



What lies beneath: severe infection presenting as leucocytoclastic vasculitis

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A 65-year-old man who had a non-tender, diffuse, erythematous rash on the front of his legs for over 3 months (figure) presented to the hospital with fever, dyspnoea, and worsening microcytic anaemia, accompanied by spread of the rash to the arms. His blood cultures grew viridans streptococci and a transoesophageal echocardiogram revealed a damaged right aortic coronary cusp, with flail motion and vegetation with severe aortic regurgitation consistent with subacute infectious endocarditis. A skin biopsy sample of the right thigh revealed perivascular inflammation with neutrophilic infiltration consistent with leucocytoclastic vasculitis (figure). He was started on 2 g ceftriaxone intravenously once daily and had an aortic valve replacement approximately 2 weeks after admission with complete resolution of his skin lesions postoperatively. Unfortunately, the patient's postoperative course was complicated by cardiogenic shock and multiorgan failure, ultimately leading to his death 10 days after surgery.

Leucocytoclastic vasculitis is a small vessel vasculitis for which the broad differential includes medications, malignancy, connective tissue disorders, and the often overlooked category of infectious causes, including acute viral infections and bacterial infections, such as bacteraemia and endocarditis. The most common infectious causes include streptococcal upper respiratory tract infections. Antibiotics associated with leucocytoclastic vasculitis are fluoroquinolones, tetracyclines, vancomycin, and β lactams.

A rash typically occurs 1 week after the inciting event and most commonly presents as palpable purpura, though lesions can present as nodules, vesicles, ulcers, and livedo reticularis. A pathological diagnosis can be made from a skin biopsy sample. Treatment of the underlying cause of leucocytoclastic vasculitis typically leads to resolution of the rash. However, up to 50% of cases are idiopathic and are empirically treated with steroids or other immunosuppressive medications.

Although rare, leucocytoclastic vasculitis is an important skin manifestation of systemic disease and can be a sign of an underlying occult and indolent infection, such as subacute endocarditis. Early diagnosis of the underlying cause of skin findings can allow for more timely treatment and better patient outcomes.

Contributors

Both authors cared for the patient, selected the clinical images, and wrote the manuscript. Both authors contributed equally.

Declaration of interests

We declare no competing interests.

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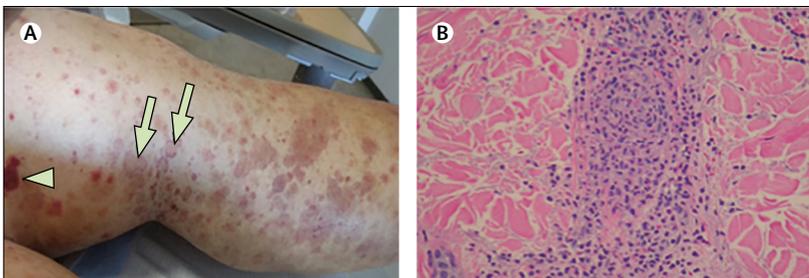


Figure: Leucocytoclastic vasculitis

(A) Left leg with lesions in various stages, including initial erythematous macules (arrow head) and resolving lesions with central clearing (arrows) after initiation of ceftriaxone. (B) Skin biopsy sample (haematoxylin and eosin stain at $\times 20$) of the right thigh showing perivascular inflammation.