

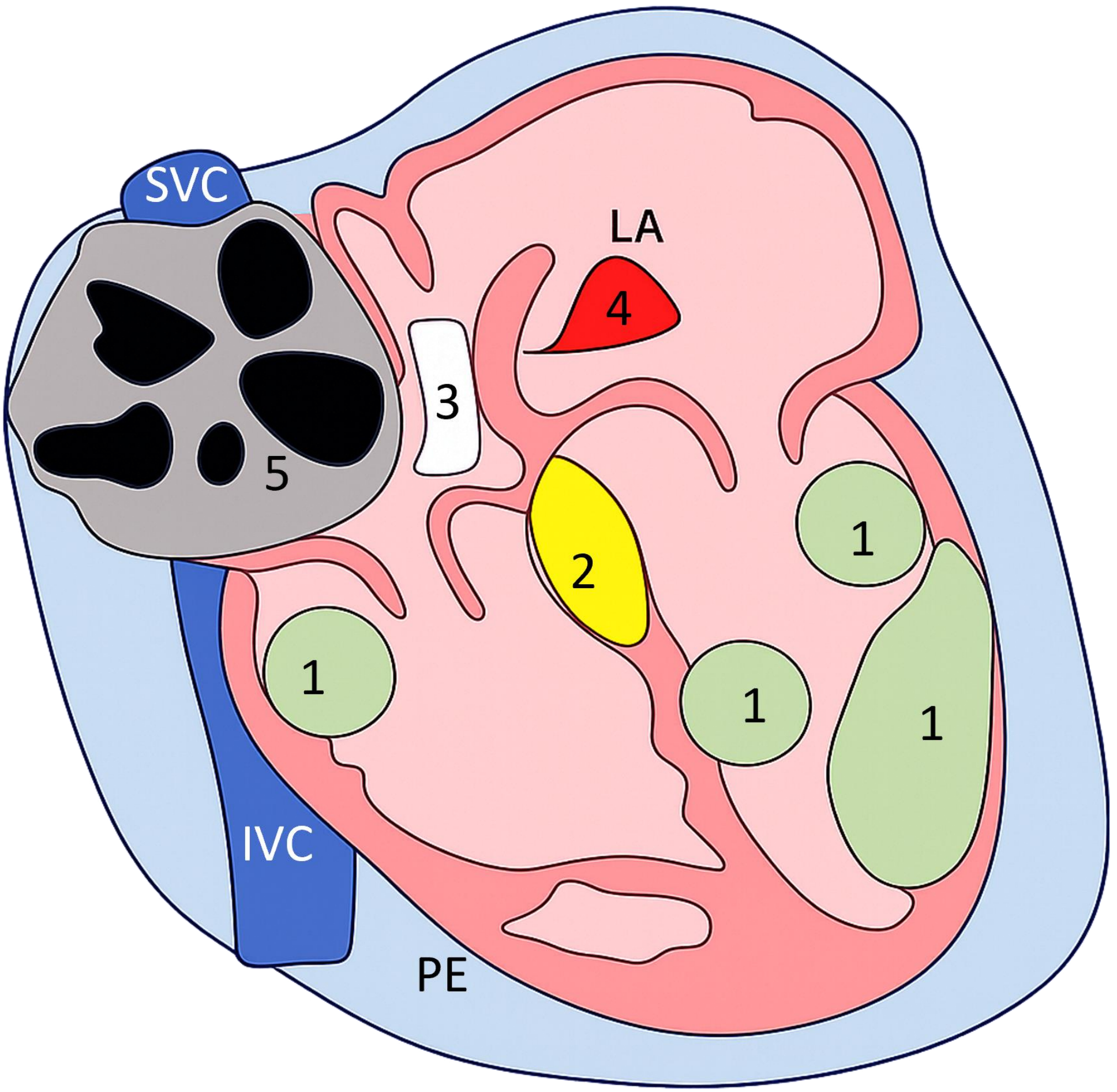
Poster number EP08.100

Highly vascular fetal cardiac tumor supplied by a right coronary artery fistula

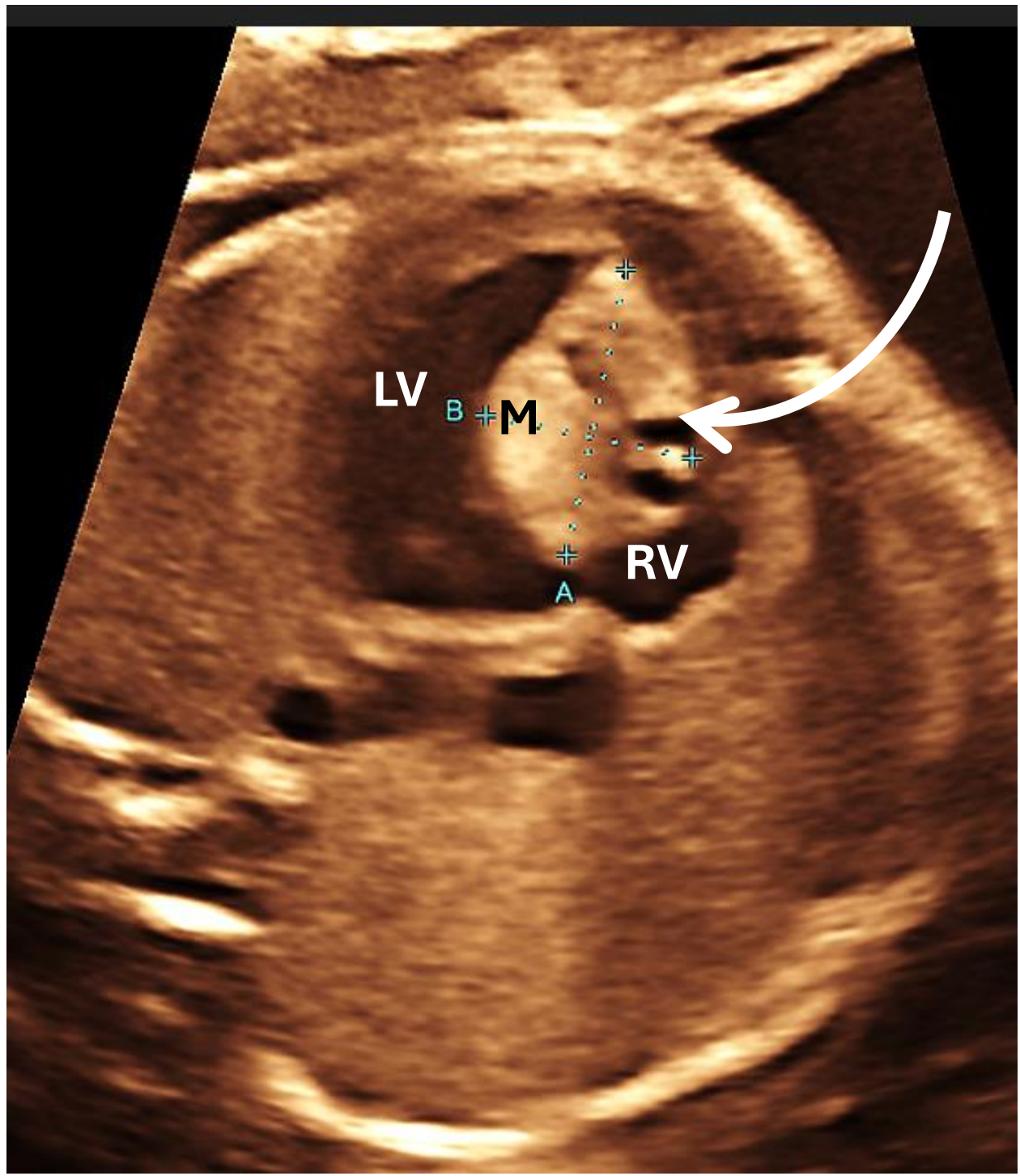
Durr-e-Sabih, Pakistan

Fetal cardiac tumors are rare; the exact fetal occurrence is unknown, but a live birth incidence of 0.009- 0.28% is reported. The majority of cardiac masses are rhabdomyomas (60%), followed by teratomas (20%), fibromas (12%), and hemangiomas (2.8%). Most fetal cardiac tumors are benign and avascular. Vascular tumors include hemangiomas, hemangioendotheliomas and fibromas. Malignant tumors of the fetal heart are extremely rare and include rhabdomyosarcomas, fibrosarcomas, metastatic tumors, neuroblastomas and leukemias.

