thrombus promptly and start anticoagulant therapy as quickly as possible before infarction.

Thrombus in the stump of the PV after lung resection is rare; only 3 case reports have been published worldwide. However, we observed 3 cases of such thrombi in a single institution within a few years. We assumed that routine enhanced CT would show PV thrombus. We have occasionally encountered patients with a history of lung resection in whom cerebral infarction developed. This might have been caused by clinically undetectable thrombus in the stump of the PV. First, we think it is necessary to know the frequency and peak time of onset by performing periodic enhanced CT on many patients after lobectomy.

CONCLUSIONS

We described 3 patients with thrombus in the stump of the LSPV after video-assisted thoracoscopic left upper

lobectomy. Periodic enhanced CT might be useful to avoid organ infarction secondary to PV thrombosis after left upper lobectomy.

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Delayed bleeding after transapical aortic valve implantation

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Bleeding from apical access early after transapical transcatheter aortic valve implantation (TAVI) is a known complication, reported in 4.8% of the patients in the TRAVERCE trial.¹ A case of delayed bleeding has been reported by Masson and associates,² but it is not clear when the complication happened (weeks to months).

We herein report the case of a patient who was readmitted 10 months after a successful transapical TAVI with a pseudoaneurysm at the apical level, which, very likely, caused hemoptysis.

CLINICAL SUMMARY

An 82-year-old man underwent transapical TAVI on June 16, 2010, because of severely symptomatic aortic stenosis.

The Society of Thoracic Surgeons score and logistic EuroSCORE were 9.3 and 21.32, respectively. He had a systemic disease (lymphoma) that, together with diffuse calcifications of the ascending aorta, contraindicated cardiopulmonary bypass. The presence of peripheral vascular disease prevented the transfemoral approach. A No. 26 Sapien valve (Edwards Lifesciences, Inc, Irvine, Calif) was implanted transapically. His postoperative course was complicated by a transient renal impairment, but he was discharged after 11 days in good conditions. Both the chest x-ray film and echocardiogram showed no pathologic findings. Inasmuch as he was living more than 1,500 km away from our center, he never came to any follow-up appointment.

On June 11, 2011, he was admitted urgently because of hemoptysis, which had started 4 days earlier. A chest x-ray film showed an important opacity on the left side (Figure 1). A bronchoscopic examination, immediately performed, showed active bleeding from the lower left lobe. At this level there was a shiny lesion that easily bled if touched. A computed tomographic scan (Figure 2) showed a huge pseudoaneurysm arising from the site of the previous surgical approach, extending to the left side of the chest. The echocardiogram confirmed this finding and showed a well-functioning aortic prosthesis. The patient underwent reoperation on June 12. Cardiopulmonary bypass had to be instituted to free the previous adhesions and to control the

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FIGURE 1. Chest x-ray film showing a huge opacity on the lower part of the left side of the chest.

bleeding site. This was exactly in the middle of the purse-string suture, without any sign of infection. Two Prolene polypropylene 3-0 U pledget-supported sutures (Ethicon, Inc, Somerville, NJ) were applied and the bleeding was easily controlled. The postoperative course was uneventful and the patient was discharged 8 days later. Even though nothing was done at the bronchial level, hemoptysis disappeared immediately after the operation. The patient refused to have a baseline bronchoscopic examination before being discharged.

DISCUSSION

Since the introduction of the TAVI via the transfemoral approach first and the transapical one later, we are still discovering complications that initially were only potential but later became actual. The incidence of delayed bleeding from the apical access is not clear in the literature, but it appears to be rare.² In the case we report, it is not clear whether the pseudoaneurysm developed weeks or months after the operation. Possibly, this serious complication caused another even more serious complication, hemoptysis. Inasmuch as it disappeared immediately after the operation, a causal mechanism was evident, even if not easy to explain,

FIGURE 2. Computed tomographic scan showing the pseudoaneurysm, partially filled with thrombi.

as, apparently, there was no direct communication between the pseudoaneurysm and the bronchial tree. It is very likely that the huge pseudoaneurysm was compressing the lower left lobe and also a bronchial artery that was supplying the lobe. Erosion of this artery caused the bleeding seen at bronchoscopy, which subsided after surgical decompression.

This case underlines the necessity of a strict follow-up after transapical TAVI and reports a possible new procedural complication (hemoptysis) as a consequence of apical pseudoaneurysm, which can develop without any clinical sign.

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