



## Case Report

### Infected abdominal aortic prosthesis: an alternative therapy

#### *Infeción de prótesis aórtica abdominal: tratamiento alternativo*

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### Abstract

**Introduction:** in traditional vascular surgery, aortic prosthesis infection is a catastrophic event with high morbidity and mortality rates. Traditional treatment is the removal of the valve followed by extra-anatomic bypass reconstruction. In some cases, antibiotic-impregnated prosthesis replacement has been performed. In others, superficial femoral vein replacement, and open surgery with drainage of the associated collections and lifelong antibiotic therapy.

**Case report:** this is the case of a patient with aortic prosthesis infection undergoing draining collections and lifelong antibiotic therapy with a favorable outcome 1 year after the complication.

**Discussion:** in some cases, given the severity of the patient, we can try to treat this dreaded complication conservatively.

**Keywords:** Prosthesis infection. Aortic graft. Abdominal prosthesis infection.

### Resumen

**Introducción:** la infección de prótesis aórtica en la cirugía vascular convencional es un evento catastrófico, con una alta tasa de morbilidad y de mortalidad. El tratamiento tradicional ha sido la remoción de la prótesis y la reconstrucción con *bypass* extraanatómico. En algunos casos, se ha llevado a cabo el reemplazo con prótesis impregnadas en antibiótico; en otros, el reemplazo con vena femoral superficial y también la cirugía abierta con drenaje de las colecciones asociadas y antibioticoterapia de por vida.

**Caso clínico:** se presenta el reporte de un caso de infección protésica tratada con drenajes de las colecciones y antibioticoterapia de larga duración, con un resultado favorable un año después de su complicación.

**Discusión:** en algunos casos, dada la severidad del paciente, es posible intentar un tratamiento conservador de esta nefasta complicación.

**Palabras clave:** Infección protésica. Prótesis aórtica. Infección de prótesis de aorta abdominal.

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## INTRODUCTION

Although infections associated with prosthetic aortic valves are rare, they represent a serious surgical complication, with annual mortality rates ranging from 26 % up to 55 %. The frequency is estimated to be between 0.3 % and 4 % (1,2). There are different methods to treat this dreadful complication, such as the complete removal of the valve followed by its reconstruction with extra-anatomical bypass (this is the most widely accepted one), or in situ repair (3,4). However, there are isolated cases of conservative management of this complication where lifelong surgical debridement and antibiotic therapy are associated. The aim of this presentation is to present a case of conservative management of this lethal complication (5-7).

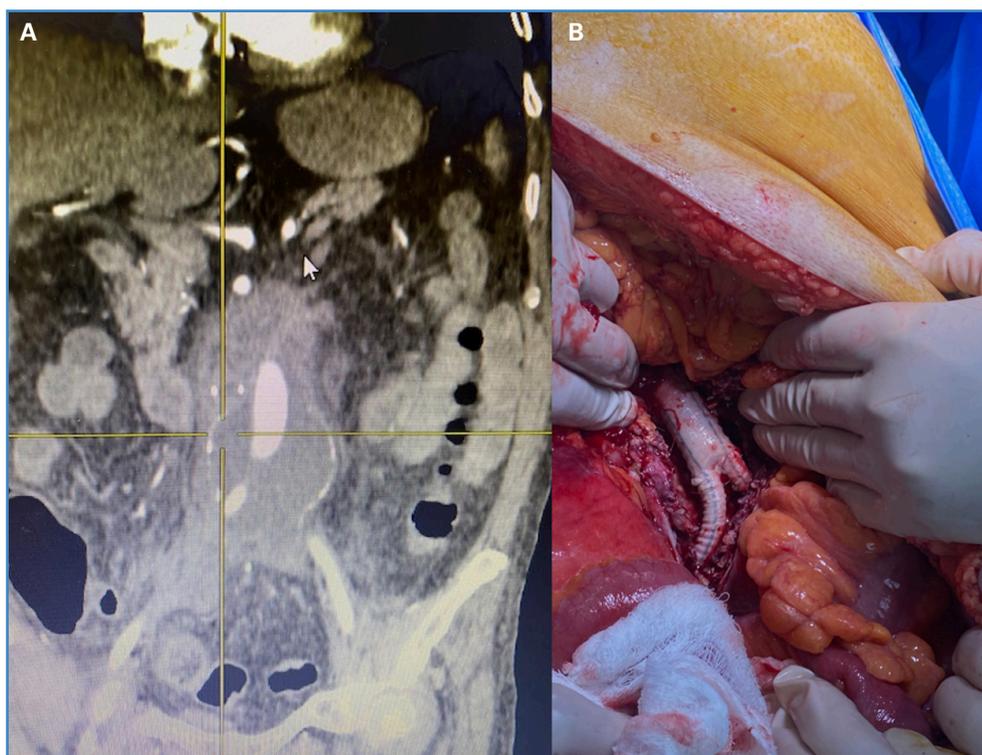
## CASE REPORT

We report the case of a 64-year-old man with a past medical history of arterial hypertension, chronic obstructive pulmonary disease, and former smok-

er who presented with abdominal pain. The abdominopelvic CCTA performed revealed the presence of a juxtarenal abdominal aortic aneurysm associated with the occlusion of both iliac arteries. Open surgery was decided, and an aortobifemoral bypass was performed using a Dacron prosthesis.

