Migratory purpura in a patient with mediastinitis due to methicillin-resistant *Staphylococcus aureus*

Mediastinitis is a devastating complication associated with substantial mortality, morbidity, hospital stay, and costs. Isolation of methicillin-resistant *Staphylococcus aureus* (MRSA) is reported to cause an even higher mortality and morbidity. We present herein a patient with mediastinitis presenting with cutaneous vasculitis as part of initial symptoms.

A 70-year-old man presented with an ascending aortic aneurysm and underwent an aortic root replacement procedure with a prosthetic valved conduit; he was discharged on day 7 after an uneventful postoperative course. A week after his discharge, he was re-admitted to hospital with sternal dehiscence, elevated white cell count ($15 \times 10^9/l$), high-grade fever, and purpuric skin lesions appearing first on the proximal lower extremities and armpits (Figure 1). He was given vancomycin and gentamicin following a presumptive diagnosis of mediastinitis and sepsis. A repeat sternotomy for valved conduit replacement was performed with mediastinal exploration and irrigation. In addition to serial blood cultures, tissue cultures were taken during exploration, all of which revealed MRSA infection. Vancomycin was continued upon microbiologic identification until serial blood and drainage cultures proved negative. Over the next week, the skin rash redistributed to the distal lower extremities around the ankles and the genitalia, and spread thoroughly over the upper extremities. Cutaneous biopsy of the skin lesions revealed a leukocytoclastic angiitis and was negative for immune deposits (Figure 1). He was given vancomycin and gentamicin following a presumptive diagnosis of mediastinitis and sepsis. A repeat sternotomy for valved conduit replacement was performed with mediastinal exploration and irrigation. In addition to serial blood cultures, tissue cultures were taken during exploration, all of which revealed MRSA infection. Vancomycin was continued upon microbiologic identification until serial blood and drainage cultures proved negative. Over the next week, the skin rash redistributed to the distal lower extremities around the ankles and the genitalia, and spread thoroughly over the upper extremities. Cutaneous biopsy of the skin lesions revealed a leukocytoclastic angiitis and was negative for immune deposits upon immunofluorescence study. Serum IgE levels were not elevated and no eosinophilia was observed. His postoperative course after the sternal revision was uneventful. His skin rash disappeared on day 10 when he was on systemic antibiotics and his skin rash redistributed to the upper extremities and genitalia in addition to the dependent areas. Clinical findings and history were inconsistent with other known causes of vasculitis. Low levels of IgE and normal thrombocyte and eosinophil counts as well as the lack of immune deposits upon skin biopsy assisted in ruling out drug reaction. Cutaneous vasculitis following sternotomy should be considered as a clinical sign of systemic infection with mediastinal involvement.

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References


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