

Chronic *Propionibacterium acnes* prosthesis joint infection manifesting as a large abscess with gas, without prosthesis loosening

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DESCRIPTION

A 78-year-old woman with diabetes, hypertension and severe omarthrosis, had a left total shoulder arthroplasty in May 2010. In September 2010, the patient developed axillar abscess, without fever or pain, which was incised. *Propionibacterium acnes* grew in cultures and the patient received amoxicillin-clavulanate for 10 days. In 2011, it reoccurred, with abscess formation that gradually increased in size during several weeks and reached 5×8 cm in diameter (figure 1A). C reactive protein was elevated (94 mg/L), but the patient did not have fever. X-ray examination did not show prosthesis loosening, but a distal cortical thickening of the humerus without a typical periosteum reaction was depicted (figure 1B). A CT scan revealed gas production in a large abscess (figure 1C). Implant removal was performed and *P acnes* grew rapidly from all perioperative samples. The outcome was favourable under antimicrobial therapy which included amoxicillin and clindamycin.

P acnes is a commensal Gram-positive anaerobe (with fermentation process in vitro)¹ of the skin and is a frequent pathogen involved in post-operative shoulder prosthesis infection.² *P acnes* is a slow-growing bacterium and (1) most patients have prosthesis loosening years after implantation, without abscess nor gas formation (whereas abscess

and gas production has been reported in patients with delayed subdural empyema³ and (2) most *P acnes* responsible for prosthesis infection grow slowly (10–14 days) in enrichment culture media.² In chronic prosthetic joint infection, the implant has to be removed and at least 6 weeks of antimicrobial therapy is generally required. Large abscess formation with gas production is atypical in patients with chronic *P acnes* postoperative prosthetic joint infection. Practitioners aware of this clinical presentation can pertinently include it in their differential diagnosis.

Learning points

- ▶ *Propionibacterium acnes* is one of the most frequent bacteria involved in chronic prosthesis shoulder infections.
- ▶ Typically, *P acnes* postoperative prosthesis infections are usually chronic, without local signs of infection and without fever, and are associated with prosthesis loosening.
- ▶ However, *P acnes* postoperative prosthesis infections could be associated with large abscess formation with gas production.

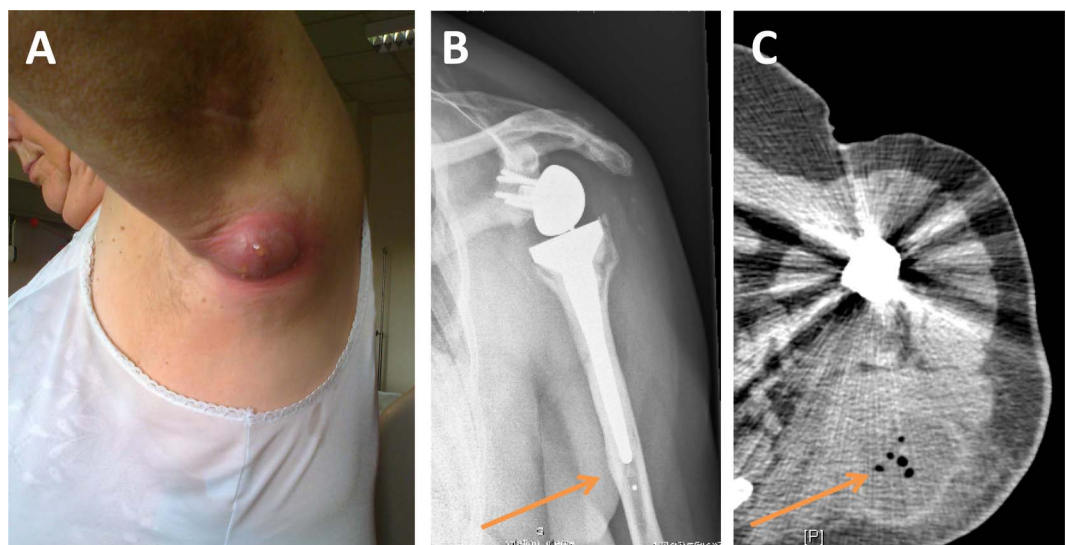


Figure 1 Clinical aspect of the large abscess (A) with distal cortical thickening on X-ray (arrow, B) and gas on CT scan (arrow, C).



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