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Use of Physician-Made Bovine Pericardium Graft to Treat Infection After Endovascular Repair of Abdominal Aortic Aneurysm: A Case Report

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Abstract

Graft infection is a rare but life-threatening complication after endovascular aortic repair (EVAR). This case adds to the limited literature on dental procedure-associated late-stage endograft infection. We report a case of a 65-year-old male who developed a methicillin-susceptible *Staphylococcus aureus* endograft infection, five years after an elective EVAR, two months after a dental extraction performed without antibiotic chemoprophylaxis. After conservative treatment failed, the patient underwent complete removal of the infected endograft and in-situ reconstruction of the aorta with a physician-made bovine pericardium. Postoperative recovery was complicated by acute kidney injury requiring long-term hemodialysis; at follow-up, the patient demonstrated stable graft patency, normalized inflammatory markers, and no evidence of reinfection. This case supports bovine pericardium as a reliable biological material in complex vascular reconstruction. It underscores the need for strict antibiotic chemoprophylaxis before invasive dental procedures in stent graft patients and highlights the importance of early multidisciplinary diagnosis and prompt intervention in improving prognosis.

Categories: Cardiac/Thoracic/Vascular Surgery, Infectious Disease
Keywords: abdominal aortic aneurysm, bovine pericardium, case report, endovascular aortic repair, in-situ reconstruction, stent graft infection

Introduction

Infection after endovascular aortic repair (EVAR) has an incidence rate of less than 2% [1,2]. Specific estimates vary considerably between studies, depending on study design, patient population, and the number of patients included [3]. Despite its low incidence, it remains an extremely challenging complication in vascular surgery, often leading to significant morbidity and mortality. Its diagnosis relies on the criteria established by the Management of Aortic Graft Infection Collaboration (MAGIC), which combine clinical, radiological, and microbiological findings [3,4]. The pathogens most commonly associated with these infections are Gram-positive cocci; however, Gram-negative bacilli, fungi, or other microbes may also be present [1-7]. There is no definitive therapeutic intervention. Options range from a conservative approach to radical surgery, which remains the preferred approach despite its associated risks [8,9]. While dental procedures are a recognized source of transient bacteremia, reports of subsequent endograft infection remain exceedingly rare in the literature, underscoring the importance of documenting this association.

We present a case of a 65-year-old male who developed an aortic stent graft infection after a dental procedure without prior antibiotic chemoprophylaxis. This unfavorable outcome was effectively treated by complete explantation of the infected endograft and reconstruction of the aorta with bovine pericardium, aligning with this material's proven efficacy in vascular surgery and the need for adequate chemoprophylaxis in patients with stent grafts [7]. This case has been reported in line with the CAse REport (CARE) guidelines [10].

This report was previously presented as an oral presentation at the 32nd Scientific Congress of Hellenic Medical Students (S.C.H.M.S.) and the 20th Forum of Medical Students and Junior Doctors with International Participation, Congress Center Du Lac Hotel, Ioannina, Greece, April 24-26, 2026.

Case Presentation

Patient information

A 65-year-old male presented to a local clinic complaining of a fever up to 39°C, rigors, acute lower back pain, and diarrhea, all spanning a six-day duration prior to admission. His significant past medical history included only arterial hypertension. The patient had undergone an elective EVAR in 2020 for an abdominal aortic aneurysm. The stent was positioned infrarenally and extended to the common iliac artery bifurcation.

Additionally, his surgical history noted an open cholecystectomy in 2022 and a dental extraction performed without antibiotic prophylaxis two months prior to the onset of his symptoms. The timeline is summarized in Table 1.

Timeline	Event
Five years ago	Elective EVAR performed for infrarenal abdominal aortic aneurysm
Three years ago	Open cholecystectomy
Two months ago	Dental extraction performed without antibiotic chemoprophylaxis (2 months prior to symptom onset)
Day 1	Onset of fever, rigors, lower back pain, and diarrhea
Day 7	First hospital evaluation; CRP 222 mg/L; empirical antibiotics initiated (6-day delay from symptom onset to first evaluation)
Day 28	Transfer to a second hospital due to persisting symptoms (21-day delay from first evaluation to transfer; 27-day delay from symptom onset)
Day 38	Surgical explantation and in-situ bovine pericardium reconstruction (10-day delay from transfer to surgery; 37-day delay from symptom onset to definitive intervention)
Day 38 to Day 52	14-day postoperative ICU stay
Three-month follow-up	Resolution of retroperitoneal hematoma and pleural effusions
Six-month follow-up	CRP levels of 8.1 mg/L
Seven-month follow-up	CRP levels further dropped to 2.5 mg/L
Eight-month mark	Completion of IV antibiotic course; transition to oral regimen
Nine-month follow-up (time of writing)	Stable graft patency, no evidence of reinfection

TABLE 1: Timeline of clinical events.

