Non-curative surgery for aortoenteric fistula

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Abstract
Graft infection with secondary aortic fistula is a rare complication following implantation of aortic prostheses, frequently occurring after emergency procedures and reoperations. The condition is associated with considerable morbidity and mortality [1, 2]. Early identification of the septic patient, appropriate diagnostic approach, source control, targeted antibiotic treatment and individualized surgery are key elements to successful treatment. This case report presents an unusual course following non-curative surgical treatment for aortoenteric fistula.

INTRODUCTION
Aortic graft infection with secondary aortoenteric fistula is a rare complication to aortic surgery, associated with increased morbidity and mortality [1, 2]. Early identification of the septic patient, appropriate diagnostic approach, source control, targeted antibiotic treatment and individualized surgery are key elements to successful treatment. This case report presents an unusual course following non-curative surgical treatment for aortoenteric fistula.

CASE DESCRIPTION
A 75-year-old woman with a history of cholecystectomy and surgery for breast cancer was admitted in 2003 with a 10 cm large ruptured infrarenal abdominal aortic aneurism (AAA). Immediate surgery with implantation of a polyester tube graft was performed. Postoperatively, sepsis due to Staphylococcus aureus occurred. The source was not identified, and Penicillin and Ciprofloxacin were administered intravenously for 3 weeks until discharge.

Three months postoperatively, she was admitted with sepsis and pain in her right foot. Computer tomography (CT) confirmed a planar abscess which was treated surgically. Intravenous Ciprofloxacin and Cloxacillin were administered for 10 days followed by oral antibiotics for 1 week. Supplementary CT angiography (CTA) was performed, revealing a 4.2 cm large pseudoaneurysm at the cranial graft anastomosis. Microbiological cultures grew negative. The patient responded following 3 weeks of intravenous Cloxacillin. The pseudoaneurysm was followed with ultrasound every 6 months until a diameter of 5.2 cm in December 2004. To exclude the pseudoaneurysm, a stentgraft (Endurant®, Both authors contributed equally.

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Aortic graft infection has an incidence of 0.5–6% with secondary aortoenteric fistula occurring in 20–45% [2]. Risk factors include postoperative bacteremia, emergency surgery high-risk patient and redo surgery [3], present in this case except the latter. Heterogeneity of the patient population, different surgical methods and multitude of microbes involved make it difficult to compare studies [2]. However, operative mortality of 20–50% and survival rate of 50% at 24 months is reported [2, 4].

Regarding curative surgery, there are two main methods. (i) In situ graft replacement using an antibiotic-soaked prosthesis, a silver prosthesis or a lower extremity vein graft restores circulation of the lower body and avoids leaving a closed aortic stump which carries a risk of blowout. (ii) Implantation of an axillofemoral bypass to maintain circulation of the lower limbs followed by aortic graft excision, leaving a closed infrarenal aortic stump. The second method has limited long-term patency but avoids lower limb ischemia during surgery, thereby decreasing operative risk. Our patient had significant risk factors at the time of diagnosis and it was therefore decided to refrain from graft explantation. Stentgrafts can reduce immediate risk, acting as bridging therapy in inaccessible areas, active bleeding and high-risk patients, as in this case. Subsequently, the aortoenteric fistula recurred and was treated with another stentgraft in 2014. It recurred once again in 2016 (Fig. 2) to be left to conservative treatment only.

Surprisingly, the patient has survived more than 14 years after surgery for ruptured AAA and 12 years after non-curative surgery for aortoenteric fistula.
CONFLICT OF INTEREST STATEMENT

None declared.

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