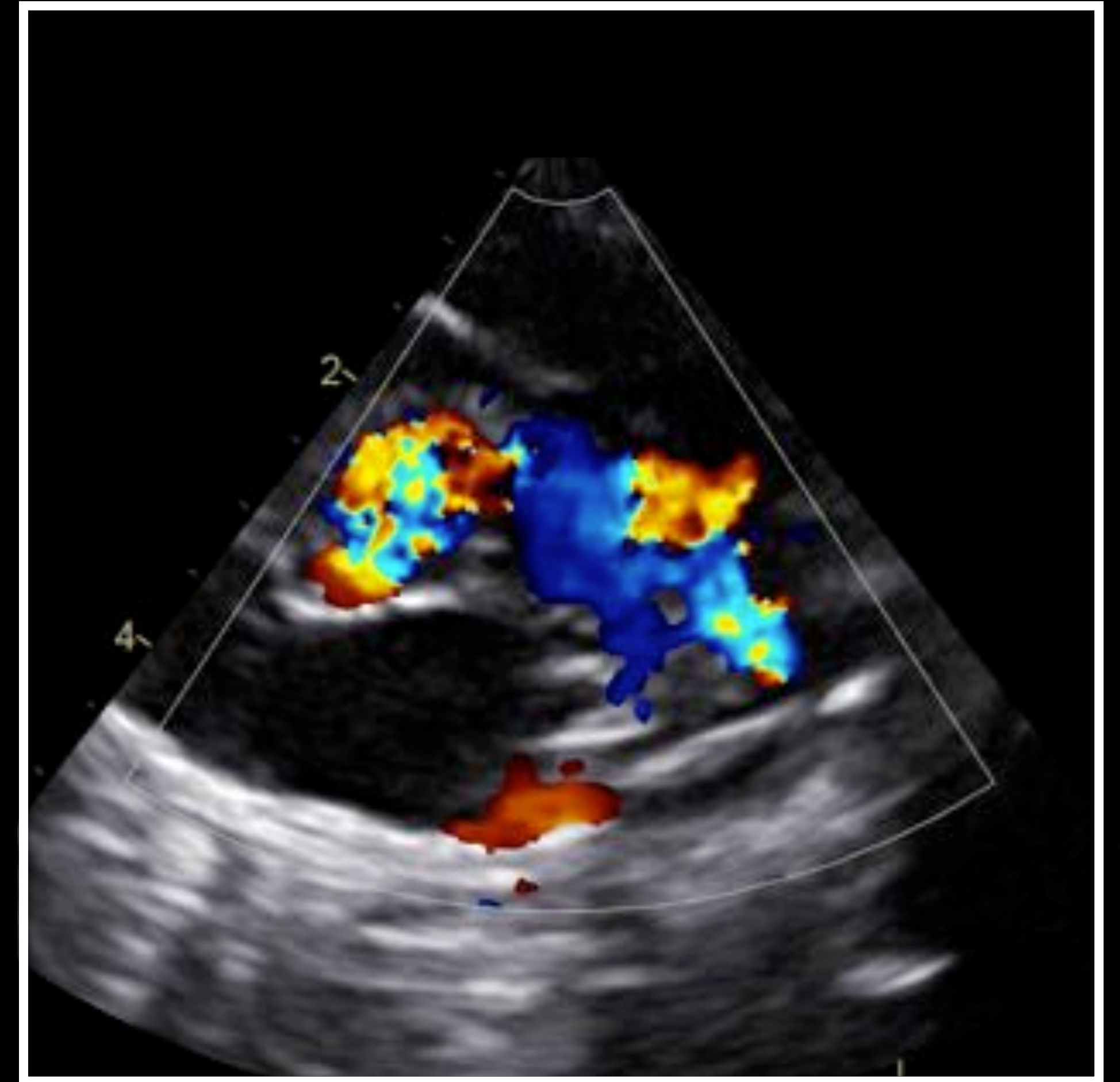
Fetal aortic stenosis-dilatation



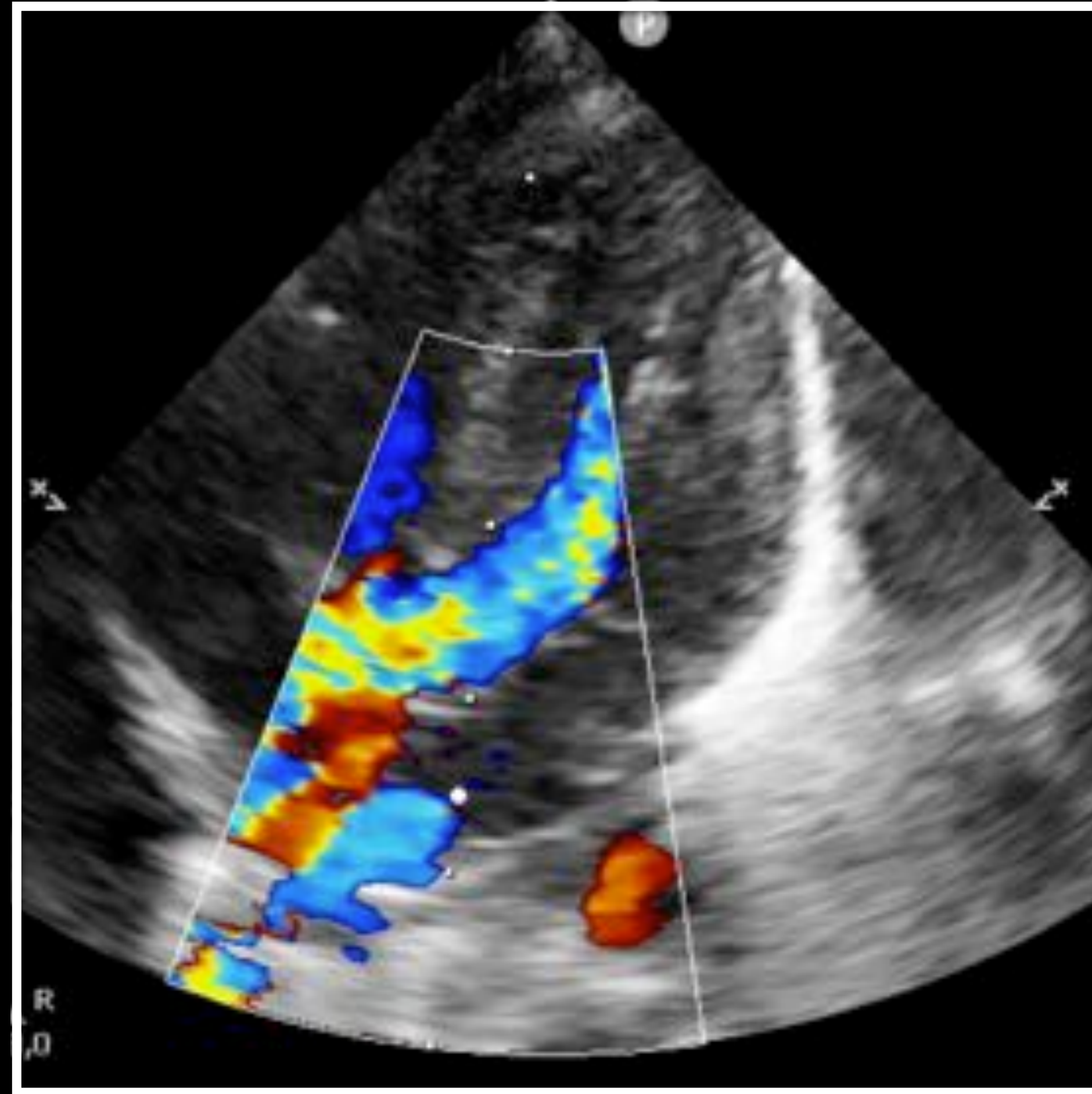
Fetal aortic stenosis-after dilatation



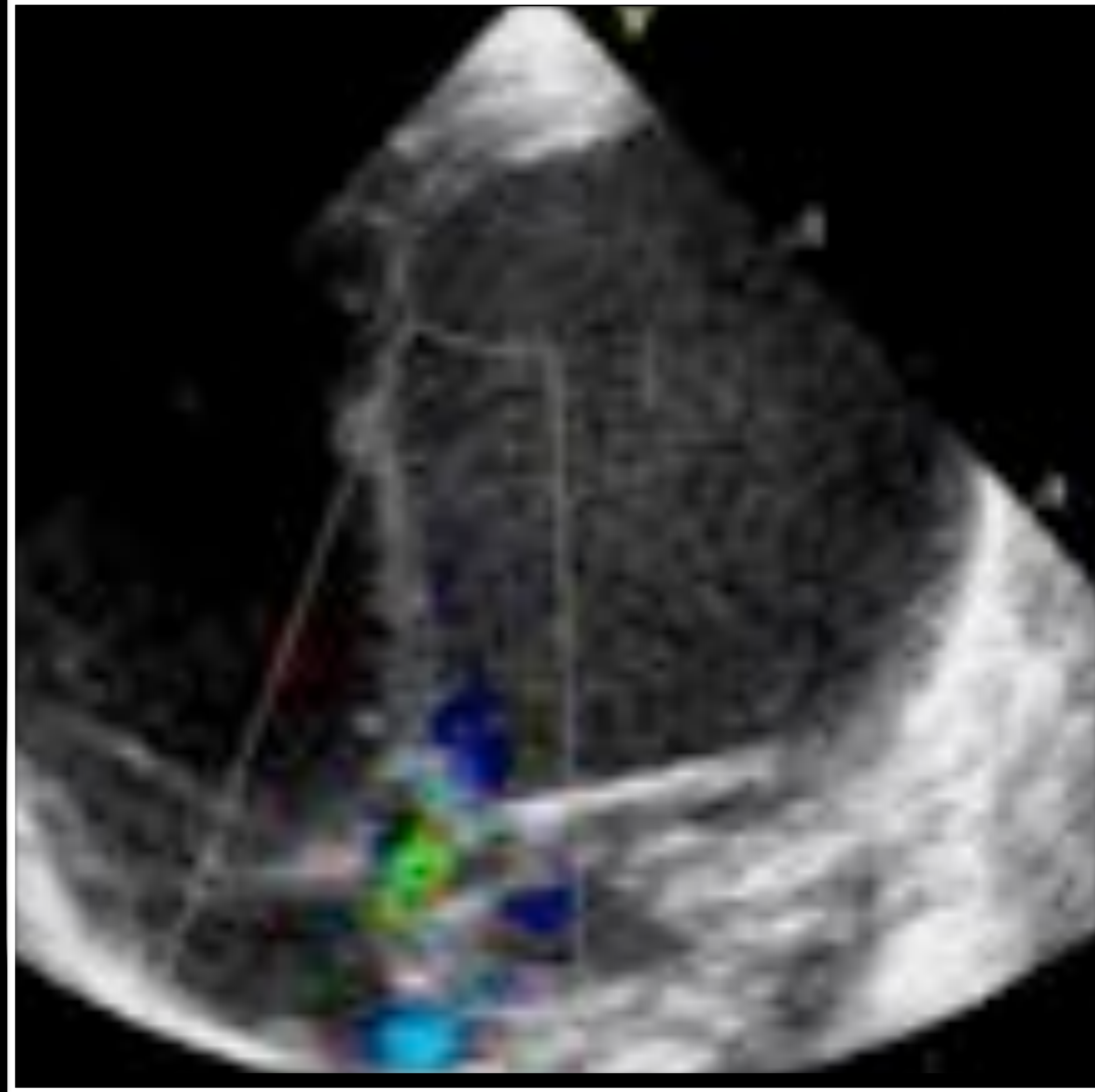