EVAR: endovascular aneurysm repair

His outpatient medication regimen consisted of acetylsalicylic acid 100 mg daily and valsartan 80 mg daily. The patient had no known drug allergies or adverse reactions. There was no significant family history of cardiovascular, vascular, or infectious disease, and systemic review was otherwise unremarkable, with no reported headache, chest pain, dyspnea, urinary symptoms, or joint pain.

Diagnostic assessment

The patient's symptoms started on day one. On day seven, he was evaluated at a local hospital where laboratory investigations revealed a significantly elevated C-reactive protein (CRP) level of 222 mg/L. Based on a high clinical suspicion of a methicillin-resistant *Staphylococcus aureus* (MRSA) stent graft infection, empirical antibiotic therapy was initiated with intravenous (IV) meropenem 1 g every 8 h and IV linezolid 600 mg every 12 h.

Initial computed tomography (CT) of the chest and abdomen, along with chest CT angiography (with and without contrast), showed a small infrarenal posterior aortic endoleak, without evidence of frank aneurysmal rupture. Due to persistent fever, rigors, and lower back pain, the patient was transferred and admitted to a different hospital on day 28. On admission, he was hemodynamically stable, with a blood pressure of 154/88 mmHg and a heart rate of 82 beats per min.

A key diagnostic challenge was the initial sterility of blood cultures despite high clinical suspicion of graft infection. In the absence of positive microbiological confirmation at this stage, the diagnosis was pursued through a combined assessment of clinical findings and laboratory tests, which showed elevated white blood cell (WBC) and CRP levels, in accordance with the Management of Aortic Graft Infection Collaboration (MAGIC) criteria.

Repeated contrast-enhanced abdominal CT and CT angiography showed loss of continuity of the aneurysmal sac, with perigraft fluid collection and extraluminal gas pockets surrounding the graft and the abdominal aorta, extending into the retroperitoneal space and left psoas major muscle (Figures 1, 2).

