Infective Endocarditis of the Transcatheter Coil Occluder for Ventricular Septal Defect: A Challenging Case Report

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Background:

Infective endocarditis (IE) of a transcatheter coil occluder for a ventricular septal defect (VSD) is a rare but serious complication. It occurs when bacterial infection colonizes the occluder device, leading to vegetation formation and systemic embolization. Treatment involves prolonged intravenous antibiotics, and in some cases, device removal may be necessary. The surgical management of this serious complication is challenging.

Case Presentation:

A 19-year-old male patient presented with signs of IE, three months after percutaneous closure of a 7-mm perimembraneous VSD using a coil occluder (Nit-Occlud® Le VSD-Coil occluder). The patient had a history of daily fever for 40 days before admission to our department, which failed to respond to 10 days of antibiotic therapy. On presentation, there was a high-grade fever, congestive heart failure, and positive blood cultures for Staphylococcus aureus. Preoperative echocardiography showed vegetations on the left ventricular aspect of the VSD occluder with severe aortic regurgitation.

Management:

Cardiac surgery was performed using transaortic approach. There was an extensive pyogenic membrane on the interventricular septum extending to aortic cusps. The device, vegetations, and infected debris were removed, with patch closure of VSD and replacement of the aortic valve. The patient died in ICU, 5 days after surgery as a consequence of septic shock.

Conclusion:

Early diagnosis and surgical management of IE following transcatheter coil occlusion of VSD are crucial to prevent complications like heart failure or embolic events. The clinical and echocardiographic characteristics may guide the appropriate surgical approach for such cases.

Keywords:

Cardiac surgical procedures, septal occluder device, ventricular septal defect, aortic valve, infective endocarditis