Para-Aortic Lymphoma Simulating Mycotic Abdominal Aortic Aneurysm

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A 70-year-old man presented with 6 months’ history of progressively severe backache and left frank pain. Past history was significant for an aortobifemoral Dacron bypass graft performed 11 years ago for intermittent claudication attributable to aortoiliac occlusive disease. A contrast computed tomography (CT) scan showed a slight irregularity around the pararenal aorta without other abnormalities. Because of persistent symptoms, a positive emission tomography-CT scan was performed that showed a large pseudoaneurysm measuring 6.1×3.8×2.8 cm arising from the juxtarenal aorta above the previous aortic graft (Figure 1) with an associated retroperitoneal soft tissue mass encasing the left renal artery with a standardized uptake value of 22.5 (Figure 2). At this stage, the differential diagnosis was of juxtarenal aortic mycotic aneurysm or an anastomotic pseudoaneurysm with contained rupture, or retroperitoneal tumor with aortic invasion. The patient was referred to our tertiary vascular center for further management.

On admission, the patient was frail. The blood test revealed pancytopenia (white blood cells, 4.0×10^9/L; hemoglobin, 10.2 g/dL; platelets, 131×10^9/L) and raised lactate dehydrogenase of 861 U/L (normal range, <0.76 mg/dL) and 117 mm/h (normal range, 0–10 mm/h), respectively. Repeated blood cultures were negative.

Because the patient was symptomatic and deemed unfit for open repair, with the inherent risk of contained rupture, we decided to temporize the condition with parental ceftriaxone and repaired the pseudoaneurysm in the endovascular approach. A bifurcated device (Endurant ENBF 28-13C-120; ENLW 16-13C-95; Medtronic, MN) was chosen in view of the short distance between the renal arteries and the previous graft. The stent graft was positioned above the previous prosthetic aortic graft, reaching the renal arteries at the top and landed on both aortic graft limbs (Figure 1).

The patient’s condition remained unimproved postoperatively. The retroperitoneal mass persisted despite successful exclusion of the aorta pseudoaneurysm and antibiotics (Figure 4). Diagnosis of retroperitoneal tumor was more likely at this stage. Hence, a CT-guided Tru-Cut biopsy of the retroperitoneal mass was performed. It revealed foci of viable perivascular tumor cells with nuclei pleomorphism. Immunohistochemistry staining showed the expression of B-cell marker CD20 and BCL2. The Ki-67 index was 70%. The features were consistent with diffuse large B-cell lymphoma (Figure 5). Chemotherapy with the use of the IMVP-16 regimen (ifosfamide, methotrexate, etoposide) was commenced. The patient eventually died 1 year after the aortic intervention. Aortic pseudoaneurysm with periaortic mass as a presentation of diffuse large B-cell lymphoma invasion is extremely rare, with <10 cases reported worldwide. Chisholm et al found that lymphoma was responsible for 54% of patients with para-aortic mass >5 cm in diameter. All patients showed a combination of gross aortic displacement and enlarged mesenteric lymph nodes in CT scans. Positive emission tomography-CT scan may improve the diagnostic accuracy because diffuse large B-cell lymphoma and Hodgkin lymphoma belong to the group of intensely 18F-fluorodeoxyglucose–positive emission tomography avid tumors. We believe that aneurysms associated with lymphoma should be treated because there is a theoretical concern for aortic wall rupture after chemotherapy. Palm et al reported a case of acute expansion and subsequent rupture of an abdominal aortic aneurysm in a patient receiving chemotherapy for pancreatic cancer. Endovascular repair provides an alternative approach in a situation when open repair appears hazardous and anatomy is suitable.

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Disclosures
None.

References

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Figure 1. Computed tomography scan showed the presence of pseudoaneurysm with inflammatory lesion around the aorta. in (A) axial and (B) coronal cuts.

Figure 2. Positive emission tomography-computed tomography showed a large left retroperitoneal mass with positive uptake. in (A) axial and (B) coronal cuts.

Figure 3. A, Aortograms showed the presence of aortic pseudoaneurysm. B, Exclusion of pseudoaneurysm was confirmed after the placement of a stent graft.

Figure 4. Reassessment the computed tomography scan confirmed the exclusion of the pseudoaneurysm after endovascular stent graft placement with the preservation of (A) para-visceral and (B) renal arteries. However, the periaortic inflammatory lesion still persisted. A indicates anterior; L, left; P, posterior; and R, right.

Figure 5. Diagrams showing the histological features of the periaortic mass. A, The biopsy showed atypical lymphoid cells of large size arranged in sheets. Necrosis was present in the adjacent areas (×200). The atypical lymphoid cells expressed CD20, the B-cell marker (×200; B), and bcl-2 (×200; C). D, The proliferative Ki-67 index was ≈70% (×200).
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