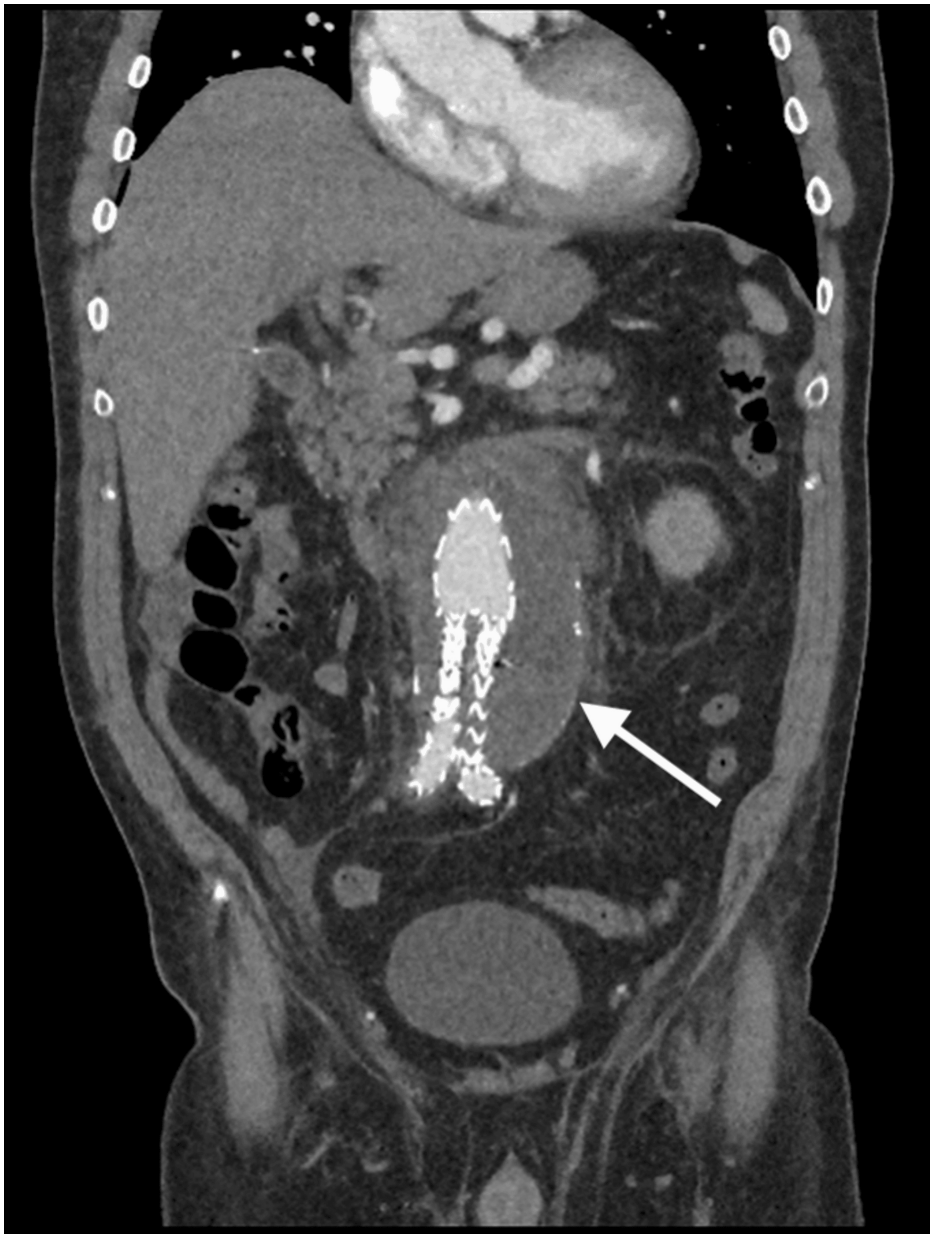


FIGURE 1: Preoperative contrast-enhanced computed tomography demonstrating perigraft fluid collection and extraluminal gas pockets extending to the left psoas major muscle (arrow); coronal plane.

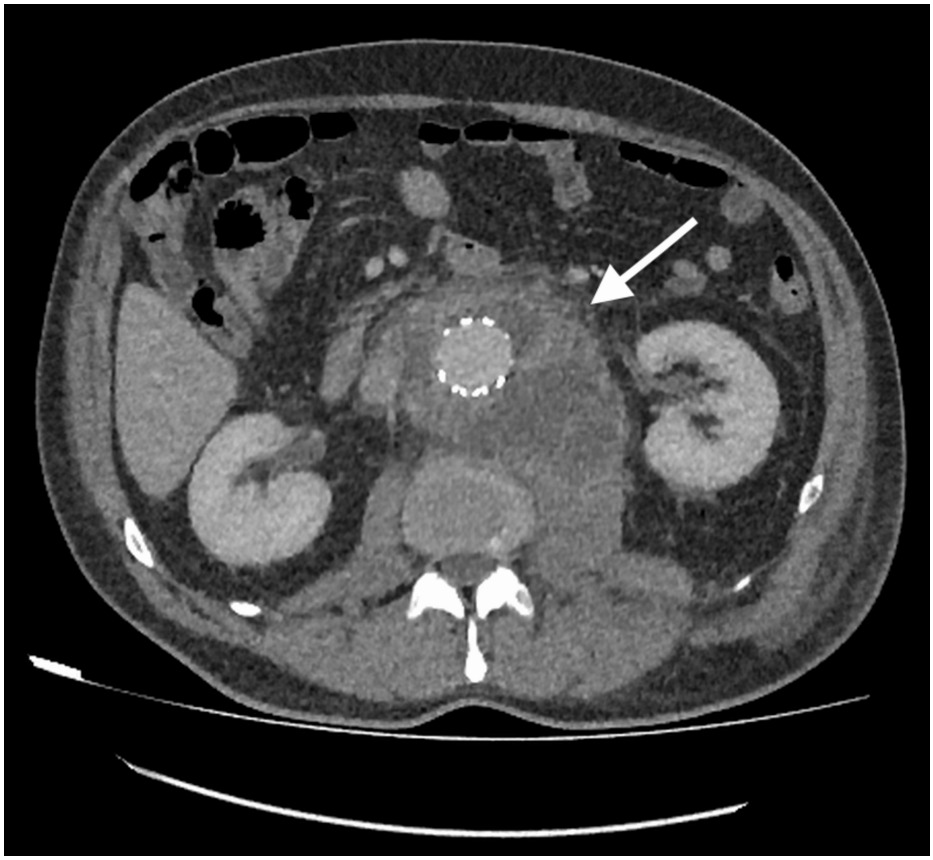


FIGURE 2: Preoperative contrast-enhanced computed tomography demonstrating perigraft fluid collection and extraluminal gas pockets extending to the left psoas major muscle (arrow); axial plane.

These radiological findings, along with peripheral fat stranding and reactive retroperitoneal lymphadenopathy, confirmed a graft infection complicated by a contained rupture of the aneurysmal sac. Subsequent cultures confirmed a methicillin-susceptible *Staphylococcus aureus* (MSSA) infection of the endograft. Consequently, antibiotic therapy was narrowed to IV oxacillin 2 g every 4 h and IV rifampin 300 mg daily. The diagnosis of aortic graft infection was established using the Management of Aortic Graft Infection Collaboration (MAGIC) criteria [3,4].

