Letters to the Editor

Toxic shock syndrome associated with pyomyositis

Sir,

Toxic shock syndrome and pyomyositis is a rare association. Only two cases have been reported previously. I describe herein another case in a previously healthy male patient.

A 23 year old Sri Lankan male presented with 4 days history of fever and chills, upper abdominal pain radiating to the back and right shoulder, associated with nausea and vomiting, and pain in both upper and lower limbs. Physical examination revealed his temperature was 38.3°C, blood pressure 110/80 mmHg and respiratory rate 20/minute. Abdominal examination revealed tenderness in the right upper quadrant with guarding, and the liver palpable four fingers below right costal margin. Laboratory investigations revealed haemoglobin 15.9 g/dl, white blood cell count 15.3 x 10^9/l, total bilirubin 65 µmol/l, serum alkaline phosphatase 107 U/l, serum alanine aminotransferase 228 IU/l, serum aspartate aminotransferase 241 IU/l. Blood urea nitrogen, serum electrolytes, and chest radiograph were normal and anti-HIV antibody test was negative.

Next day he became drowsy, confused and hypotensive with blood pressure 85/65 mmHg; and a generalized erythematous rash. He was given normal saline and the previous antibiotics were changed to imipenem/cilastatin 500 mg every 6 hours intravenously. His blood culture grew Staphylococcus aureus and the serum creatine kinase was 4,179 IU/l. On the sixth hospital day he developed fluctuant swelling in the right gluteal region from which Staphylococcus aureus pus was aspirated. Diagnosis of pyomyositis complicated by toxic shock syndrome was made, imipenem/cilastatin was discontinued and he was started on intravenous cloxacillin. Echocardiogram was normal. Magnetic resonance imaging (MRI) of the abdomen and both thighs showed multiple small liver abscesses located in the right liver lobe, multiple abscesses in both thighs and right gluteal region. Aspiration of limb abscesses yielded pus that was sterile on culture. On the tenth hospital day desquamation of the skin was noticed involving mainly palms and soles; after which the patient had slow but progressive improvement.

Toxic shock syndrome (TSS) was first described by James Todd and his colleagues in 1978.1 It is characterized by high fever, hypotension, mental confusion, diarrhoea, renal failure, erythroderma and delayed desquamation. Staphylococcus aureus has been identified as the causative agent, through liberation of toxins, among these the most important one is toxic shock syndrome toxin 1 (TSS T1). Other toxins include staphylococcal enterotoxin B and C.2 Menstrual TSS has been linked to the use of highly absorbent tampons and accounts for two-thirds of cases.2 Pyomyositis is a purulent infection of skeletal muscles. Most cases occur in the tropics. Predisposing factors include local trauma, thiamine deficiency, parasitic infestation and retroviral infection.3 More than 95% of cases are caused by Staphylococcus aureus; other rare causes include Streptococcus, Gram-negative bacteria and fungi. The large muscles of the lower extremities are usually involved and abscesses are multiple in 15–50% of cases.

Non-menstrual TSS has been reported in association with a wide variety of clinical conditions associated with staphylococcal infection including surgical and postpartum wound infection, deep abscesses, lymphadenitis, burns, furuncles, abrasion, insect bites, sinusitis, bursitis, arthritis, barrier contraceptive usage and influenza respiratory tract-related infections. Only two cases of TSS associated with pyomyositis have been previously reported.4,5 The present patient meets the Centre for Disease Control (CDC) case definition for TSS, in that he had fever, hypotension, erythroderma with delayed desquamation, vomiting, mental confusion, myalgia, elevated creatine kinase, total bilirubin and transaminases; he therefore had all four major criteria and four minor criteria.

In conclusion, the diagnosis of pyomyositis may be difficult in the early stages of the disease; however, the disease has to be considered especially in patients coming from tropical areas. This case was unusual because it was complicated by toxic shock syndrome, and multiple liver abscesses. Diagnosis is greatly facilitated by the available imaging studies of ultrasound, CT scan and MRI. Surgical drainage combined with anti-staphylococcal antibiotics usually results in full recovery.

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References

Staphylococcal pneumonia associated with 'tropical pyomyositis'

Sir,

Tropical pyomyositis is a subacute purulent infection of the skeletal muscles without penetrating trauma or spread from a contiguous septic focus. A small number of abscesses as a part of a widespread staphylococcal...