PICTORIAL CME

Coronary AV Fistula

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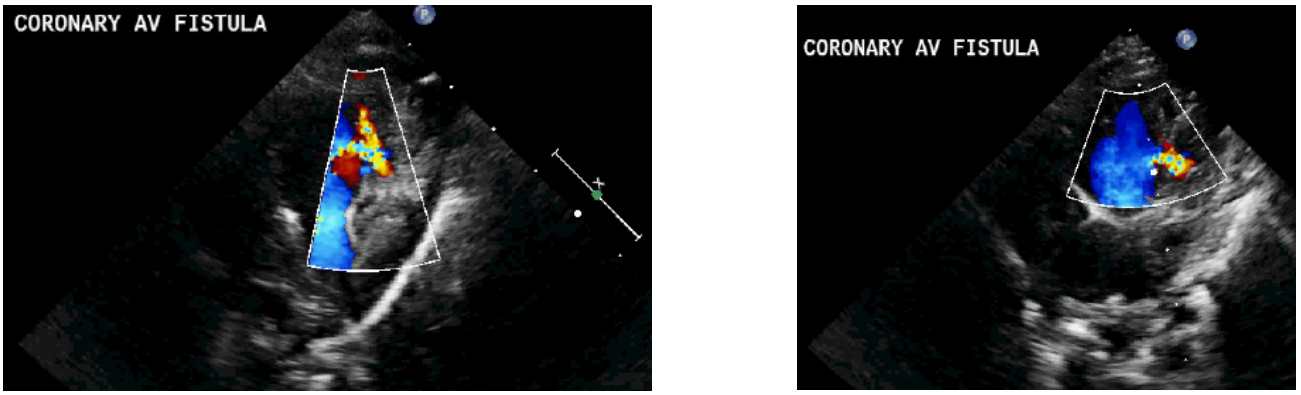

Fig. 1: Color flow signals from right coronary artery to right ventricle

A one month child was admitted in department of pediatrics of our college with fever. He was found to have continuous murmur at apex and was referred to us for echocardiography. Echocardiography showed patent foramen ovale. There was suggestion of dilatation of right coronary. On color Doppler, there was continuous color flow into the right ventricle (Figure 1) suggestive of coronary AV fistula (CAVF)

CAVF involves a sizable communication between a coronary artery, bypassing the myocardial capillary bed and entering either a chamber of the heart (coronary-cameral fistula) or any segment of the systemic or pulmonary circulation (coronary arteriovenous fistula.[1] CAVF are thought to arise due to the persistence of embryological sinusoidal connections that allow direct communication between the coronary artery and a cardiac chamber or great vessel.[2] It is the most commonly encountered congenital coronary artery anomaly during cardiac catheterisation with a reported incidence of approximately 0.1–0.2%.[3] Most coronary artery fistulas are small, do not cause any symptoms, and are clinically undetectable until echocardiography or coronary arteriography is performed for an unrelated cause. However, the larger fistulae can cause coronary artery steal phenomenon, which leads to ischemia of the segment of the myocardium perfused by the coronary artery and so may require, closure by surgery or transcatheter technique. The most common finding on physical examination in patients with CAVF is the presence of a continuous murmur, which is commonly heard over the left sternal border and the apex. Transthoracic echocardiography with colour Doppler flow mapping is a useful initial investigation, which may demonstrate aneurysmal dilatation of the feeding coronary artery as well as dilation of the receiving chamber. Coronary angiography is considered the "gold standard" imaging modality for diagnosis of CAVF and definition of coronary artery structure and flow. Newer imaging techniques, such as multidetector CT and MRI provide useful additional information and may be used as an adjunct to coronary angiography.

References

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