Major Criteria

The major criteria include perigraft pus (clinical/surgical) and increasing perigraft fluid and gas on imaging (radiological). Preoperative contrast-enhanced computed tomography demonstrated an enlarging perigraft fluid collection with extraluminal gas pockets, and perigraft pus was identified intraoperatively, fulfilling both major criteria.

Minor Criteria

The minor criteria included fever above 39°C and localized lower back pain (clinical/surgical), elevated inflammatory markers (WBC and CRP), and positive blood cultures with the aortic endograft as the only identifiable source of infection (laboratory). Our patient fulfilled minor criteria in both categories, as detailed in this section.

Therapeutic intervention

Preoperatively, the patient's infectious and hemodynamic status was optimized with continued targeted antibiotic therapy (IV oxacillin and rifampicin). Preoperative laboratory findings (day 36-37) showed hemoglobin: 9.2 g/dL, platelets: $515\times10^3/\mu L$, WBC: $7.57\times10^3/\mu L$, international normalized ratio (INR): 1.62, and CRP: 26.39 mg/L.

The patient underwent surgery on day 38 under general anesthesia, positioned supine. The incision used was a midline laparotomy skirting the umbilicus to the left. The surgical approach consisted of the complete

explantation of the infected endograft, followed by radical local debridement and in-situ reconstruction utilizing a bovine pericardium graft (XenoSure biologic patch; Burlington, MA: LeMaitre Vascular, Inc.). A 10-by-16 cm bovine pericardium patch was prepared and tailored ex vivo to match the patient's specific anatomy. The graft was fashioned into a bifurcated configuration to facilitate the reconstruction of the abdominal aortic bifurcation, extending bilaterally to the common iliac arteries, using a nonabsorbable 3-0 Prolene suture. A supplementary segment was incorporated to extend the graft into the left iliac artery. A schematic drawing of the graft is shown in Figure 3.

