Acute pigmented tubulopathy and interstitial nephritis following wasp sting

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Introduction
Wasp stings are usually followed by minor local allergic reactions and rarely anaphylaxis.¹² Systemic complications such as acute renal failure, myocarditis, acute encephalopathy, Guillain-Barré syndrome, thrombocytopenia and vasculitis have been described following multiple wasp stings. Renal impairment is also reported and commonly results from acute tubular necrosis secondary to intravascular haemolysis, rhabdomyolysis or shock.³⁶ Acute renal failure secondary to tubular-interstitial nephritis has been described in few instances.⁷ We report an uncommon variety of acute interstitial nephritis associated with wasp sting.

Case report
A 45 year old man was bitten by about 50 wasps. He was stung on the face, chest and upper limbs and was admitted to a local hospital with pain, swelling and redness of affected areas. Due to the worsening of facial swelling he was transferred to Teaching Hospital, Karapitiya about 14 hours after the incident. He was treated with oral antihistamines and a short course of oral steroids. Next day he was sent home to be reviewed in two weeks. His blood urea and serum electrolytes were normal.

Two days after discharge, he developed reduced urine output, facial swelling, abdominal pain and vomiting. On examination his blood pressure was 180/90 mmHg and jugular venous pressure was elevated. He was initially oliguric but two days later became polyuric. His blood urea during the second admission varied from 69 to 119 mg/dL. Serum Creatinine level was 6.6 mg/dl. Serum sodium and potassium were initially normal and both were reduced during the polyuric phase. Urine analysis showed 10-15 pus cells per field but there were no abnormal sediments. His blood pressure was controlled with oral amlodipine and frusemide.

The renal biopsy, performed during the second admission, showed interstitial mononuclear cell infiltration with focal tubular epithelial necrosis. A brown pigment was present in the tubular epithelium. The glomeruli were unremarkable. These findings were consistent with tubulo-interstitial nephritis with pigmented tubulopathy.

Discussion
Stinging insects are classified as Hymenoptera which includes Vespids and Apids. Wasps fall into the Vespid category. Though wasp stings are usually followed by mild local reactions, complications such as angioedema, vasculitis, encephalitis, intravascular haemolysis, rhabdomyolysis, thrombocytopenia, acute tubular injury, acute myocardial infarction and acute hepatic injury have been reported. Venom comprises of a concentrated mixture of complicated active components such as apamine, phospholipase, melittin, hyaluronidase, acid phosphatase, histamine and kinin. These have haemolytic, neurotoxic and vasoactive properties which can cause intravascular haemolysis and rhabdomyolysis. Though renal impairment is usually due to acute tubular necrosis, acute tubulo-interstitial nephritis leading to acute renal failure has also been reported. Chao et al. in 2004 reported a case of acute interstitial nephritis with pigmented tubulopathy following wasp sting but no further reports of this particular complication could be found. Lack of data prevented us from determining the clinical significance of this condition or whether the appearance of tubular pigments is specific to particular species of...
insects. Furthermore, as it is not well documented, whether histopathologists routinely observe for the presence of pigments in tubular cells is questionable. It is important to observe for this histological feature to see the clinical relevance and how it differs from the commonly observed acute interstitial nephritis associated with wasp sting.

References

Tuberculosis kills a pregnant mother

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Case report

A 26 years old primigravida, in her 38th week of pregnancy, had developed sudden onset haemoptysis and haematemesis, followed by cardio-respiratory arrest, which was refractory to cardio-pulmonary resuscitation (CPR). A very mild cough, for few months, which had never been documented, was the only significant past medical history.

Autopsy revealed marked pallor, aspirated blood in the respiratory tract and swallowed blood in the stomach. A firm mass measuring 4 x 3 cm was felt in the upper lobe of the right lung towards its apex (Fig 1). The interior of the mass consisted of firm, whitish tissues characterized by caseating necrosis, cavitation and erosion. The mass encompassed the upper lobar bronchus and pulmonary blood vessels, and showed evidence of erosion and destruction of their walls. No areas of patchy or diffuse congestion, consolidation, pus formation detected in the rest of the lung tissues. No significant hilar or mediastinal lymphadenopathy was detected.