Fetal aortic stenosis-post-natal



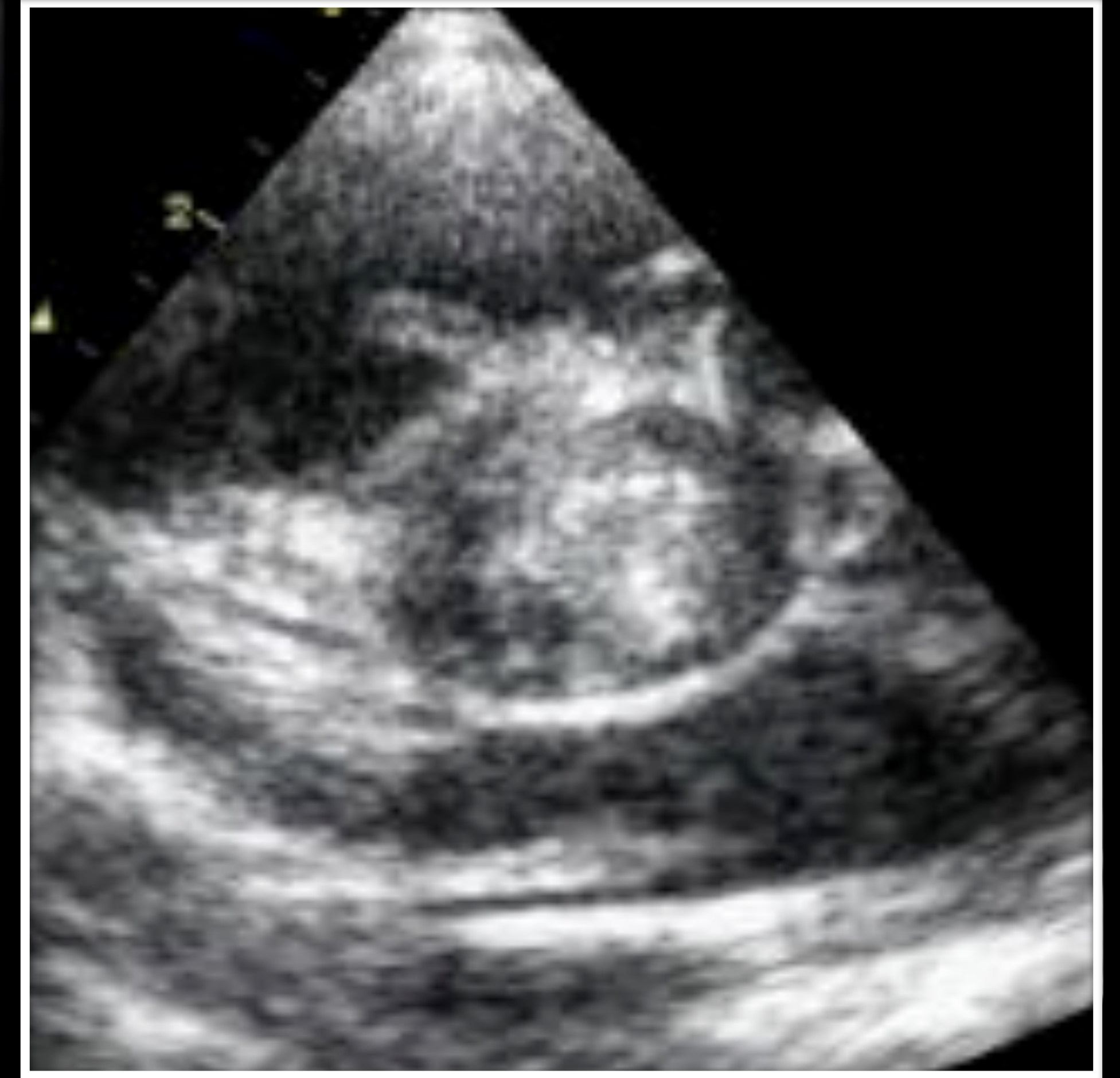
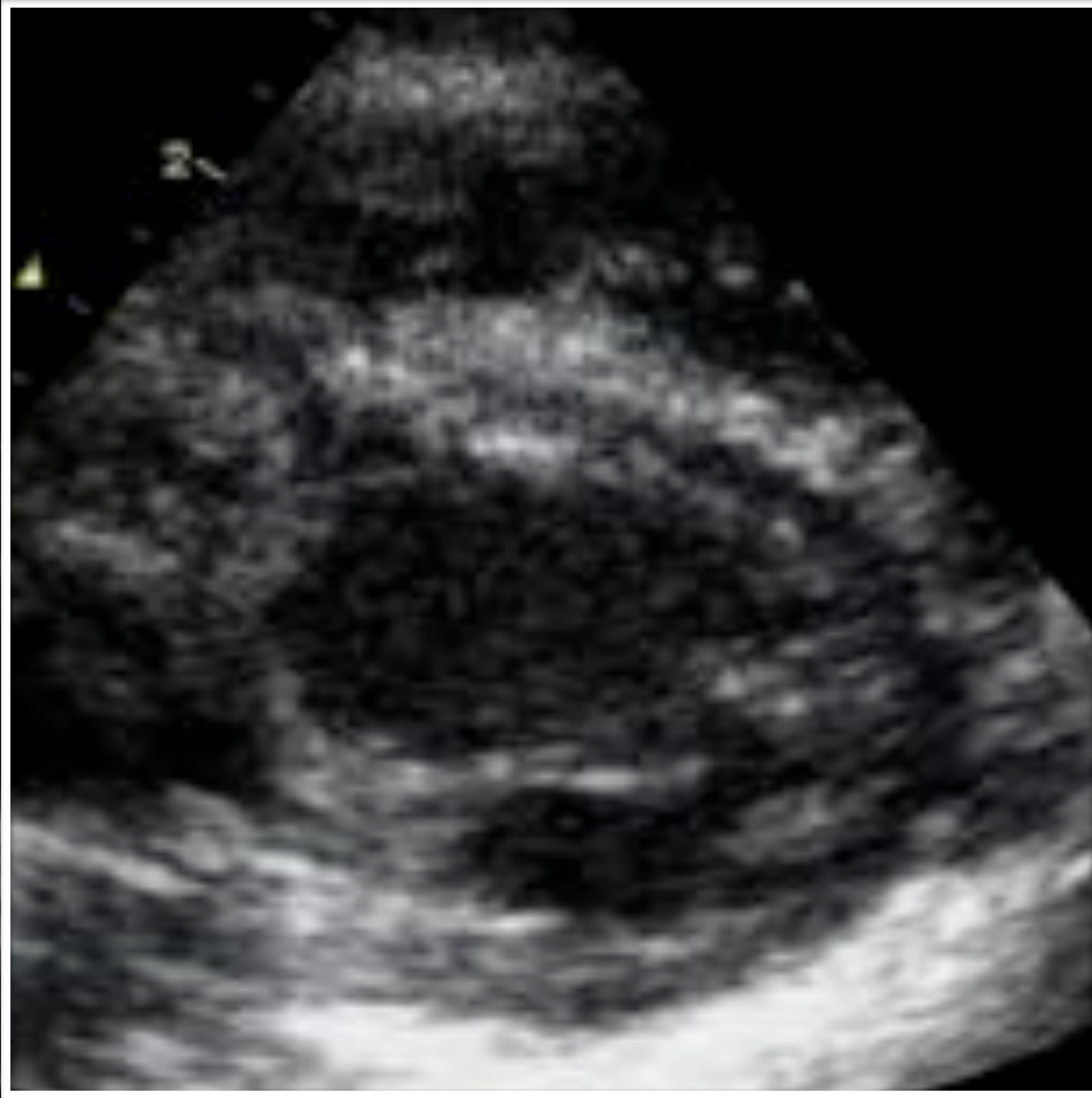
Fetal aortic stenosis-post-natal dilatation