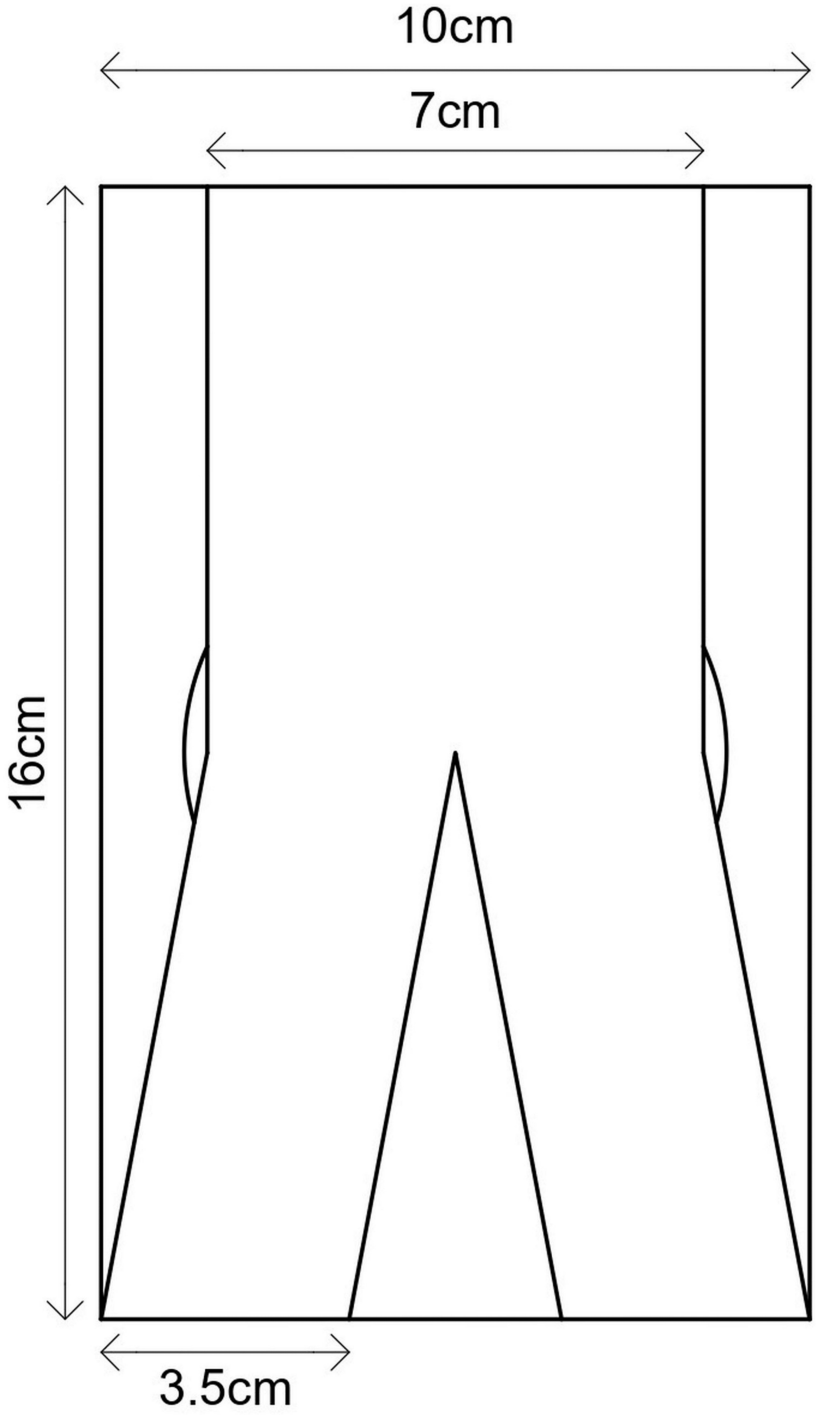


FIGURE 3: Schematic drawing demonstrating the personalized preparation of the bovine pericardial graft. A 10-by-16 cm sheet was used to replace the abdominal aorta, extending to the common iliac artery bifurcation.

This image was created by Anna Spanou using AutoCAD (San Rafael, CA: Autodesk, Inc.).

After the graft was constructed, the abdominal aorta was mobilized from the level of the superior mesenteric artery down to the iliac axis, extending to the common iliac arteries. Due to the extensive infectious inflammation, further proximal preparation was performed at the supraceliac (subdiaphragmatic) level to control the aorta and facilitate immediate subdiaphragmatic clamping in the event of intraoperative rupture.

Initially, a suprarenal aortic clamp was positioned. During subsequent preparation, the aorta sustained a

spontaneous rupture secondary to severe wall erosion caused by the ongoing infection. Profuse hemorrhage was successfully controlled via the pre-emptively prepared subdiaphragmatic aortic clamp. To maintain hemodynamic stability, the patient was aggressively resuscitated, receiving 10 units of packed red blood cells (PRBCs) and 9 units of fresh frozen plasma (FFP). The patient's blood group was A Rh(D)-positive.

Following control of the hemorrhage, thorough debridement of all infected and necrotic retroperitoneal tissues was performed, accompanied by copious irrigation of the surgical field with a rifampin solution at a concentration of 2.4 mg/mL (600 mg of rifampin diluted in 250 mL of 0.9% normal saline). Notably, adequate perfusion of the kidneys could not be salvaged due to the extensive erosion and destruction of the renal arteries by the infectious process. The procedure was completed with successful anastomosis of the tailored bifurcated bovine pericardium graft (Figure *4*). To separate the reconstructed aorta from the surrounding retroperitoneal space and provide an additional biological barrier against reinfection, the graft was completely covered and protected using a mobilized pedicled omental flap.



FIGURE 4: Bifurcated bovine pericardial graft after successful anastomosis.

Follow-up and outcomes

Postoperatively, the patient was admitted to the intensive care unit (ICU), where he remained for 14 days.

Targeted antimicrobial therapy was continued in the ICU with IV oxacillin 2 g every 4 h and IV rifampicin 300 mg daily; following an eight-month course of IV antibiotics, treatment transitioned to an oral regimen. Intraoperative cultures of the explanted endograft and perigraft pus yielded no bacterial growth, most likely attributable to prolonged preoperative broad-spectrum antibiotic administration.

The patient developed severe acute kidney injury secondary to intraoperative renal ischemia and unavoidable loss of renal artery perfusion, with serum creatinine rising from 0.9 mg/dL preoperatively to 7.6 mg/dL on day 57. Renal replacement therapy (hemodialysis) was initiated during the ICU stay, and the patient remained dialysis-dependent at the nine-month follow-up (creatinine: 8.1 mg/dL). Renal laboratory parameters are summarized in Table 2.

Parameters (unit)	Preoperative - day 37	Early postoperative, ICU - day 39	Day 57	Post-ICU - day 60	9-month follow-up
Urea (mg/dL)	13	48	55	33	139
Creatinine (mg/dL)	0.9	1.6	7.6	4.8	8.1
eGFR (mL/min/1.73 m²)	95	NR	NR	NR	NR
Potassium (mmol/L)	3.5	4.2	3.4	3.1	5.9
Sodium (mmol/L)	136	150	139	140	143

TABLE 2: Renal profile at key time points.

Estimated glomerular filtration rate (eGFR), calculated with the Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) 2021 creatinine equation (male: 65 years) and expressed in mL/min/1.73 m². eGFR was not calculated from day 39 onward because serum creatinine was not at steady state (acute kidney injury), and once renal replacement therapy was initiated during the ICU stay, creatinine reflects dialytic clearance rather than native renal function.