Seventy-two hours after surgery, the patient started requiring more oxygen supply. Sputum cultures revealed the presence of *Proteus sp.* and *Pseudomonas Sp.*, which eventually led to the initiation of broad-spectrum antibiotic therapy. The patient also experienced acute renal failure, with a serum creatinine increase of up to 2.2 mg/dL. He completed 11 days of hospitalization.

After 40 days, he was readmitted to the ER with a urinary tract infection, which was treated with meropenem. However, while under treatment, he suddenly developed severe abdominal pain associated with signs of peritoneal irritation and hemodynamic instability. A CCTA revealed absent flow in the right renal artery (without contrast passage) and periprosthetic collections (Figs. 1 y 2). Revisional open surgery was performed, revealing a small amount of pus in the peritoneal cavity. Upon opening the sac,

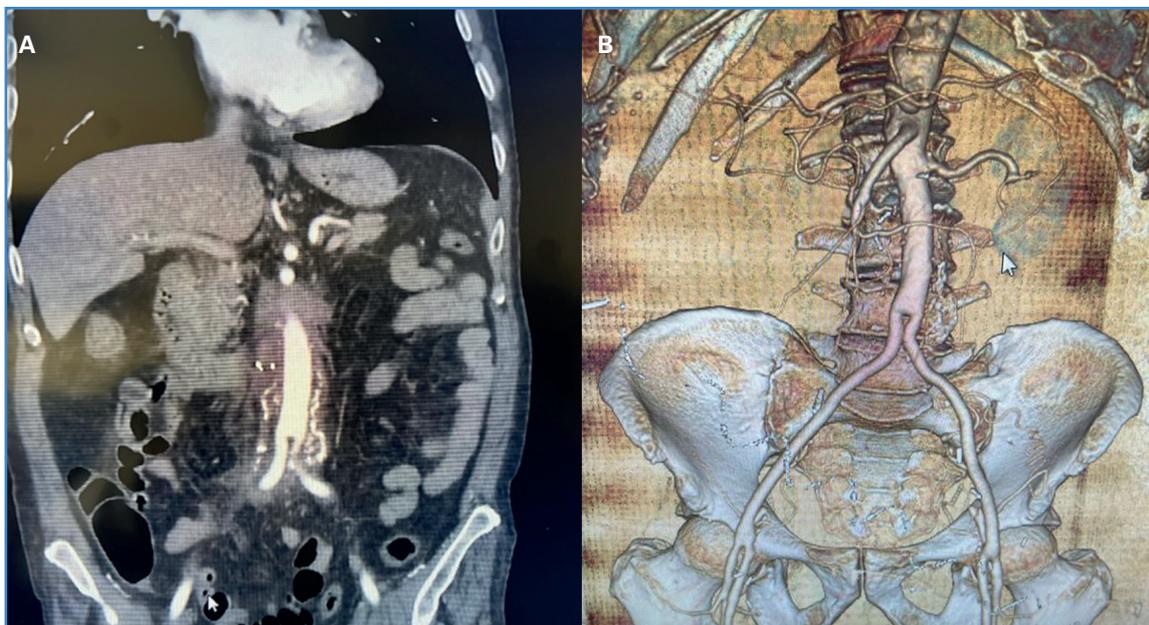


**Figure 1.** A. Periprosthetic collection. B. Infected prosthesis.

another 300 mL of pus were found, including a collection related to the right iliac branch and an unincorporated prosthesis at the main body level. Given the patient's severity, the area was debrided, and 2 tubular drains were placed inside the sac, associated with covering with greater omentum in the region. The drains were kept for 11 days, and only serous

fluid was drained. Pus cultures tested negative. Follow-up CCTA revealed no collections.

As a side effect of the complication, the patient remains on thrice-weekly lifelong hemodialysis and permanent antibiotic therapy with 200 mg doxycycline daily. The patient has completed 1 asymptomatic year since the intervention.



**Figure 2.** A. Absence of collections. B. Current appearance of the aortobifemoral prosthesis.

## DISCUSSION

In this case, we should mention the reasons for choosing conservative management. Firstly, the patient was extremely severe, requiring high doses of vasoactive drugs intraoperatively and a 10-day course of invasive mechanical ventilation. Secondly, although most of the graft was not incorporated, proximal anastomosis could not be reached as it appeared well incorporated, and both femoral branches were scarred.

Regarding the origin of prosthetic infection, we believe it could be due to urinary tract infection with hematogenous dissemination following its late presentation (40 days).

Although most reports agree on 2 therapeutic options, such as the removal of the infected prosthesis associated with extra-anatomical revascular-

ization, or replacement with autologous material or another new prosthetic material, in high-risk surgical patients, it is important to attempt conservative treatment or to serve as a bridge to definitive graft removal while optimizing the patient's conditions.

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