

Toxic shock syndrome

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DESCRIPTION

A 30-year-old healthy man, on awakening, experienced shaking chill, general malaise and generalised redness on the skin. The previous day, he had been bitten on the right mandible by mosquitoes (figure 1). On admission, his temperature was 40.1°C, pulse rate 140 bpm, blood pressure 80/50 mm Hg, respiratory rate 40/min, oxygen saturation 100% (10-L reservoir mask) and Glasgow Coma Scale score E2V5M6. Physical examination showed diffuse macular erythroderma (figure 2) without diarrhoea, muscle aches or blepharoconjunctivitis. Laboratory tests showed severe inflammation (white cell count 13 500/μL and C reactive protein 182 mg/L) and elevated hepatic enzymes. Other laboratory tests including urea, creatinine and creatine kinase were normal. Whole-body CT showed mosquito bite-induced cellulitis. A rapid group A streptococcus test, blood culture and cerebrospinal fluid culture were negative. We initiated aggressive fluid resuscitation, norepinephrine, meropenem (3 g/day) and clindamycin (1.2 g/day). Desquamation of the patient's hands was noted



Figure 3 Desquamation of the finger.

7 days post-admission (figure 3). The changes in skin resolved within 2 weeks of illness onset.

Toxic shock syndrome (TSS) is extremely rare, it can cause acute, progressive illness-associated multiple organ failure.¹ TSS is caused by exotoxins, produced by *Staphylococcus aureus* or group A streptococcus, but blood culture is positive in <5% of staphylococcal TSS cases.^{1 2} There is no single test for TSS, so TSS is diagnosed based on clinical presentations. Thus, the physician should administer prompt antibiotic therapy to cover *Staphylococcus aureus* and group A streptococcus when TSS is suspected.



Figure 1 The site of the mosquito bites on the right mandible.



Figure 2 Erythematous maculopapular eruption on the entire body, similar to that noted in cases of sunburn.

Learning points

- ▶ Typical symptoms of toxic shock syndrome (TSS) must be recognised by every physician because delay in adequate treatment results in poor outcome.
- ▶ *Staphylococcus aureus* and group A streptococcus infection should be mandatorily covered with initial, empirical antimicrobial treatment in these patients.
- ▶ The mosquito bite can cause TSS.

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