NR: not reported

Postoperative imaging also revealed a localized retroperitoneal hematoma and bilateral pleural effusions, both managed conservatively and completely resolved by the three-month follow-up evaluation. The patient additionally experienced transient postoperative delirium shortly after his ICU stay, which resolved within 48 h following targeted supportive care and psychiatric consultation. No further complications or adverse events were observed.

The patient is followed jointly by the operating vascular surgery team, the nephrology department (given his dialysis dependence), and a consultant infectiologist through regular outpatient review. The long-term follow-up protocol includes serial clinical examinations, inflammatory marker monitoring, ultrasounds, and contrast-enhanced CT angiographies, with a total follow-up duration of nine months at the time of writing.

He demonstrated good adherence to the prolonged antimicrobial regimen and hemodialysis schedule, tolerating both without significant complications; compliance was assessed through regular outpatient review and dialysis attendance records. Serial follow-up demonstrated continuous clinical improvement and stable graft patency without signs of reinfection, reflected by a marked decline in CRP levels from 222 mg/L at presentation to 8.1 mg/L at the six-month follow-up and 2.5 mg/L at the seven-month follow-up. The patient remains alive at nine months after the intervention.

Discussion

Relevant literature

Infection following EVAR is an uncommon yet severe complication in vascular surgery, carrying an exceedingly poor prognosis if left untreated. Although the precise etiology often remains elusive, contemporary literature indicates that the majority of these late-onset infections occur primarily after emergent EVAR rather than elective procedures [1,2], a phenomenon possibly attributed to restricted sterilization time windows in emergency settings [1]. Notably, our patient's initial EVAR in 2020 was performed electively. This finding underscores the relevance of alternative infection pathways in late-onset infections, such as hematogenous seeding from a remote source. In this case, a dental extraction performed without antibiotic chemoprophylaxis represents a significant, and likely underrecognized route of graft contamination.

Microbiological confirmation is ideally sought via serial blood cultures, native aortic tissue or graft biopsies, and aspirates of perigraft fluid collections or ascitic fluid if present [2,8,9,11]. As of a 2020 systematic

review, microorganisms are successfully isolated in 75-98% of cases [3]. However, a significant proportion of diagnostic cultures yield sterile results, primarily due to the preoperative administration of empirical broad-spectrum antibiotics, while according to a single-center review, approximately 25% of positive cultures reveal polymicrobial infections [2,5,6].

Pathogen distribution is heavily dominated by Gram-positive cocci, including *Staphylococcus aureus*, *Staphylococcus epidermidis*, Enterococcus, and Streptococcus species [1,3]. Gram-negative bacilli (*Escherichia coli,* Klebsiella, Pseudomonas, Salmonella) are also frequently involved, followed by fungal pathogens, predominantly *Candida albicans*, and, less commonly, obligate anaerobes such as *Bacteroides fragilis* and *Parvimonas micra* [3,5-7]. Reported frequencies for each pathogen category vary considerably across studies, reflecting differences in patient populations, sample sizes, and diagnostic methodology; therefore, specific percentage estimates were deliberately omitted to avoid inappropriate generalization across heterogeneous data sources.

It is worth mentioning that while viridans group streptococci remain the organisms most commonly implicated in dental-procedure-associated bacteremia and endocarditis, *Staphylococcus aureus* has increasingly been recognized as an etiological agent following invasive dental work [12]. This shift may be partly explained by oral cavity colonization with *Staphylococcus aureus*, which has been documented in patients with periodontitis and other predisposing conditions, supporting the plausibility of a dental procedure-related methicillin-susceptible *Staphylococcus aureus* (MSSA) bacteremia in the present case [13]. Establishing a prompt and accurate diagnosis requires a multimodal approach. While individual clinical presentations vary, the diagnostic cornerstone relies heavily on the Management of Aortic Graft Infection Collaboration (MAGIC) criteria [3,4].

Regarding therapeutic management, a purely conservative approach utilizing lifelong suppressive antibiotic therapy is associated with high mortality rates and is therefore strictly reserved for inoperable patients with prohibitive surgical comorbidities [3,9]. Consequently, radical surgical intervention remains the gold standard. While partial graft removal or graft preservation is occasionally debated in the literature to reduce immediate perioperative strain, complete explantation of the infected endograft combined with aggressive local retroperitoneal debridement provides the lowest risk of persistent infection [2,5,14].

Following total endograft explantation, arterial continuity can be re-established either via extra-anatomical reconstruction (e.g., axillobifemoral bypass) or in-situ reconstruction. Extra-anatomical pathways carry a risk of aortic stump rupture [9], making in-situ reconstruction the preferred method [14]. The choice of conduit material for in-situ repair is critical, with the materials used being either biological (autologous femoral vein or cryopreserved allogeneic femoral vein) or xenoprosthetic, such as bovine pericardial grafts [2].

