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Medical Imagery

Aortic Mycotic Aneurysm Associated with Deltoid Muscle Abscess

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Medical imagery

A 77-year-old hypertensive woman had, 2 weeks ago, received a local injection of denosumab at her shoulder for osteoporosis treatment. She presented episodic fever and prior to this admission, had developed a progressive painful swelling at her left shoulder lasting for a week, and chest tightness lasting for three days. Computed tomography of aorta (Figure 1) disclosed a deltoid muscle abscess (DMA) and aortic mycotic aneurysm (AMA). Incision and drainage of DMA was performed. Cultures of blood and abscess showed the presence of oxacillin-sensitive *Staphylococcus aureus* (SA). Oxacillin (2 gram) was therefore given prescribed every 6 hours for 4 weeks. A thoracic endovascular graft was given to land at zone 4. She was discharged on the 36th hospital day.

Serious skin infections in postmenopausal women with denosumab-treated osteoporosis include cellulitis and erysipelas (0.3%), bacterial infection (< 0.1%), staphylococcal infection (< 0.1%), and subcutaneous abscess (0%).¹ DMA associated with local injection is rare. Only 0.4% of patients receiving intramuscular injections develop complications and the most common one is abscess formation.² The incidence of concurrent soft tissue infection in AMA is 9.3% in a European multicenter study.³ SA is the most common microorganism found in infections of pyogenic skin and soft tissues.² SA was isolated in 20% and 56% of the AMA patients in two studies. Endovascular graft repair successfully excluded the AMA in these patients.^{3,4} Musculoskeletal infections associated with AMA are caused by direct invasions due to the proximity of the iliopsoas muscle to the abdominal aorta. In the present case, DMA of SA might be the result of local injection with the needle contaminated with skin flora or bacteria of DMA, which by entry to the blood stream led to a transient bacteremia. The bacteria then inoculated the aortic wall through the vasa vasorum. AMA likely occurred through some local suppurative processes. The application of antibiotics and eradicating infected tissue followed by graft replacement are mandatory for AMA. Minimal invasive endovascular graft is an alternative mandatory ap-

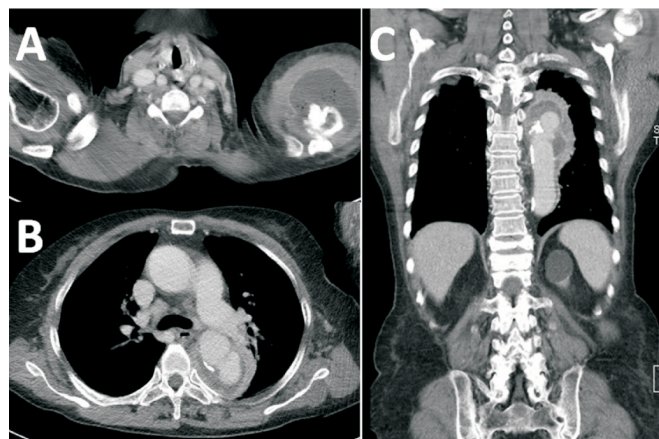


Figure 1. Axial view of computed tomography (CT) of aorta depicting a hypodense lesion with air-pockets within the deltoid muscle (A). Axial and coronal views of CT demonstrating an irregular-shaped wall of descending aorta with fluid accumulation and periaortic soft tissue mass (B and C).

proach. When blood culture results are available, based on the results of culture and sensitivity of microorganisms, various durations of intravenous antibiotics are administered before endovascular graft repair.^{5,6}

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Conflict of interest

The authors declared no conflicts of interest.

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Consent

This study was approved by the Institutional Review Board of Taichung Veterans General Hospital (No. CE19152A).

Contributions

P.C. Lin and S.Y. Hu performed primary survey, computed tomography of aorta, and resuscitation at the emergency department. P.C. Lin and S.Y. Hu wrote the manuscript. S.Y. Hu prepared the radiological pictures. All the authors revised the manuscript.

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