

Out of the ordinary image in common iliac vein**Common iliac vendeki sıradışı görüntü**

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Answer: b) Venous migration of the ASD occluder device

We would like to present a case of a 52-year-old female with a secundum type atrial septal defect (ASD) who underwent an uncomplicated percutaneous closure with a Sideris ASD occluder device. Two days later, she experienced a gradually increasing swelling and right leg pain. These findings at first suggested that there could be lower extremity deep vein thrombosis. During the process of closing percutaneous ASD, the patient was immobile and there was an intervention via femoral vein; which also brought to our mind the possibility of acute thrombosis at femoral and iliac vein level. However, the venous Doppler ultrasound examination showed no sign of thrombosis neither at the deep venous system nor at the femoral and iliac vein level. In addition, after carrying out an ultrasound examination inside abdomen, the possibility of a venous event was ruled out. For this reason, the possibility of deep vein thrombosis and intra-abdominal space occupying lesion was ruled out as the differential diagnosis. At the level of iliac vein, angiosarcoma can be experienced, even though it is very rare. Because of progressing of symptoms at tumoral iliac vein occlusions, this potential diagnosis was eliminated. In addition, the observation of properly limited total occlusion at the fluoroscopic examination of the iliac vein lumen ruled out the possibility of angiosar-

coma. The fluoroscopy showed right-sided venous migration of the balloon and wire complex and complete occlusion of the right common iliac vein. The emergency fluoroscopy revealed that the device migrated to right atrium, was embolized distally and obliterated the proximal right common iliac vein (Fig. 2A). For percutaneous retrieval of the device, left femoral vein was cannulated in order to visualize the proximal part of the iliac vein. At venography, the patch was observed to be completely prolapsed with the balloon below it and its edges stuck to the ostium of internal iliac vein with a thrombus underneath (Fig. 2B). In order to prevent a major pulmonary or left sided thromboemboli through ASD, we implemented an inferior vena cava filter below the renal veins from the left femoral vein (Fig. 2C, D). We, then incised the right femoral vein and gently pulled back the Sideris balloon, but we failed to retrieve the device, as the balloon seemed to get stuck in the iliac vein. Then, we introduced the back tip of a 0.014 inch guide wire through a Judkins 4 right catheter and tried to puncture the balloon but failed again (Fig. 2E). Afterwards, an endomyocardial biopsy forceps (Fig. 2F), and as a last resort, a Brockenbrough transseptal needle (BRK transseptal needle, St Jude Medical, USA) (Fig. 2G) were utilized, but neither of them successfully punctured the balloon after many attempts. A control venography showed common iliac vein was punctured and dissected (Fig. 2H). Right iliac vein was explored after emergency laparotomy. A 5.0x5.0x5.0 cm³ pelvic retroperitoneal hematoma was also observed. Right common iliac vein was located and the device balloon was successfully punctured transvenously by a 15-gauge needle which completely deflated it. The deflated device was removed through right femoral vein and the postoperative course was uneventful (Fig. 3). The patient was discharged on fifth post-operative day and was scheduled for an ASD patch closure operation 2 months later.