According to a 2024 meta-analysis, bovine pericardium demonstrates remarkable resistance to reinfection by preventing biofilm formation (reporting a 0% reinfection rate {95% CI: 0.0-1.21}) and an excellent patency rate with a mere 1.20% occlusion rate (95% CI: 0.0-7.71) [7]. Crucially, bovine pericardium grafts offer off-the-shelf availability and possible customization to each patient's anatomy [7,8]. Comparably low reinfection rates (5%) are seen in autogenous vein grafts; however, their utilization is significantly limited by the time-consuming nature of vein harvesting, which is often unfeasible in hemodynamically unstable patients or emergency scenarios [7]. Although overall postoperative complication rates remain high across all conduit types due to the profound physiological stress of these extensive surgeries, these events correlate with the baseline severity of the disease rather than the specific use of bovine pericardium [7,8]. Lastly, a European multicenter study that collected data from 2008 until 2020 (168 patients) noted a 15% 30-day mortality rate and a 50% five-year mortality rate following the procedure [8].

Scientific rationale

This report highlights the successful management of late-onset, life-threatening aortic endograft infection complicated by a contained aneurysmal sac rupture in a 65-year-old male. The key clinical finding was the chronological link between an invasive dental extraction performed without antibiotic chemoprophylaxis and the subsequent development of a stent graft infection. The case also showcases the rarity of an MSSA stent infection secondary to a dental procedure. Even seemingly minor transient bacteremias can result in serious, late-stage endograft seeding and subsequent contained aneurysmal rupture, even more than five years after EVAR. Despite the intraoperative complication of a spontaneous aortic rupture due to severe infectious tissue erosion, immediate supraceliac control and aggressive fluid resuscitation allowed for complete explantation of the infected stent. The rationale for our final clinical conclusions, namely, the efficacy of bovine pericardium and the necessity of dental antibiotic prophylaxis, is firmly grounded in the patient's postoperative outcome. The choice of a 10-by-16 cm bovine pericardial patch, customized into a bifurcated biological graft, protected by a pedicled omental flap, resulted in a patent graft at nine months of follow-up, complete resolution of retroperitoneal collections, and a drastic biochemical improvement, with C-reactive protein levels dropping from 222 mg/L to 2.5 mg/L. Although the extensive local erosion resulted in the loss of renal artery perfusion, leading to expected acute kidney injury and hemodialysis, the eradication of the ongoing sepsis and the prevention of fatal hemorrhage validate this aggressive surgical reconstruction as a life-saving definitive treatment. Placing this case in the context of the broader literature

on aortic endograft infection helps explain both its rarity and clinical significance.

Strengths and limitations

The strengths of this report include its contribution to the limited literature on dental-associated infections of aortic stents resulting in late-stage contained aortic rupture. Additionally, it highlights that management of such complex cases is feasible in the hands of experienced vascular surgery teams, while showcasing the value and efficacy of multidisciplinary participation, such as the nephrology, anesthesiology, and infectious disease teams. Furthermore, this report provides objective follow-up data over nine months after reconstruction, including laboratory tests and radiological imaging.

Several limitations should nevertheless be acknowledged. The authors acknowledge that this is a single case report and therefore cannot be generalized. Although there is strong suspicion of dental-associated bacteremia resulting in endograft infection, the exact transmission mechanism cannot be definitively proven, given the chronological connection of the events, the late-stage nature of the infection, and the clinical correlation between the two. This also calls into question the fact that dental-procedure-associated bacteremia is usually related to Streptococci species; therefore, an MSSA infection is a seemingly unusual result of a dental extraction. Moreover, follow-up is limited to nine months after reconstruction; longer follow-up is needed to assess the durability of the bovine pericardial graft and the risk of late reinfection or degeneration. Finally, broader applicability of this bifurcated, customized bovine pericardium reconstruction technique may be limited by the need for specialized surgical expertise in graft tailoring and the material's variable off-the-shelf availability across centers.

Conclusions

In conclusion, aortic endograft infection may develop years after an uncomplicated elective EVAR, and invasive dental procedures performed without antibiotic chemoprophylaxis should be recognized as a potentially preventable precipitating factor. MSSA infection of the graft, however rare, can occur after a dental procedure. A high index of suspicion must be maintained even when blood cultures are sterile, provided that clinical and radiological criteria are supportive. Pre-emptive proximal aortic control is invaluable when extensive infectious wall erosion is anticipated and may prove life-saving in the event of spontaneous rupture. Finally, a physician-made bovine pericardial graft, reinforced with an omental flap, offers a dependable and adaptable option for in-situ reconstruction of the infected aorta when performed in index specialized centers.