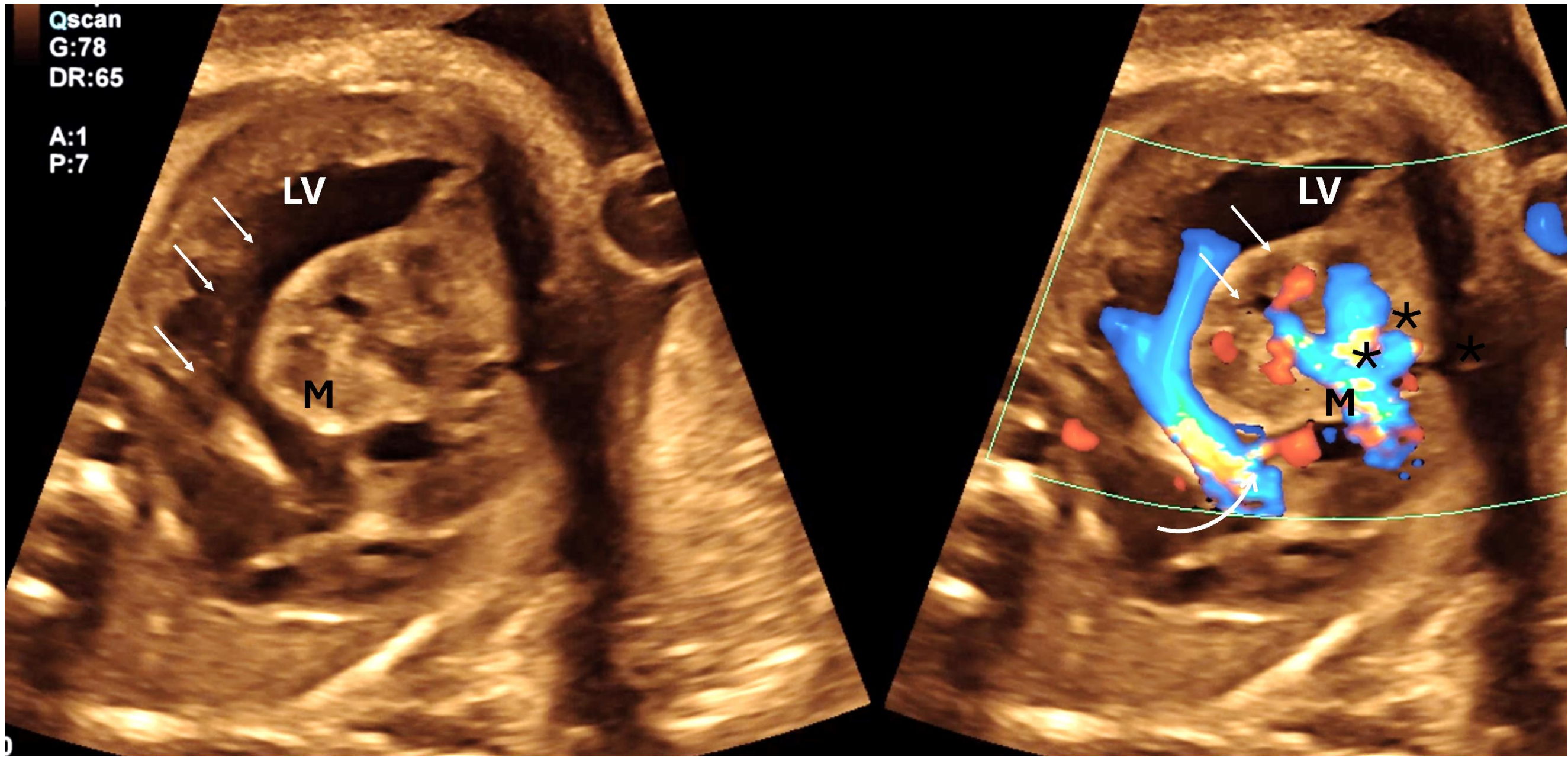
Case. The fetus was first examined at 24 weeks. There was a large mass in the interventricular septum (17 x 12 mm) (Figure A); the mass grew rapidly, and at 34 weeks measured 35 x 19 mm (Figure B, C). It encroached on both the left and right ventricular cavities. The vascularity was intense; color Doppler showed aliasing. The mass appeared to be fed from a vessel extending to the right from the aortic root and entering the mass from the right side. On Doppler, there was biphasic turbulent blood flow, suggesting a coronary artery fistula (Figure D). Both outflow tracts were deviated. There was also significant cardiomegaly. The baby was delivered at 38 weeks and died at 2 days of age without further investigations. The final diagnosis of cardiac tumors needs histopathology; however, the location, number, echotexture, and vascularity offer some clues (diagram, table)



