Thoracic endovascular stent graft infection

Ho Jong Chun\textsuperscript{a}, Hwan Wook Kim\textsuperscript{b,*} and Keon Hyun Jo\textsuperscript{b}

\textsuperscript{a} Department of Interventional Radiology, Seoul St Mary’s Hospital, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea
\textsuperscript{b} Department of Thoracic and Cardiovascular Surgery, Seoul St Mary’s Hospital, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea

* Corresponding author. 505 Banpo-dong, Seocho-gu, Seoul 137-701, Republic of Korea. Tel: +82-2-22586137; fax: +82-2-5948644; e-mail: kimhwanwook@catholic.ac.kr (H.W. Kim).

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A 63-year old man was referred for suspicious prosthetic graft infection. Compared with computed tomography, fluoro-2-deoxy-D-glucose positron emission tomography showed a higher diagnostic accuracy for the infected prosthetic graft (Fig. 1). After extirpation of the graft, circumventing aortic graft replacement was performed successfully (Fig. 2).

Figure 1: This patient, who had undergone thoracic endovascular aortic repair (TEVAR) on the descending thoracic aorta for suspected intramural haematoma 4 weeks before in a community hospital, was admitted for mild fever (37.5°C) and persistent back pain (A). Two weeks after TEVAR, follow-up computed tomography (CT) from the previous hospital showed crescentic low attenuation in the descending aortic wall, which represented thrombotic organization (B). On this admission, CT revealed fluid collection and a slight increase in the size of attenuation around the endovascular stent graft, compared with the previous CT (C). The standardized uptake value (SUV) at the enhancement site was high (10.4), approaching that of the myocardium (13.3). However, no micro-organisms or leucocytosis was found in blood cultures and samples despite a slight elevation in the C-reactive protein level. Even after empirical antibiotic treatment for suspected endovascular stent graft infection for 1 week, the back pain did not show any decrease in intensity. For further diagnostic clarification, fluoro-2-deoxy-D-glucose positron emission tomography was performed showing focal tracer enhancement at the site of the zone between the aortic wall and the endovascular stent graft (D).
To prevent life-threatening complications, the patient underwent extirpation of the infected endovascular stent graft (A and B) and circumventing aortic bypass surgery with Dacron graft to avoid the infected zone of the thoracic aorta (C). Cultures of the explanted endovascular stent graft showed growth of *Staphylococcus epidermidis*. The patient was discharged without any other complications after 4 weeks of intravenous antibiotic therapy. Fluoro-2-deoxy-d-glucose positron emission tomography showed a better diagnostic accuracy for the detection of endovascular stent graft infection.