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

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Acquisition, analysis, or interpretation of data: Ioannis Farao, Miranda Fragkou, Afroditi Antoniou, Christina Mimigianni, Christos Lyrtzis, Nektarios Galanis

Drafting of the manuscript: Ioannis Farao, Miranda Fragkou

Critical review of the manuscript for important intellectual content: Ioannis Farao, Miranda Fragkou, Afroditi Antoniou, Christina Mimigianni, Christos Lyrtzis, Nektarios Galanis

Supervision: Afroditi Antoniou, Nektarios Galanis

Disclosures

Human subjects: Informed consent for treatment and open access publication was obtained or waived by all participants in this study. **Conflicts of interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work. **Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. **Other relationships:** All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work.

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categorization of previously published literature on the microorganisms most frequently encountered in aortic endograft infections, by adhering to the journal's guidelines. The authors subsequently conducted rigorous human oversight, independently verified the information, and reviewed the AI-assisted content. The authors take full responsibility for the academic integrity, accuracy, and final content of the submitted manuscript. The authors acknowledge Anna Spanou, an architecture student and friend of the authors, for creating the illustration presented in Figure 3 without compensation. Written permission to reproduce the illustration in this article has been obtained from her.

References

1. Schürmann C, Alkassam H, Dabravolskaite V, Becker D, Weiss S, Kotelis D, Makaloski V: Addressing endograft infection after EVAR. JACC Case Rep. 2026, 31: 10.1016/j.jaccas.2025.106040
2. Järvinen I, Heinola I, Kantonen I, Aho P, Vikatmaa P, Venermo M: Two-decade single-center experience with graft infections after infrarenal endovascular aortic repair. Ann Vasc Surg. 2025, 120:46-56. 10.1016/j.avsg.2025.04.132
3. Chakfé N, Diener H, Lejay A, et al.: Editor's choice - European Society for Vascular Surgery (ESVS) 2020 clinical practice guidelines on the management of vascular graft and endograft infections. Eur J Vasc Endovasc Surg. 2020, 59:339-84. 10.1016/j.ejvs.2019.10.016
4. Lyons OT, Baguneid M, Barwick TD, et al.: Diagnosis of aortic graft infection: a case definition by the Management of Aortic Graft Infection Collaboration (MAGIC). Eur J Vasc Endovasc Surg. 2016, 52:758-63. 10.1016/j.ejvs.2016.09.007
5. Li HL, Chan YC, Cheng SW: Current evidence on management of aortic stent-graft infection: a systematic review and meta-analysis. Ann Vasc Surg. 2018, 51:306-13. 10.1016/j.avsg.2018.02.038
6. Battistella L, Kireche R, Ricco JB, et al.: Outcomes of native or graft abdominal aortic infection managed with orthotopic xeno pericardial grafts or cryopreserved allograft. J Vasc Surg. 2025, 82:90-101. 10.1016/j.jvs.2025.03.182
7. Grills S, El-Diaz N, Walker-Jacobs A, Borucki J, Stather P: Outcomes following use of bovine pericardium (xenoprosthetic) grafts for reconstruction of mycotic aortic aneurysms and infected aortic grafts: a systematic review and meta-analysis. Ann Vasc Surg. 2024, 102:181-91. 10.1016/j.avsg.2023.11.037
8. Weiss S, Mallorqui MH, Czerny M, et al.: Physician made bovine pericardial tube grafts in aortic infection: a European multicentre study. Eur J Vasc Endovasc Surg. 2024, 67:997-1005. 10.1016/j.ejvs.2024.02.004
9. Shukuzawa K, Ohki T, Maeda K, Kanaoka Y: Risk factors and treatment outcomes for stent graft infection after endovascular aortic aneurysm repair. J Vasc Surg. 2019, 70:181-92. 10.1016/j.jvs.2018.10.062
10. Gagnier JJ, Kienle G, Altman DG, Moher D, Sox H, Riley D: The CARE guidelines: consensus-based clinical case reporting guideline development. Glob Adv Health Med. 2013, 2:38-43. 10.7453/gahmj.2013.008
11. Zhang M, Chen Z, Tang C, Liu C, Li X, Liu Z, Qiao T: Strategies and outcomes of different methods for treating abdominal aortic stent graft infection. Front Cardiovasc Med. 2023, 10: 10.3389/fcvm.2023.1180050
12. Donkor ES, Kotey FC: Methicillin-resistant Staphylococcus aureus in the oral cavity: implications for antibiotic prophylaxis and surveillance. Infect Dis (Auckl). 2020, 13: 10.1177/1178633720976581
13. Shu H, Wang X, Wang M, et al.: Surgical management of abdominal aortic graft infection: network meta-analysis. BJS Open. 2024, 8: 10.1093/bjsopen/zrad151
14. Younessi OJ, Walker DM, Ellis P, Dwyer DE: Fatal Staphylococcus aureus infective endocarditis: the dental implications. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 1998, 85:168-72. 10.1016/S1079-2104(98)90421-8