Paravalvular leak treatment following transcatheter aortic valve implantation

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A 62-year-old male (ejection fraction: 25%) who had undergone transcatheter aortic valve implantation 5 months ago presented with dyspnea. A severe paravalvular leak (PVL) was diagnosed by echocardiography (Figure 1a). He was considered for PVL device closure. During the procedure, the delivery system of device impingement was stuck on the prosthetic aortic valve stent that attaches to the aortic wall (Figure 1b). The patient underwent an emergent operation. The stuck carrier wire released and retracted (Figure 2a). Since the stent fixing the valve to the wall was endothelized, PVL was repaired with pledgeted suture with separate stitches (Figure 2b). Intraoperative echocardiography revealed minimal PVL.

Figure 1. (a) Echocardiographic image of paravalvular leak (PVL), (b) percutaneous PVL closure device implantation.

Figure 2. (a and b) Surgical view of impingement of the closure device wires.