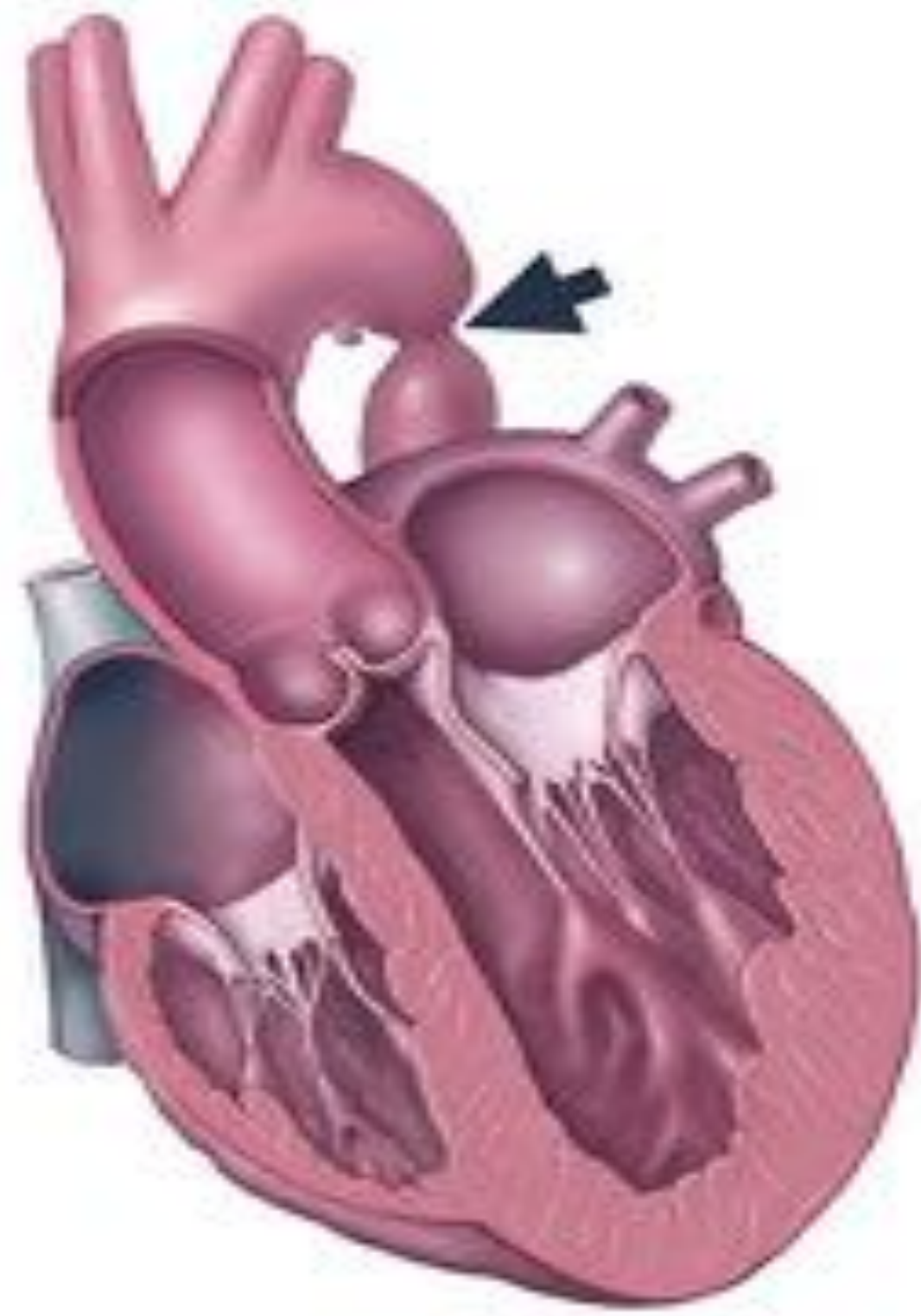
Critical aortic stenosis in the neonate



Critical aortic stenosis in the neonate



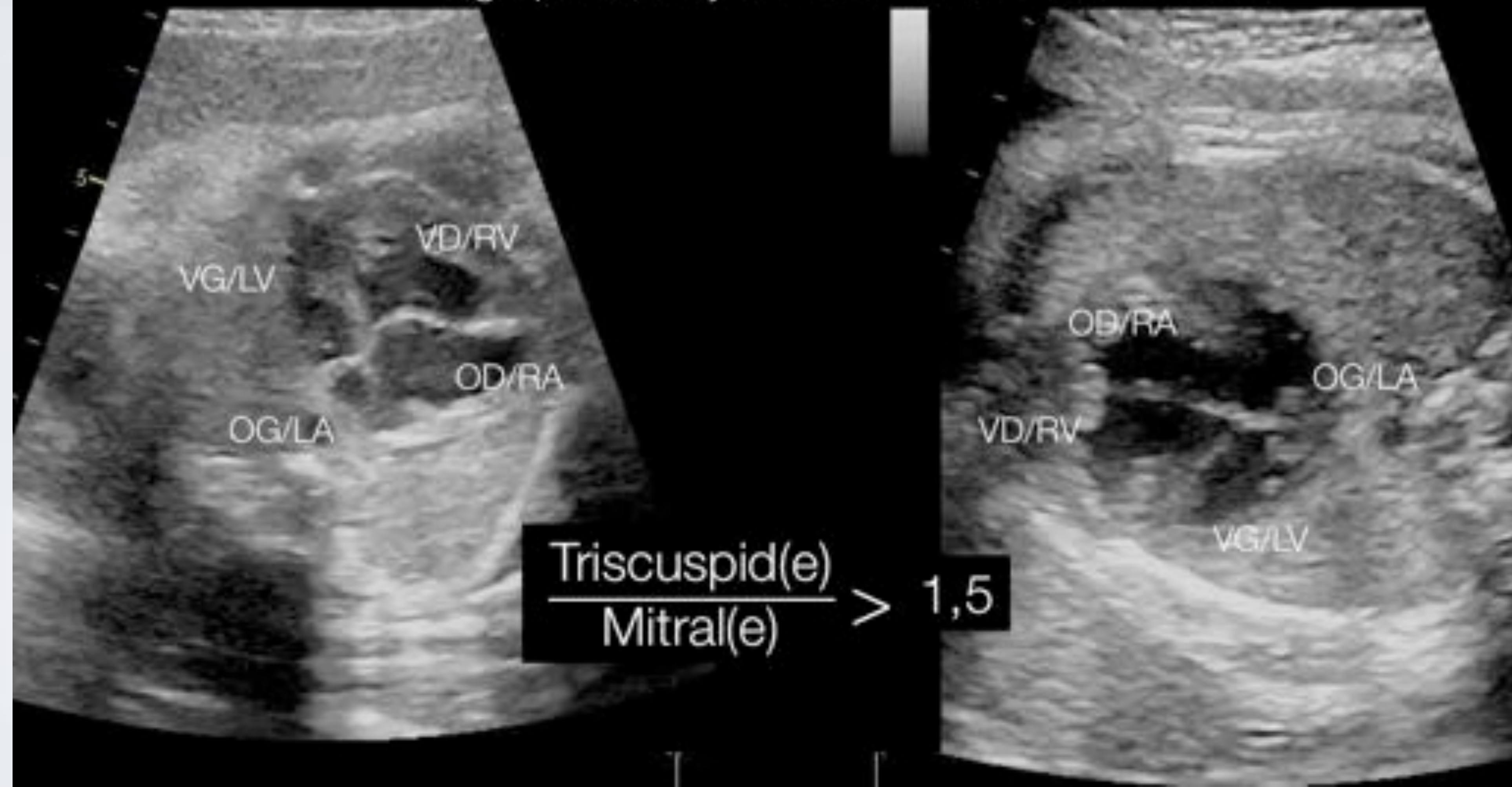
Neonatal coarctation





Asymétrie ventriculaire précoce et significative/
early and pronounced cardiac asymmetry

Forte probabilité de **coarctation de l'aorte**/
