

Focused cardiac ultrasound in parturients with congenital and acquired heart disease: a case series

M. Sheikh, D. Tobes, R. Landau
Columbia University Irving Medical Center, New York, NY



SOAP 2022 ANNUAL MEETING

Background:

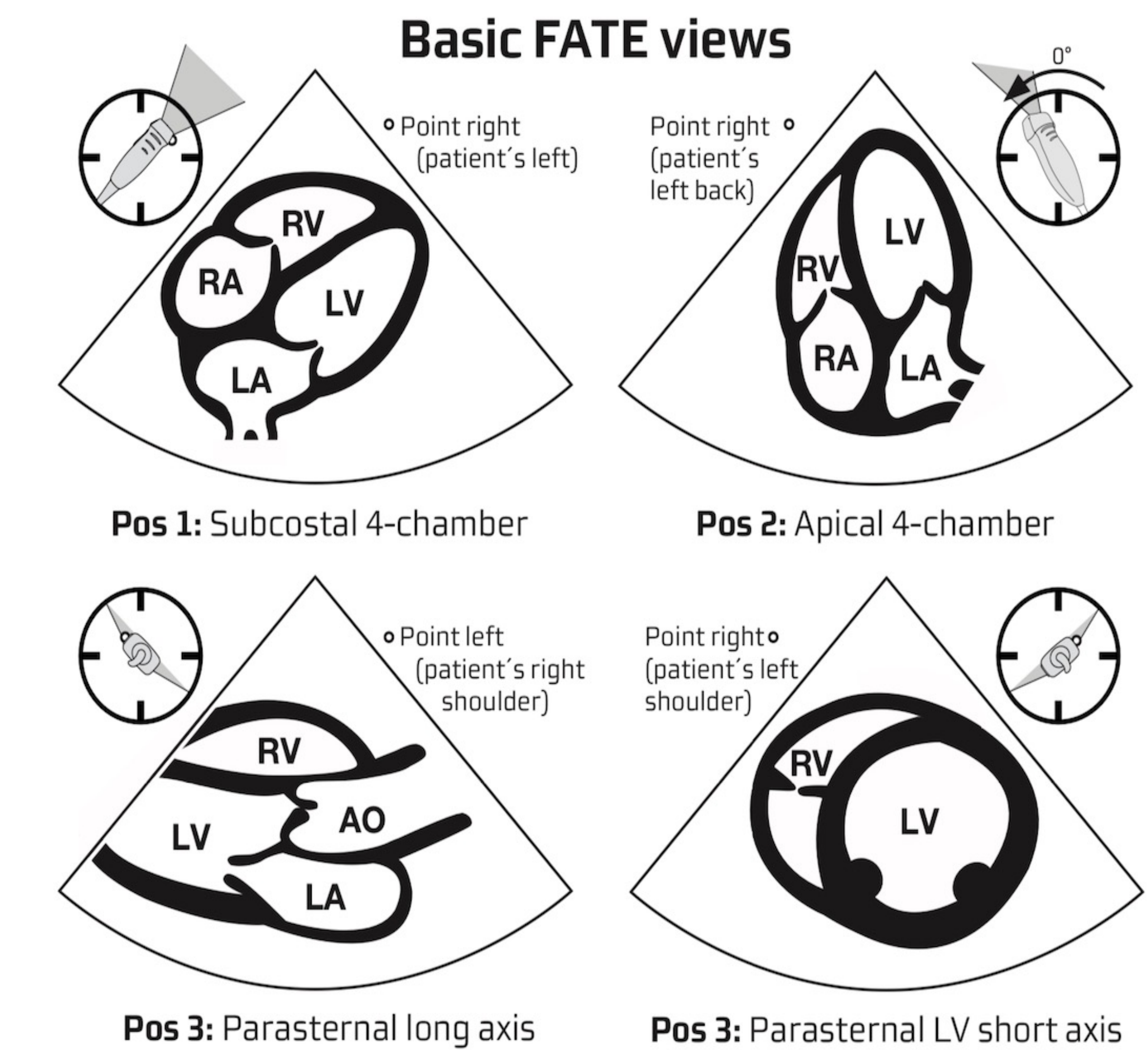
- Cardiovascular conditions are the leading cause of pregnancy-related mortality in the United States
- Focused cardiac ultrasound (FCU) for analysis of cardiac function and volume status in obstetric patients is increasingly reported, including those with preeclampsia
- Paucity of literature on FCU in pregnant patients with heart disease

Case Series:

- 3 cases of parturients with heterogeneous heart disease where peripartum care was guided by FCU
- Apical 4-chamber, parasternal long and short-axis views obtained with handheld ultrasound device (Butterfly iQ+) using cardiac preset

Focus Assessed Transthoracic Echo (FATE)

Scanning through position 1-4 in the most favourable sequence



Focused cardiac ultrasound in parturients with congenital and acquired heart disease: a case series

M. Sheikh, D. Tobes, R. Landau
Columbia University Irving Medical Center, New York, NY

Case	Age (years)	Gravidity & Parity	Cardiac Diagnosis	LVEF	RV	Valves	PASP (mmHg)	NYHA class	CARPREG-2 score	Gestation at delivery (weeks)	Mode of delivery	Anesthetic Plan
1	38	G3P2	Tetralogy of Fallot (repaired)	Normal - hyperdynamic	Dilated	PR, TR	Normal	4	3	37	Cesarean	CSE Arterial line CVC PAC
2	24	G1P0	Idiopathic pulmonary hypertension	Normal	Dilated + pressure overload	TR	77 – preop 52 - intraop	2	3	34	Cesarean	CSE Arterial line CVC PAC Femoral sheaths (ECMO standby)
3	31	G4P0	Mitral stenosis (rheumatic heart)	Normal	Normal	MS	N/A	2	3	37	ECV Vaginal (assisted 2 nd stage)	CSE Arterial line CVC

Table 1. Patient Demographics

CSE = combined-spinal epidural; CVC = central venous catheter; ECMO = extracorporeal membrane oxygenation; ECV = external cephalic version; MS = mitral stenosis; PAC = pulmonary artery catheter; PR = pulmonic regurgitation; TR = tricuspid regurgitation

Focused cardiac ultrasound in parturients with congenital and acquired heart disease: a case series

M. Sheikh, D. Tobes, R. Landau
Columbia University Irving Medical Center, New York, NY



Focused cardiac ultrasound (FCU) in mitral stenosis.

Parasternal long-axis (left), parasternal short-axis (middle), and apical 4-chamber (right) views. The rheumatic mitral valve (MV) is visualized.

Key Points:

- ✓ FCU allowed for rapid assessment of cardiac function and guided clinical decision-making in OR and obstetric suite in 3 different scenarios
- ✓ FCU may become vital skill for obstetric anesthesiologists to optimize management of the growing population of cardio-obstetric patients