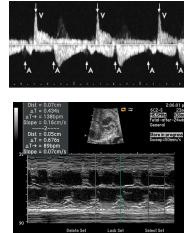


## Bradyarrhythmias

- Heart Block
  - ✓ Abnormal conduction through the atrioventricular valve
  - ✓ Associations
    - CHD (cc-TGA, Heterotaxy)
    - Maternal SSA/SSB Antibodies
  - ✓ Usually seen between 18-28 weeks gestation
  - ✓ Prognosis: Association with hydrops and high mortality
  - ✓ Treatment:
    - With Antibodies: Trial dexamethasone (if not complete heart block)

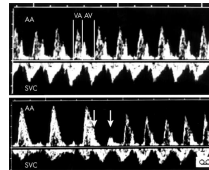


## Tachyarrhythmias

- Sustained fetal heart rate > 180 bpm
- Types:
  - ✓ Sinus tachycardia
  - ✓ Supraventricular tachycardia
  - ✓ Atrial Flutter
  - ✓ Ventricular tachycardia
- Risk of hydrops development when sustained

## Tachyarrhythmias

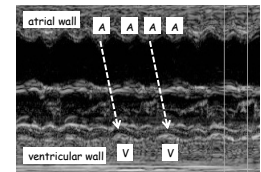
- Supraventricular tachycardia
  - ✓ Heart rates can be rapid
    - Up to 300 bpm
    - 1:1 conduction
    - Sudden onset/ finish
  - ✓ Most common tachycardia (66%)
  - ✓ Between 24-32 weeks
  - ✓ Treatment: Flecainide or sotalol



Fournon et al. Management of fetal tachyarrhythmia based on superior vena cava/ aorta Doppler flow recordings. Heart. 2003 October; 89 (10): 1211-1216.

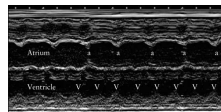
## Tachyarrhythmias

- Atrial Flutter
  - ✓ Intra-atrial re-entrant circuit
  - ✓ 30% of fetal tachycardias
  - ✓ Extremely fast atrial rates (300-500 bpm) with 2:1 to 3:1 atrial conduction
  - ✓ Treatment: Sotalol or digoxin



## Tachyarrhythmias

- Ventricular tachycardia
  - ✓ Rare
  - ✓ Etiologies: Tumors, ventricular aneurysms, myocarditis, Long QT syndrome)
  - ✓ AV dissociation, Heart rates 180-400 bpm
  - ✓ Treatment: Maternal magnesium, sotalol, flecainide, propranolol



Simpson et al. Fetal ventricular tachycardia secondary to long QT syndrome treated with maternal intravenous magnesium: case report and review of the literature. Ultrasound Obstet Gynecol. 2009; 34: 475-480.

## Summary

- New technologies, such as fMCG, will improve diagnoses and aid in monitoring treatment
- The nurses role in care of fetal arrhythmias is vital
- The echocardiogram is the mainstay of diagnosis because it can be readily used to assess rhythm