High probability of **coarctation of the aorta**





Asymétrie ventriculaire précoce et significative/
early and pronounced cardiac asymmetry

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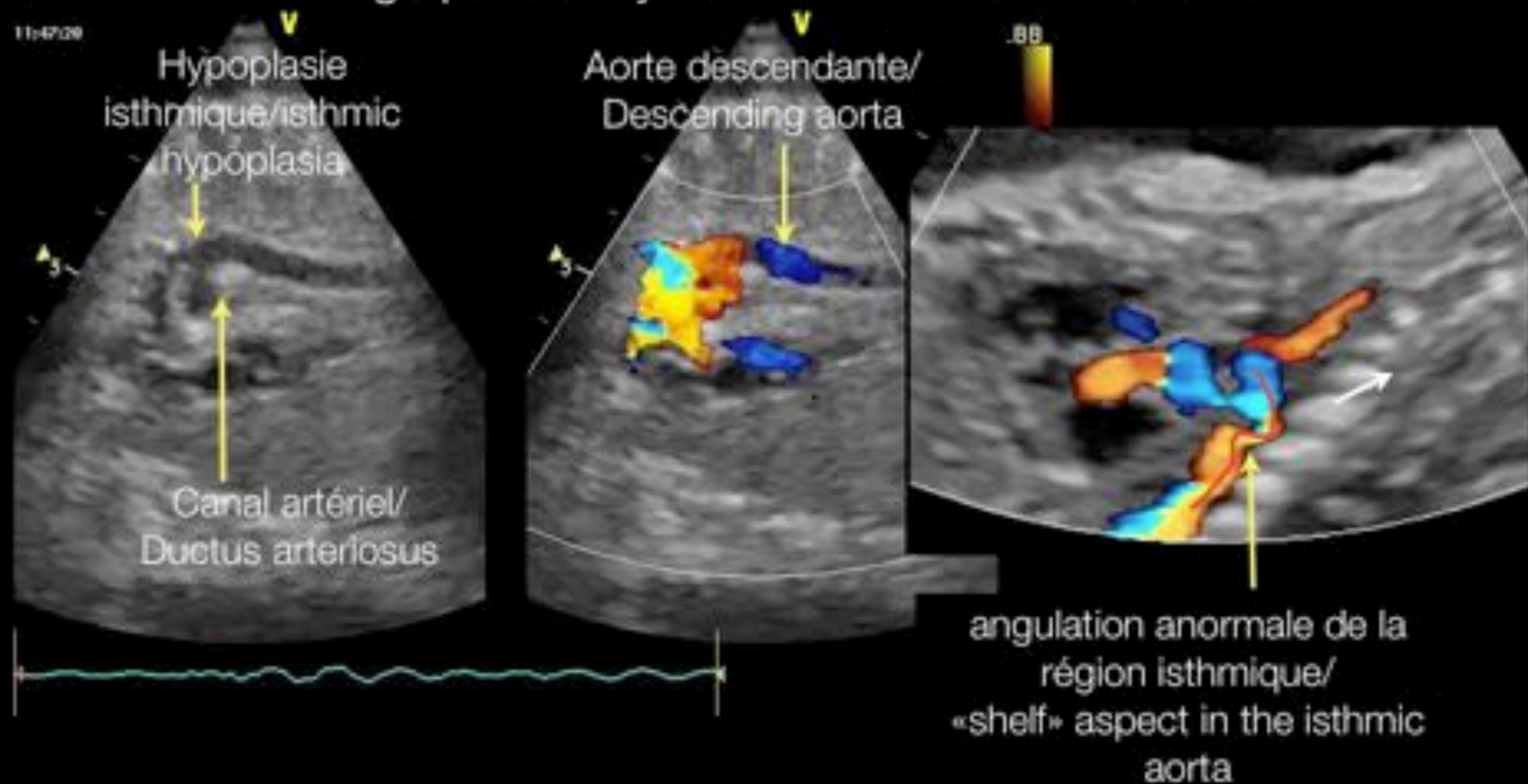
$$\frac{\text{Pulmonary artery}}{\text{Ao}} > 1,5$$





Asymétrie ventriculaire précoce et significative/
early and pronounced cardiac asymmetry