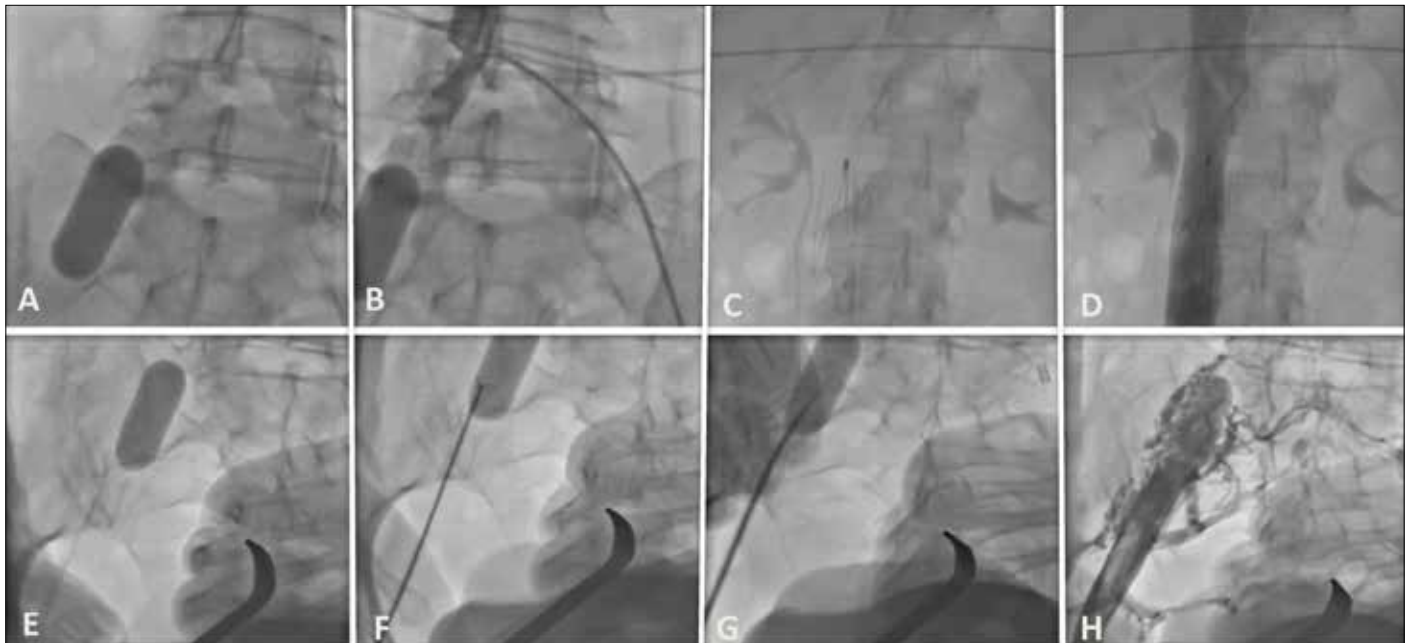


Figure 2. A) The Sideris transcatheter patch device stuck in the right common iliac vein; B) The patch is prolapsed with possible thrombus material beneath it; C and D) Position of inferior vena cava filter; E) First attempt to rupture the balloon with the back-tip of a 0.014" guidewire; F) Endomyocardial biopsy forceps trying to capture the balloon; G) Brockenbrough transseptal needle; and H) Right iliac vein is ruptured/dissected with extravasation of contrast dye

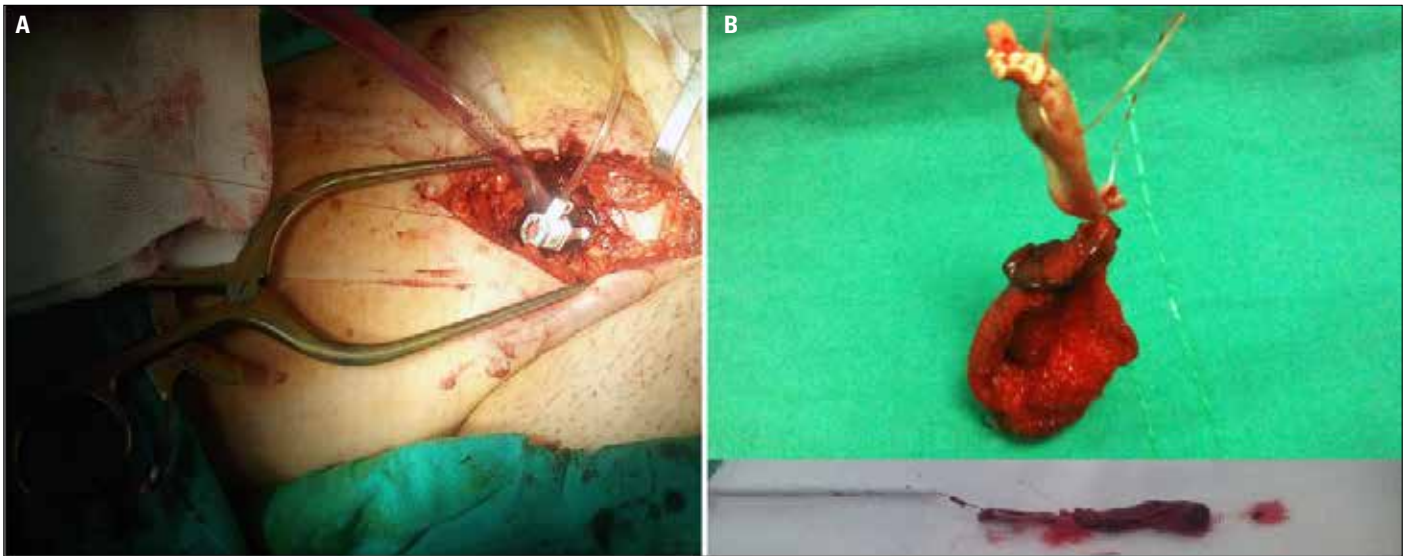


Figure 3. A) The femoral vein was explored via right femoral incision. The suture system of the device was isolated through the vein. After laparotomy, the balloon and patch system was palpated over the right common iliac vein and the balloon was punctured and completely deflated via a 15-gauge needle. B) The freed system was retrieved through the right femoral vein. This figure shows the thrombotic material over the patch system

ASDs are the most common congenital abnormalities in the adults after bicuspid aortic valves with an incidence of 7-10% (1-4). Percutaneous transcatheter closure can be performed without cardiopulmonary bypass thus avoiding the risks of conventional surgery. Therefore, transcatheter ASD closure has evolved to become primary treatment options for patients to entire closure of secundum ASD (1). Potential complications include device embolization, residual shunts, atrial arrhythmias, and ASD/device size mismatch.

Device embolization may theoretically proceed to both sides; right (e.g. right atrial/ventricle and pulmonary artery) or left (e.g. left atrium/ventricle, aorta and iliac artery) part of the cardiovascular system (2). Most of the early closure device complications usually lead to emergency surgical retrieval and correction. Left side device embolization is frequently reported (2, 3), but, to best of our knowledge, right sided embolization of a Sideris transcatheter patch has not been reported previously. Present incident might have occurred due to an over-stretched stabilization stitch and floppy structure of interatrial septum. The bulky and compliant nature of this device could make any basic percutaneous extraction attempt highly unlikely to succeed, as it was in our case.

In conclusion, we report the first right-sided embolization of a Sideris transcatheter patch into the right common iliac vein, which was retrieved via surgical approach after many percutaneous attempts utilizing various techniques failed. We would also like to suggest early surgical extraction in a similar case

with this device, in order to avoid any unforeseen complications due to percutaneous approach.

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