Spontaneous closure of a symptomatic coronary artery fistula just within a few days of newborn period

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Introduction: We present a rare case of spontaneous closure of a fistula between the left coronary artery (LCA) and the right ventricle within a few days of newborn period.

Case: A 14-day-old male newborn was referred to our clinic for investigation of tachypnea and cardiac murmur which had been discovered on routine postnatal examination. His medical history was unremarkable. Physical examination revealed mild tachypnea and a continuous murmur at the left lower sternal border. The electrocardiogram was normal while the chest roentgenogram showed mild cardiomegaly. Mild right ventricular enlargement and dilated left coronary artery (LCA) with the inner diameter of 3.3 mm were determined by two dimensional echocardiography. A color flow Doppler echocardiography revealed turbulent flow of a large CAF between the left circumflex artery and the right ventricle (RV), together with resultant continuous turbulent flow pattern (Figure 1 and 2). The neonate was hospitalized in intensive care unit and furosemide was started. During follow-up, his clinical status remained stable and tachypnea gradually resolved. The murmur disappeared four days after hospitalization. Repeat echocardiography was performed and interestingly, no fistula was detected. There have been no symptoms on clinical examination and no evidence of a coronary fistula on follow-up echocardiograms for 10 months of duration.

Conclusion: The spontaneous closure of CAF was found to be more likely in the cases younger than two years with small-sized fistulas opening into the right-sided structures, especially to the RV. Nevertheless, the spontaneous closure is very rare in cases with significant shunt. To the best of our knowledge, this is the first case with documented spontaneous closure of CAF just within the newborn period.

Figure 1:
Apical five chamber view showing a coronary artery fistula arising from the left coronary artery that drainage into the right ventricle

Figure 2:
Parasternal short axis view demostrating a turbulent flow between left circumflex artery and right ventricle