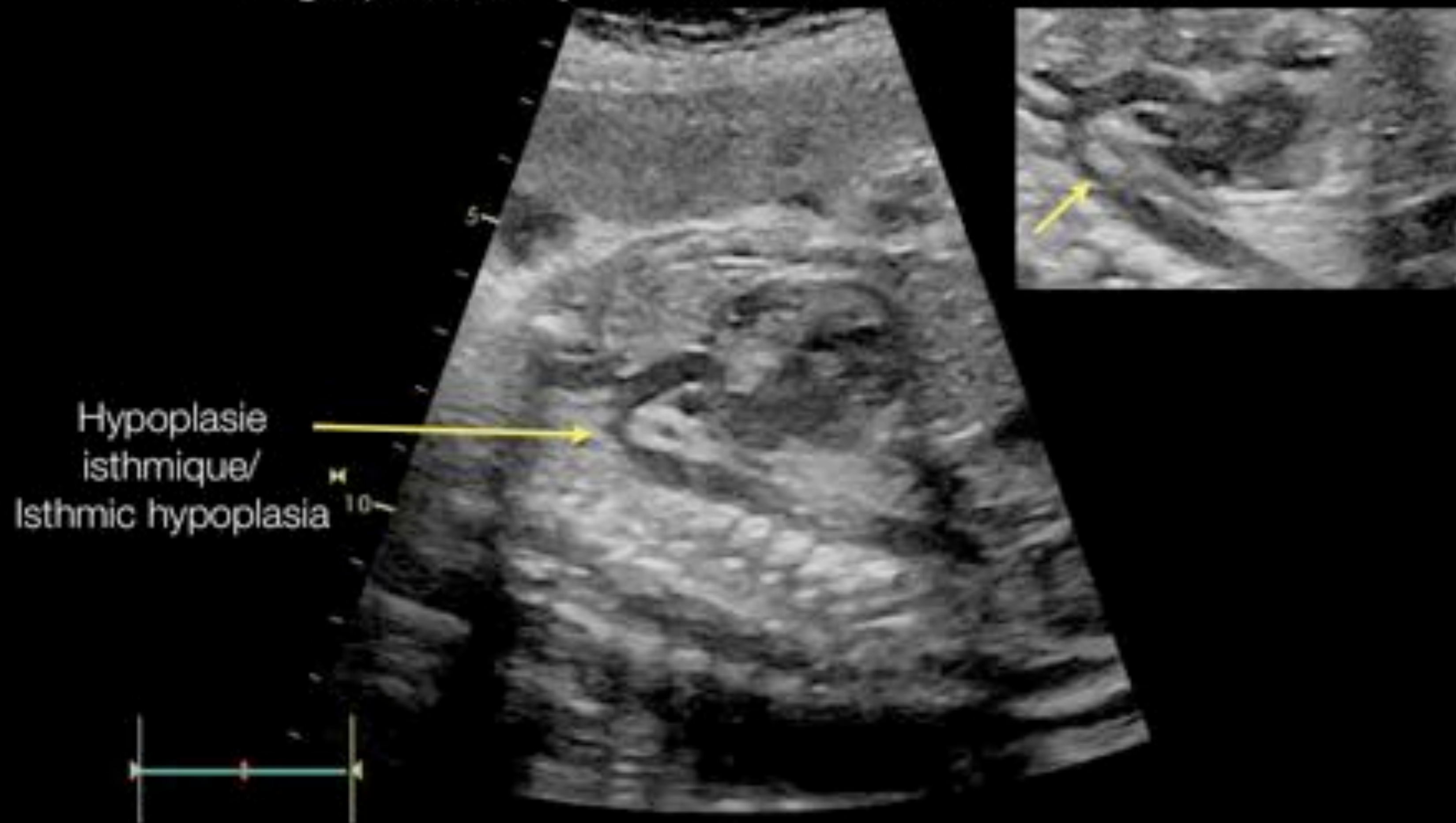
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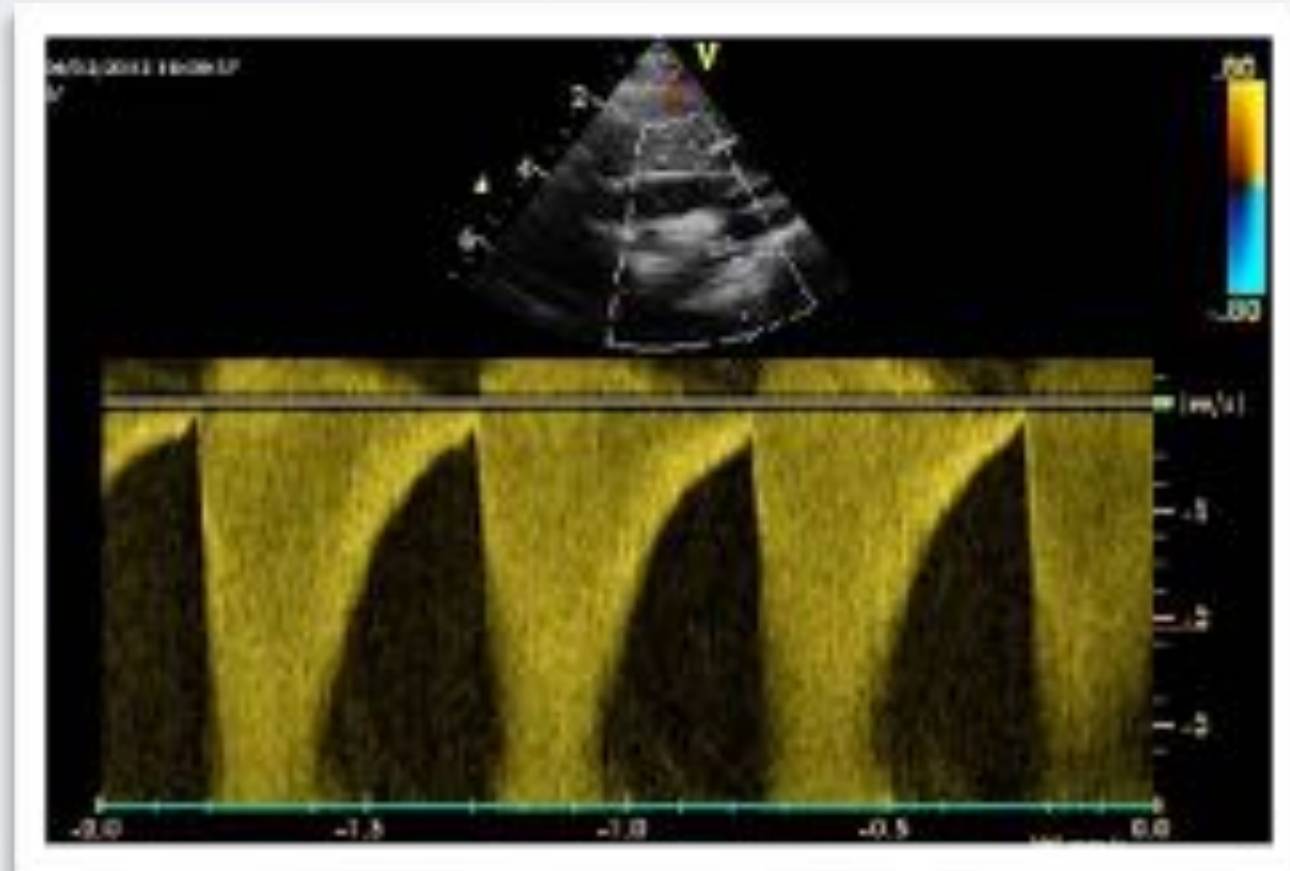


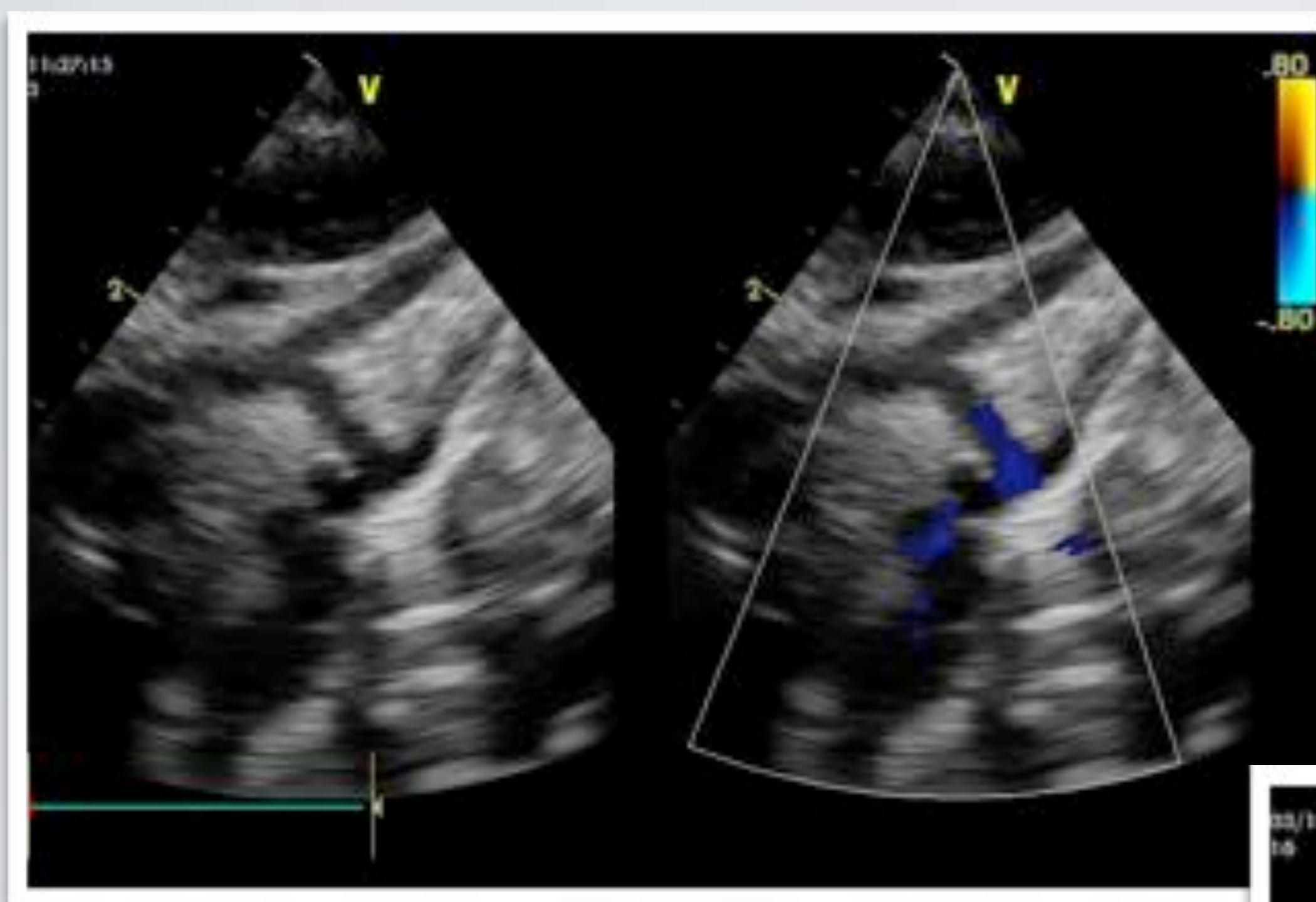
L'ASYMETRIE VENTRICULO-ARTÉRIELLE

- Risque de coarctation ISTHMIQUE mal tolérée à la naissance
- Plusieurs évolution possible des asymétries VA:
 - **coeur normal** après fermeture des shunts (asymétrie physiologique)
 - **coarctation bien tolérée** (adaptation VG)
 - >pouls fémoraux abolis
 - **coarctation mal tolérée** (mauvaise adaptation VG)
 - >défaillance cardiaque

