A 6.5-cm asymptomatic infrarenal aortic aneurysm was detected by contrast-enhanced computed tomography (CT) scan in a 70-year–old patient. Initially, there were no signs of aortic or periaortic inflammation (Figure 1), and complete blood cell count, renal function, and C-reactive protein levels were normal. Aneurysm repair was indicated, and the patient underwent endovascular aneurysm repair using an aorto-bi-ilac stent graft (Endurant II, Medtronic Inc, Minneapolis, MN). Routine follow-up contrast-enhanced CT scan was performed on the third postoperative day and showed correct stent graft position without evidence of abnormalities (Figure 2). At routine follow-up after 3 months, the patient presented with back pain. Contrast-enhanced CT scan demonstrated periaortic inflammation and hydronephrosis grade I to II on the left side attributed to an obstruction of the left ureter (Figure 3). Blood test revealed a C-reactive protein level of 3.8 mg/dL and a newly elevated serum creatinine level of 1.4 mg/dL (estimated glomerular filtration rate, 50 mL/min per meter squared). Ureteric obstruction was treated conservatively. Suspecting a periaortitis, the patient was commenced on corticosteroids using Prednisolone (initial dose, 80 mg/d; maintenance dose, 4 mg/d). We performed another clinical examination and CT scan 1 month later. The patient was free of symptoms. CT scan showed a significant reduction of periaortic inflammation and no more evidence for ureteric obstruction (Figure 4). Renal function returned to normal values, and the C-reactive protein level dropped down to 1.7 mg/dL. Further examinations, including blood test and CT scan, were done 3, 6, and 12 months later. The patient was still free of symptoms, and renal function and C-reactive protein level were normal. CT scan showed ongoing reduction of inflammation at month 3 and a stable disease at months 6 and 12 (Figure 5). Steroid therapy was ceased after 12 months.

Primary inflammatory abdominal aortic aneurysms present in 3% to 10% of all abdominal aortic aneurysms. In contrast to primary inflammatory abdominal aortic aneurysms, secondary periaortitis after endovascular aneurysm repair seems to be a rare complication. The exact mechanism for secondary inflammation after endovascular procedures remains unclear. In a sheep model, an inflammatory perigraft response after implantation of Dacron covered stent grafts into iliac vessels could be shown. Schurmann et al showed an increased incidence of serum antibodies to oxidized low-density lipoproteins. Low-density lipoproteins are often found in the atherosclerotic plaques of the abdominal aorta. Consecutively, an autoimmune inflammation of the aortic wall is suggested. It is considered that idiopathic retroperitoneal fibrosis (Morbus Ormond), perianeurysmatic retroperitoneal fibrosis, and secondary inflammatory abdominal aortic aneurysm may be related pathologies. Linked to the treatment of those disorders, corticoids were used.

Disclosures
None.

References
Figure 1. Computed tomography (CT) scan demonstrating asymptomatic infrarenal aneurysm.

Figure 2. Routine follow-up CT scan on the 3rd postoperative day.

Figure 3. CT scan after 3 months showed a soft tissue mass (11 mm) surrounding the infrarenal aortic aneurysm (arrows).

Figure 4. A significant reduction of periaortic soft tissue mass (7 mm) was shown (arrows).
Figure 5. Stable diseases after 1 year.
Periaortitis as a Rare Complication After Endovascular Aneurysm Repair
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