Basics of Fetal Echo
ULTRASOUND OF THE FETAL HEART PROTOCOL

• SITUS
• FOUR-CHAMBER VIEWS
  ➢ APICAL FOUR-CHAMBER VIEW
  ➢ SUBCOSTAL FOUR-CHAMBER VIEW
• VIEW OF THE PULMONARY VEINS
• LEFT VENTRICULAR OUTFLOW (LVOT)
• RIGHT VENTRICULAR OUTFLOW (RVOT)
ULTRASOUND OF THE FETAL HEART PROTOCOL

- SHORT AXIS VIEW OF THE GREAT VESSELS
- VIEW OF THE AORTIC ARCH
- VIEW OF THE DUCTAL ARCH
- VIEW OF THE INFERIOR VENA CAVA AND SUPERIOR VENA CAVA
- VIEW OF THE CROSSING OF THE AORTA AND THE PULMONARY ARTERY
- SHORT AXIS OF THE VENTRICLES (BIVENTRICULAR VIEW)
- THREE VESSEL VIEW
ROLE OF FETAL ECHO ULTRASOUND

- To confirm normal anatomy to the best of our ability.
- To progress, or elaborate on, known fetal pathology.

LIMITATIONS:
- Fetal lie and maternal body habitus will inhibit the scan.
- With patience, the difficulties posed by fetal position can usually be overcome.
FOUR CHAMBER VIEWS

- The first view to obtain when beginning a fetal echocardiographic examination is the four-chamber view.
- Obstetric ultrasound guidelines include the four-chamber view of the fetal heart as a standard part of every examination.
- There are two different four-chamber views: The apical four-chamber view and the subcostal four-chamber view.
FOUR CHAMBER VIEWS
VIEW OF THE PULMONARY VEINS
Left Ventricular Outflow (LVOT)
Right Ventricular Outflow (RVOT)
Aortic Arch
Inferior Vena Cava and Superior Vena Cava
Crossing of Aorta and the Pulmonary Artery
Short-Axis View of the Ventricles (Biventricular View)
Short-Axis View of the Ventricles (Biventricular View)
Three Vessel View
Pulsed Doppler Echocardiography

- Enhances the ability to detect cardiac malformations in utero.
- Effective means to measure the quantity of flow velocity in the heart vessels and across the heart valves and of determining flow direction.
- Very useful in differentiating arrhythmias.
- Technical factors to consider include attempting to place the Doppler cursor in the area of interest at an angle as close to 0 degrees as possible and using the angle correction capabilities of the equipment.
Pulsed Doppler Echocardiography
Color Doppler Echocardiography

- Color Doppler imaging plays an essential role in fetal echocardiography.
- It provides a more efficient means of assessing normal and abnormal flow pattern in the fetal heart.
- Color Doppler imaging supplies information on the presence or absence of flow, flow direction, and flow patterns.
Interesting abnormal cases
Tetralogy of Fallot
Tetralogy of Fallot
Pulmonary atresia with VSD
Pulmonary atresia with VSD
Atrioventricular Septal Defect
AV Canal
AV Canal
Ebstein’s Anomaly
Ebstein’s Anomaly
Ebstein’s Anomaly
Transposition of the Great Arteries
Transposition of the Great Arteries
Double Inlet Left Ventricle (DILV)
Double Inlet Left Ventricle (DILV)
Cardiac Tumors (Rhabdomyoma)
Cardiac Tumors (Rhabdomyoma)
THANK YOU!

Q & A...