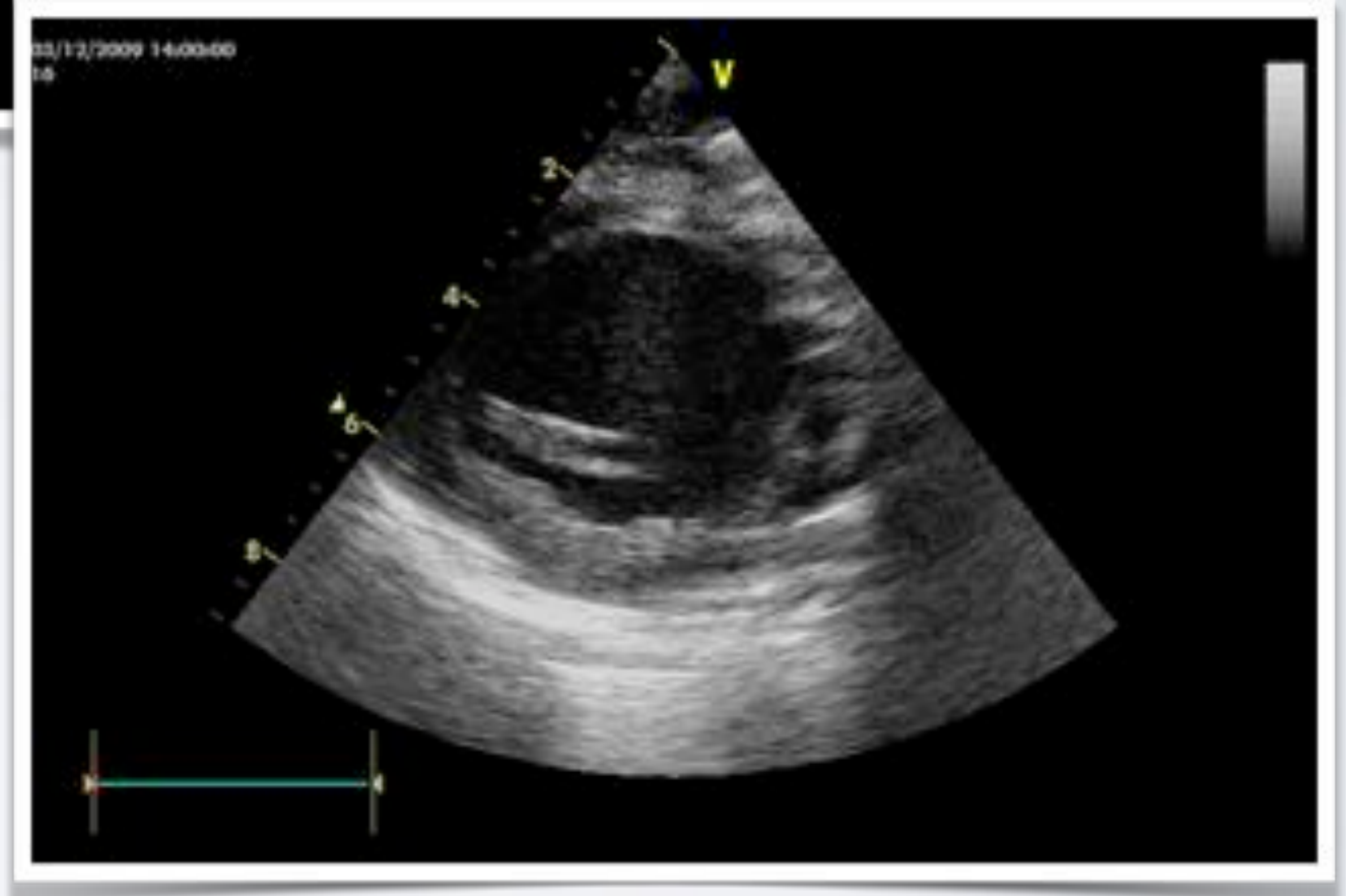


**Coarctation à 2
mois bien tolérée**





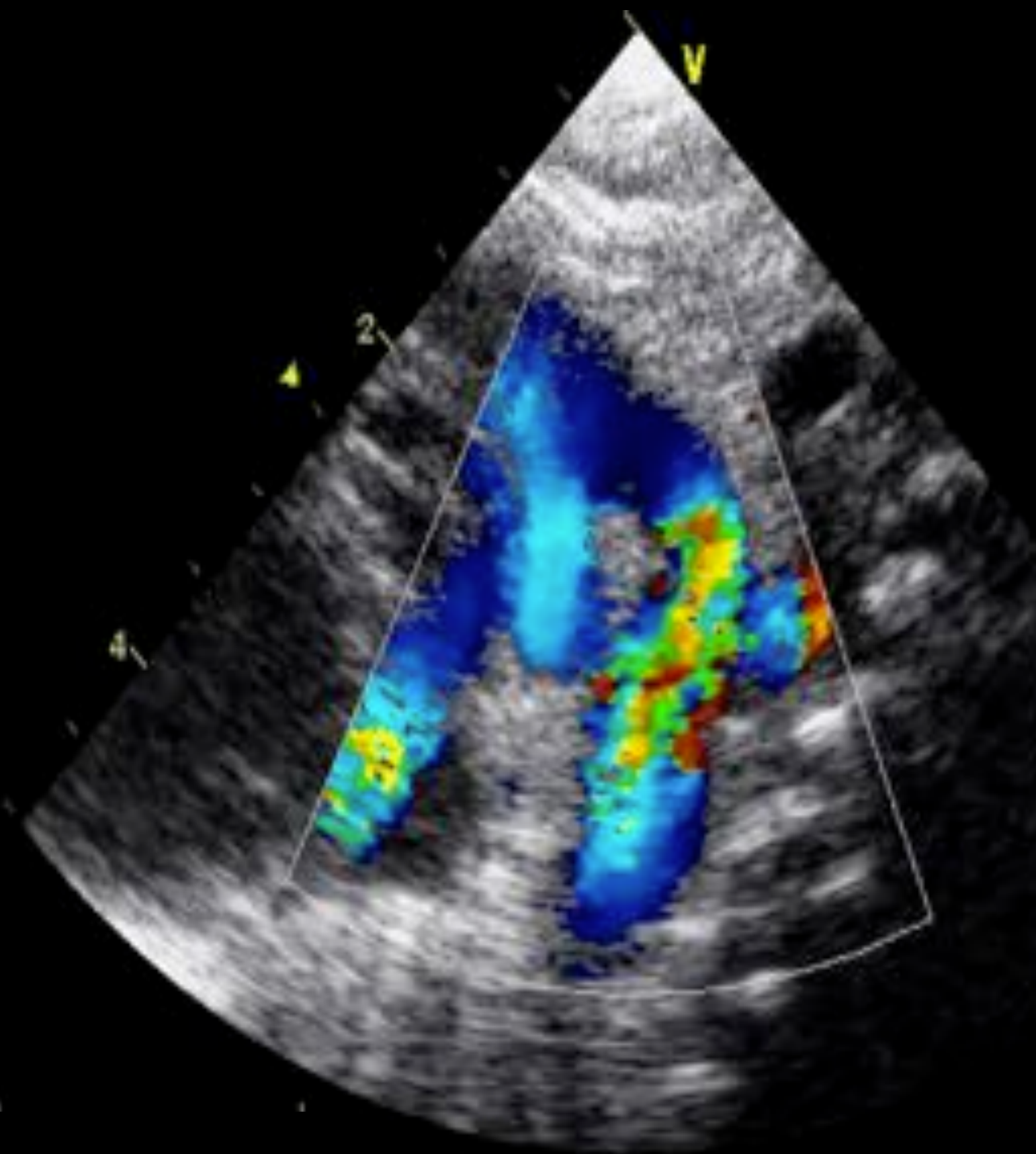
**Coarctation néonatale
mal tolérée**



Severe coarctation - dilatation



Severe coarctation with « systemic » arterial duct

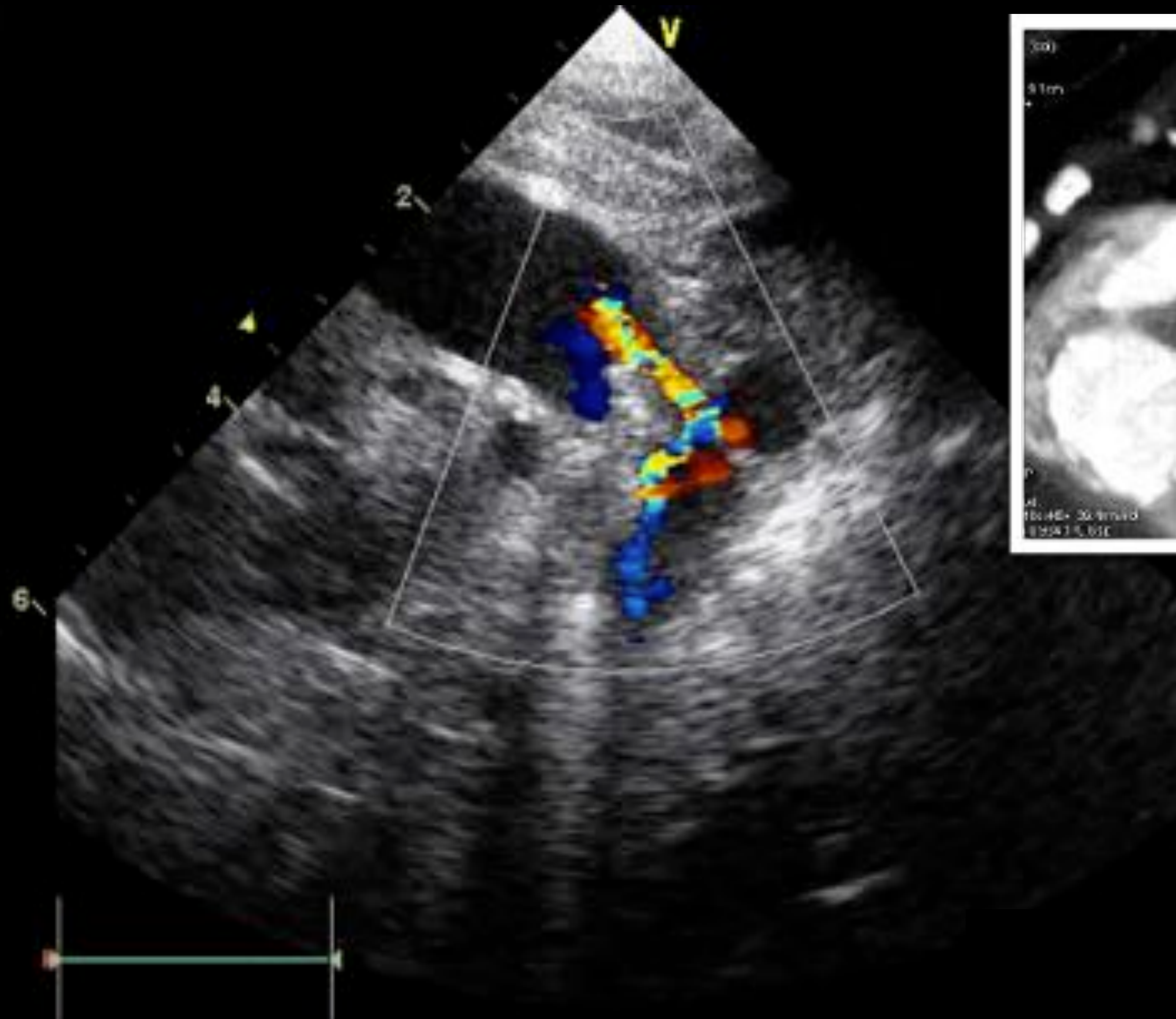


Coarctation with left-to-right arterial duct

HOPITAL NECKER ENFANT

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Mar 07 2006

