

A breathing pacemaker

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A 59-year-old man suffered from a pacemaker infection. He was born with a complex cardiac malformation (dextrocardia, transposition of the great arteries, and atrial switch). He was implanted of a bicameral pacemaker for complete atrioventricular block in 1995.

The pocket of the pacemaker was inflamed, inflated, and grew in size when the patient coughed or expired against resistance. Chest computed tomography (CT) scan showed an aerial fistula (Panels A, axial plane and B, sagittal plane arrows) between an abscess of the upper segment of the right lung and the pocket of the pacemaker, along the extravascular path of the leads. Echocardiographies were of poor quality but didn't show any significant valvular regurgitation or mass on the leads. Combined positron emission tomography (PET)-CT scan showed hypermetabolism of the proximal part of the leads (Panel C) and the pocket (Panel D) but no argument for valvular dissemination or distal lead infection (Panel E, coronal view) or lung septic emboli (Panel F). Blood cultures remained sterile.

Endotracheal aspirations were positive for a *Staphylococcus aureus* (MSSA), and patient was treated with Oxacillin for a total duration of 6 weeks.

A new intra-abdominal pacemaker was implanted, with epicardial leads. Then the ancient pacemaker was removed. Clinical and radiological post-operative evolution was favourable (Panels G and H, chest CT-scan performed after 3 months with no residual fistula or significant pneumonia).

The originality of this case resides in the aerial fistula that formed between the pulmonary abscess and the pocket of the pacemaker. We aren't sure whether the pacemaker or the pneumonia was the origin of the infection.