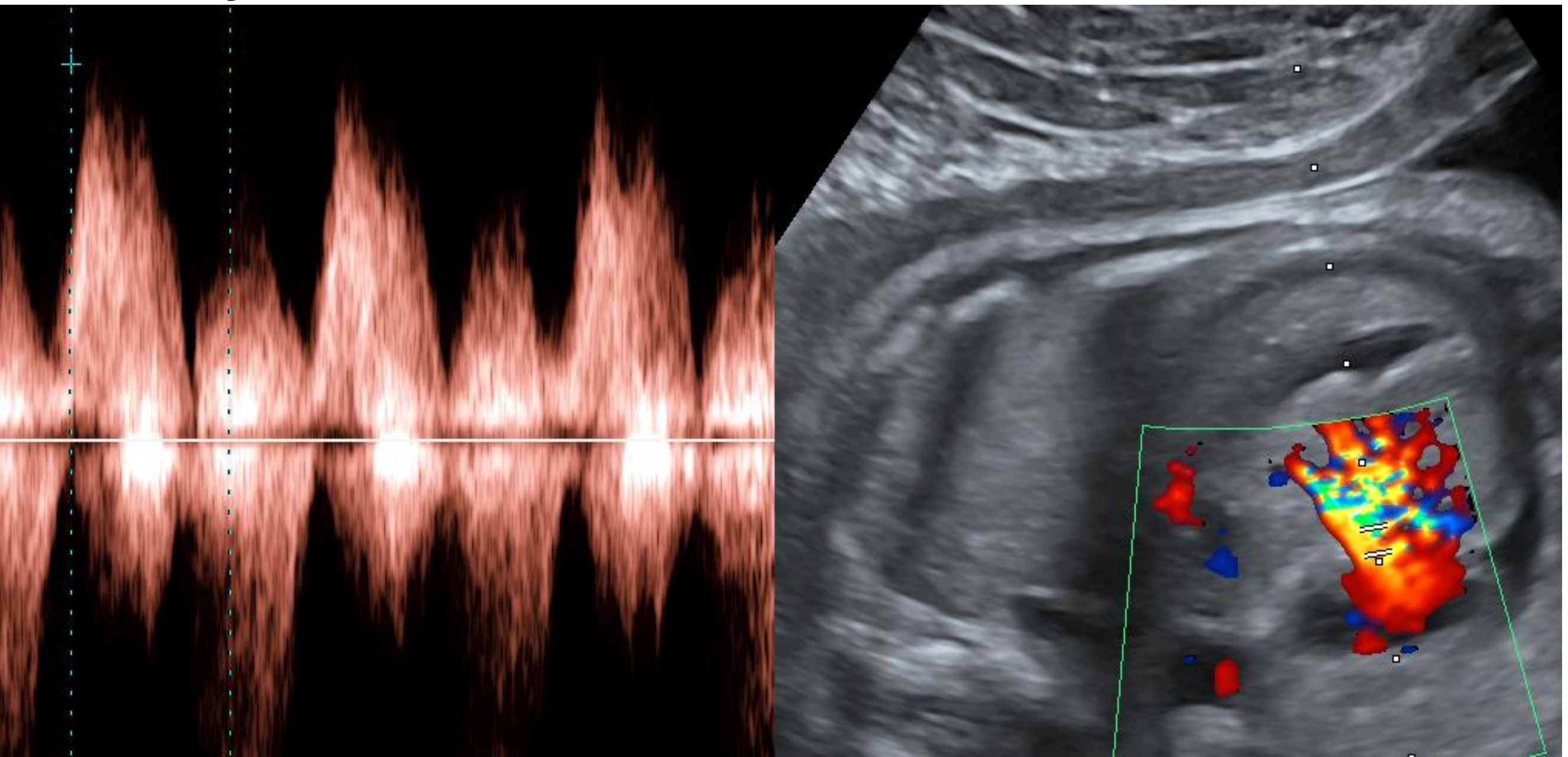
Tumor. Prevalence)	Common location	Grey-scale ultrasound	Doppler	Association
Rhabdomyoma (50-80%)	Ventricular walls, IVS (Usually multiple) No 1 in diagram	Well demarcated, uniformly echogenic	Avascular	Tuberous sclerosis Arrhythmia, outflow obstruction Can resolve spontaneously
Teratoma (20-25%)	Intrapericardial, Attached to the openings SVC/IVC No 2 in diagram	Solitary, encapsulated Complex Calcifications possible	Variable	Almost always Pericardial effusion Tamponade possible
Fibroma (12%)	LV free wall or IVS No 3 in diagram	Solitary, sessile or lobulated. hypoechoic to heterogeneous Areas of degeneration and calcification	Highly vascular	CCF Hydrops
Hemangioma (rare)	Right atrium or interatrial septum No 4 in diagram	Solitary, sessile or lobulated	Highly vascular	CCF, Hydrops
Myxoma (Very rare)	Left or right atrium No 5 in diagram	Often pedunculated		Can prolapse through AV valves and obstruct valves
Lipoma Exceptionally rare	Cardiac wall (ventricular or atrial) Pericardium Not depicted	Highly echogenic Homogenous	Avascular	Slow growing Clinically silent



A; fetal cardiac mass (M) at 24 weeks. Note septal location and large vascular channels entering from the right ventricle (curved arrow). The mass is already encroaching upon the ventricles, LV, left ventricle. RV, right ventricle



B, C,. dual display at 34 weeks; the mass (M, arrows) has grown significantly; it has almost obliterated the right ventricle and distorted the left ventricular cavity (LV). Large dilated palmate vascular channels (*) are seen , these originate from the root of aorta and represent coronary fistulas



D. Biphasic, bidirectional flow with flow throughout the cycle typical of a coronary fistula.