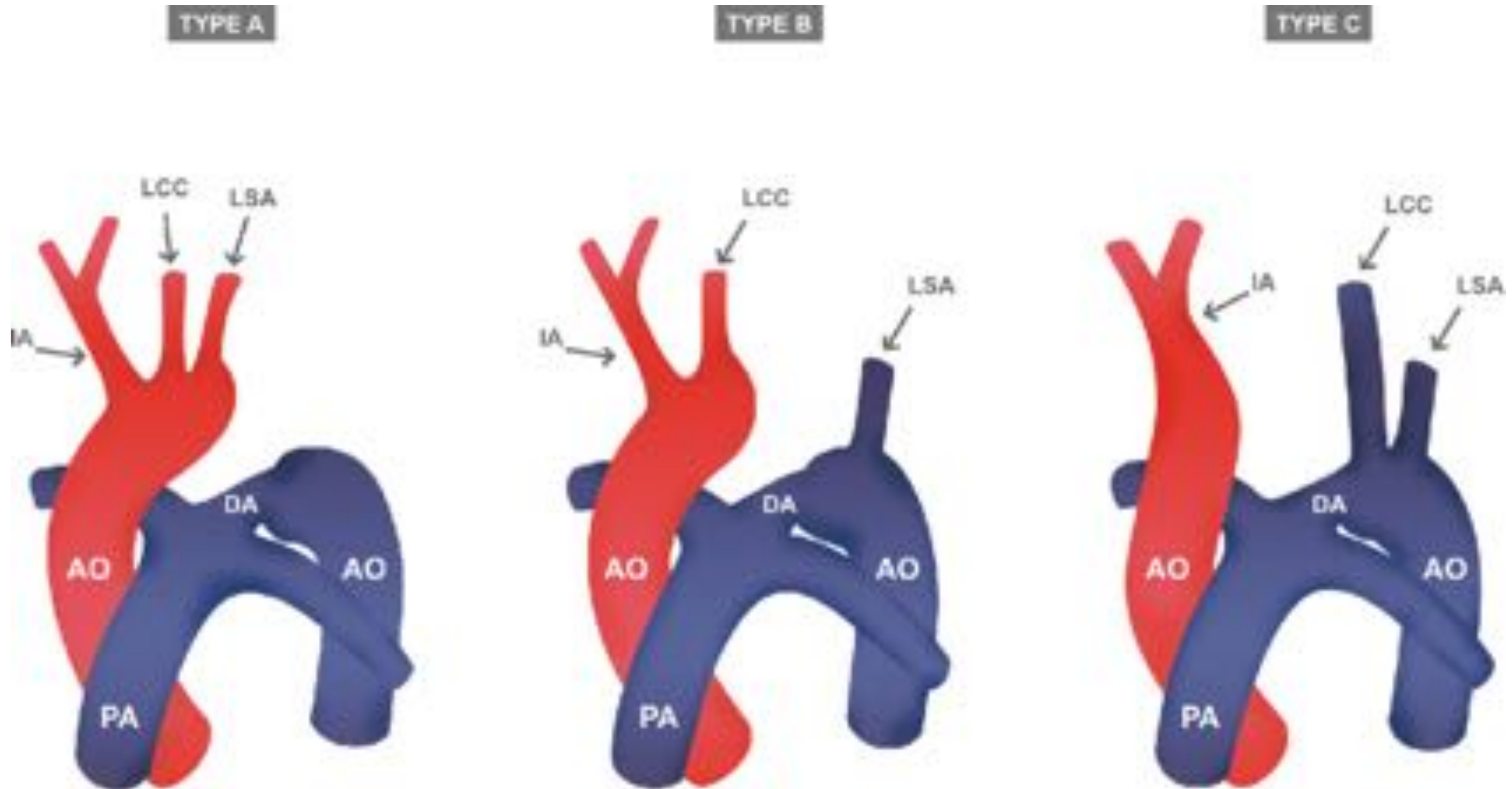


P L S

Variable anatomy of the aortic arch in coarctation



Interrupted aortic arch



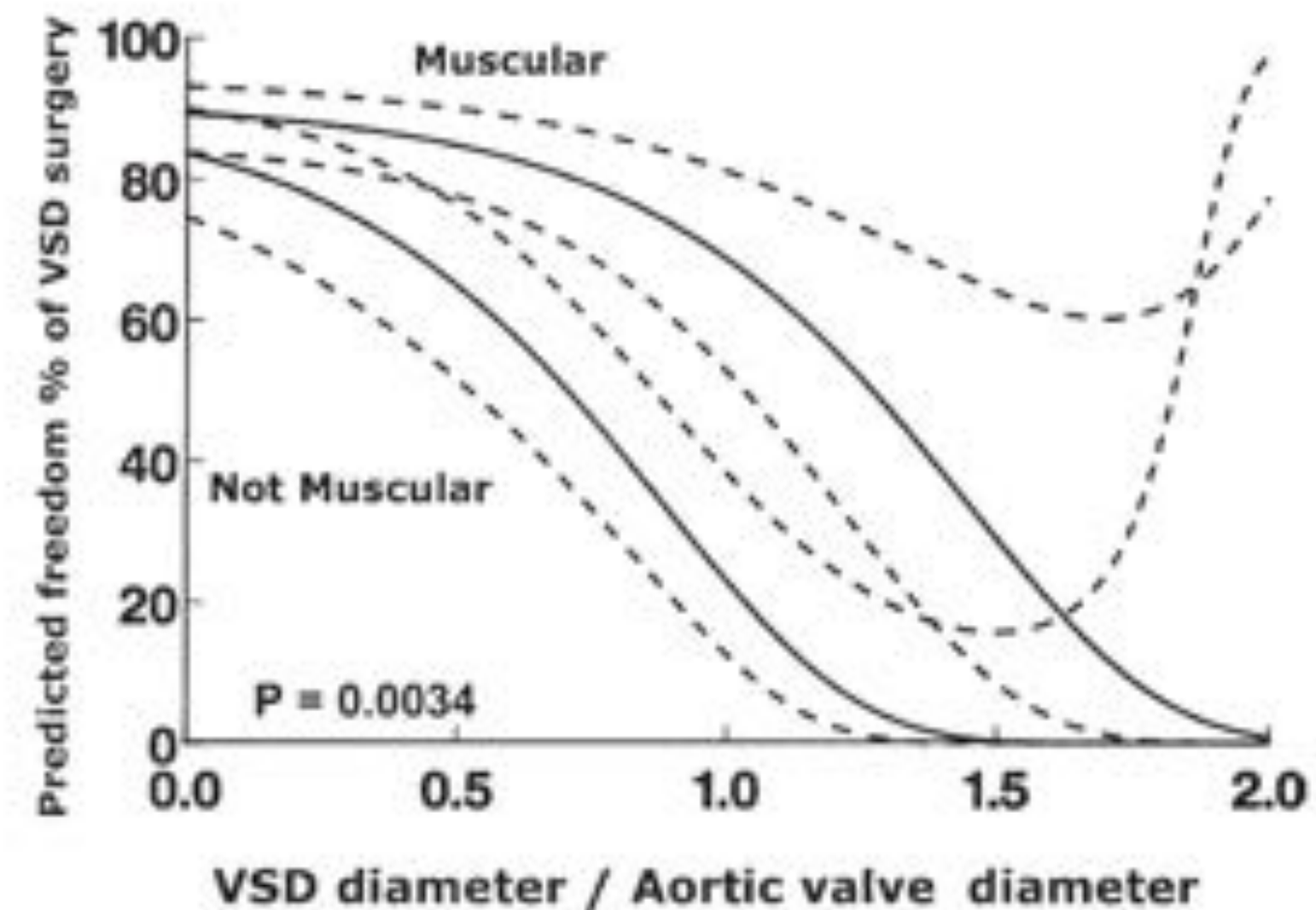
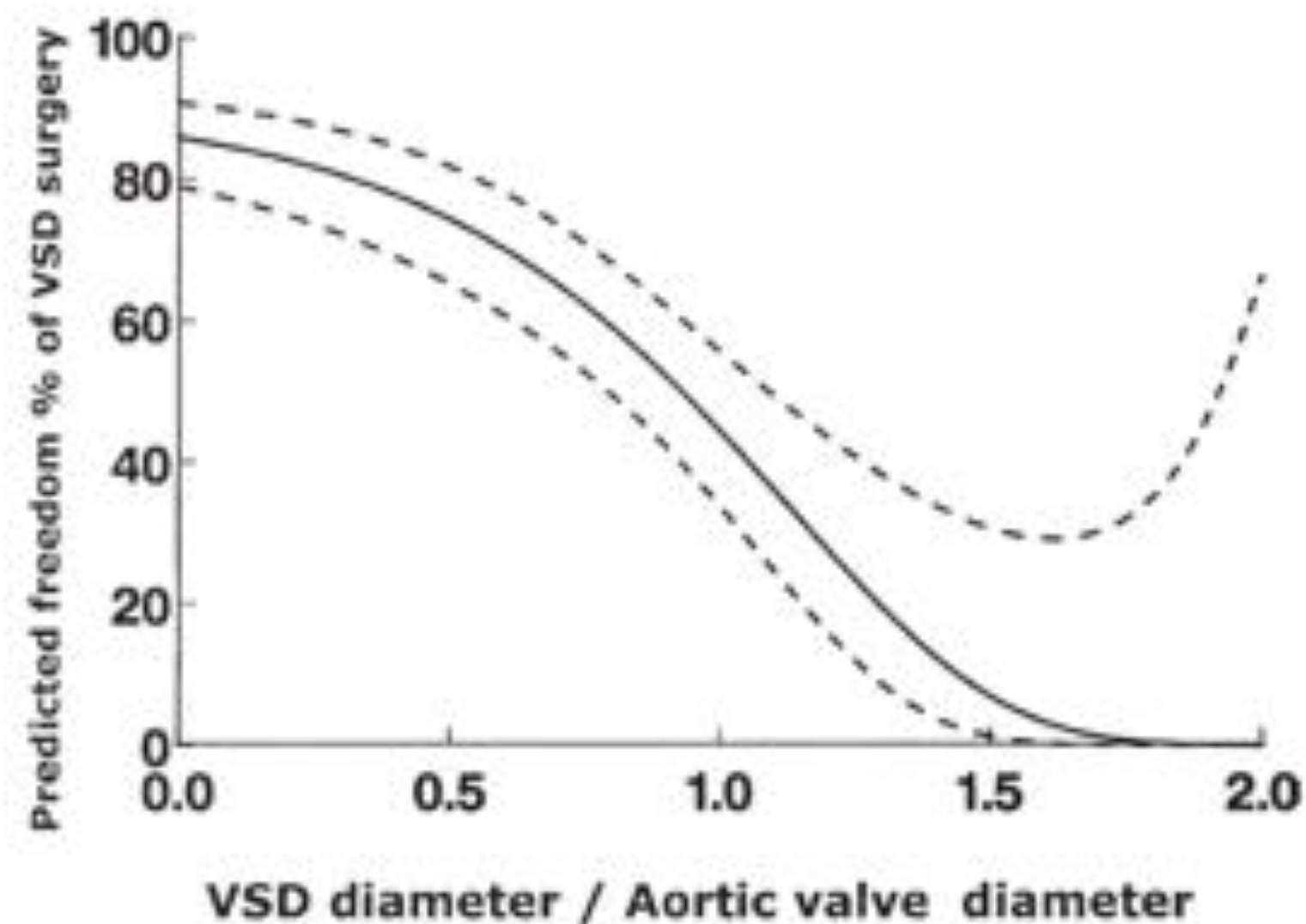
- **Syndrome de coarctation : coarctation + CIV**
 - **Anatomie de la CIV**
 - CIV unique dans 80% des cas
 - 60% CIV de la voie d'éjection
 - 35% CIV musculaire
 - 5% CIV d'admission

Faut il ou faudra-t-il fermer la CIV ?

- CIV restrictive / potentiel de fermeture

Outcomes of Different Surgical Strategies in the Treatment of Neonates with Aortic Coarctation and Associated Ventricular Septal Defects

Bahaaldin Alsoufi, MD, Sally Cai, PhD, John G. Coles, MD, William G. Williams, MD, Glen S. Van Arsdell, MD, and Christopher A. Caldarone, MD





Thank you