



Toxin induced AKI



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INSECTS?

IS IT SERIOUS WHEN THEY BITE?

HOW?

Symptoms of a **mild allergic reaction**

- Rash
 - Localized rash
 - Generalized rash
- Eye redness
 - Eye irritation
- Itching
 - Vaginal itching
 - Genital itching
- Nasal congestion
- Runny nose
- Diarrhea

Symptoms of a **severe allergic reaction**

- Cough
- Hoarse voice
- Difficulty speaking
- Chest pain
- Difficulty breathing
- Fainting
- Dizziness
- Low blood pressure
- Urticaria
- Lip swelling
- Facial swelling
- Mouth swelling
 - Tongue swelling
 - Eye swelling
- Rapid pulse
- Severe hives
- Severe wheezing
- Vomiting
- Death

Renal manifestations

- **Acute tubular necrosis(ATN)** either due to shock or pigment nephropathy due to intravascular hemolysis or rhabdomyolysis or may be due to the direct toxic effect of the venom
- Acute tubulointerstitial nephritis
- Immune complex-mediated glomerulonephritis, interstitial nephritis, renal microangiitis, or vasculitis

- Their venom is a concentrated mixtures of complicated active components, such as melittin, apamine, phospholipases, hyaluronidase, acid phosphatase, histamine, and kinin
- These have direct and indirect hemolytic effects, neurotoxic and vasoactive properties, which can cause intravascular hemolysis and rhabdomyolysis

Summary

| | Onset of AKI after hornet bite (days) | Renal replacement therapy after post hornet bite (days) | Creatinine at the time of dialysis (umol/l) | Frequency and types of dialysis | Hospital stay |
|--------------------|---------------------------------------|--|---|--------------------------------------|---------------|
| Case 1 (8/2016) | 3 | 6 | 1224 | A/C PD 3 days followed by HD 1time | 4 weeks |
| Case 2 (8/2016) | 2 | 9 | 2118 | A/C PD 3 days followed by HD 3 times | 3 weeks |
| Case 3 (8/2017) | 3 | 6 | 969 | HD 4 times | 2 weeks |
| Case 4 (1/2018) | 2 | 8 | 1708 | A/C PD 3 days followed by HD | D 14----- |

Indication for renal replacement therapy

- Case 1 - fluid overload
- Case 2 – fluid overload, hyperkalaemia, metabolic acidosis
- Case 3 – hyperkalaemia
- Case 4 – fluid overload

Discussions

- Age of patients
 - case 1- 67 yrs old male
 - Case 2 - 56 ys old male
 - Case 3 - 68 yrs old male
 - Case 4 – 36 yr old male
- Residing area – Thaninthayi Division, Mon State, Kayin State
- Hypotension - No history of hypotension in all cases

Haematuria

- Case 1 and case 2- no history of haematuria
- Case 3 – haematuria +
- Case 4 – haemoglobinuria??

- Multiple sting + in all patients
- Requirement of RRT (+) in all patients
- Recovery from AKI (+) in first 3 patients, case 4 still on HD

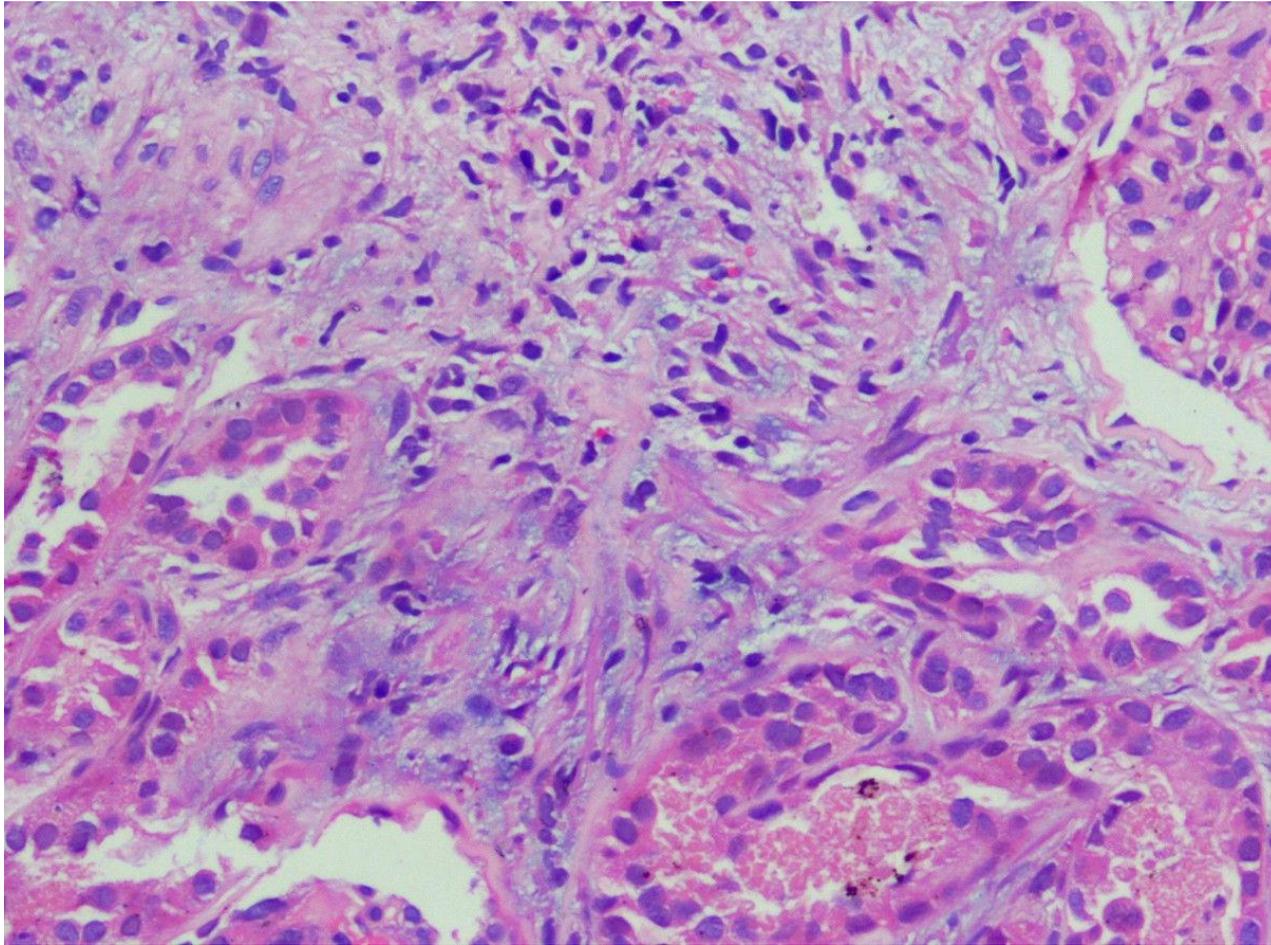
Casae 3



Case 4



Tubulointerstitial Nephritis



THESE INSECTS ARE.....

- **Hornets(Pyardu)** belong to the Vespidae family
- There are over 100,000 known species of **wasps (Nage)** and hornets are one subspecies of wasps
- Hornets are distinguished from other wasps by their wider heads and larger, more rounded abdomens; they also have a different life cycle



Reason for Presentation

- To remind that
 - AKI due to Hornet bite is not uncommon
 - Multiple hornet bite can cause serious renal manifestations
- To increase public awareness for serious complications due to hornet bite
- To increase researcher's attention on this nephrology care to develop appropriate research hypothesis that will result in new educational development

THANK YOU!!!

