

**You Dirty Rat!**



*Rattus Rolandus*

# Haemorrhagic Fever with Renal Syndrome



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# Case History

- 25 year-old male gardener
- Slovak Republic 3 weeks earlier
- Present to DGH with a one week history:
  - Fever
  - Severe frontal headache
  - Myalgia
  - Diarrhoea & vomiting
  - Abdominal pain
- No medication, PMH unremarkable

# DGH Clinical Findings

- Non-blanching petechial rash (legs)
- Injected conjunctiva, flushed
- Febrile
- Tachycardic but normotensive
- Headache, not confused, no meningism
- Resp/ CVS/ Abdo/ Neuro – NAD
- Mild dehydration, oliguria
- CXR & Abdo USS normal

# DGH Laboratory Findings

- Proteinuria, haematuria
- Creat=250, Urea=30,  $K^+ = 3.0$ ,  $Na^+ = 130$
- ALT = 75, Alb = 28
- CRP = 30
- WBC = 10, Hb = 14, PLT = 62
- PT = 19
- Film: spherocytes, giant platelets, left shift, no fragments

# DGH Progress

- Given Ceftriaxone after cultures
- Given IVIG – ? ITP
- HIV negative
- Day 2: Worsening ARF, intermittent hypotension, rising WCC, falling albumin
- Transferred to Renal Unit, RFH

# On Arrival RFH

- Defervesced, no lymphadenopathy
- Petechiae remained (legs, axillae)
- Anuric → Haemodialysis
- Further occupational/travel history
- Renal Biopsy
- ID Consult

# Differential Diagnosis

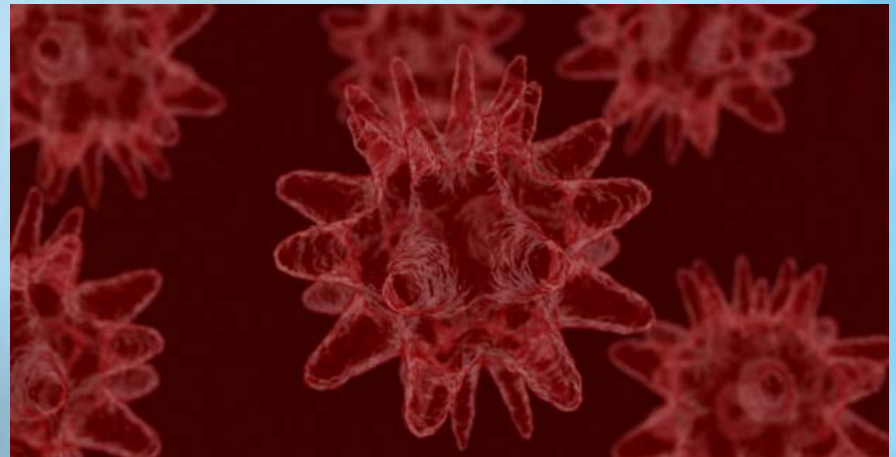
- Complications of (unidentified) bacteraemia
- Hantavirus Infection
- Rickettsioses
- Leptospirosis
- HUS
- CCHF
- Non-infectious aetiologies (autoimmune)

# Renal Biopsy

- Severe acute tubular necrosis
- Interstitial/medullary haemorrhage
- Normal Glomeruli

# Serology

- Serum from day 3 of admission
- IgG against Hantaan and Dobrava viruses
- 1: 8000



# Management

- Supportive Care
- Polyuria day 6
- 5 days of dialysis
- No ribavirin
- Discharged day 12

# Haemorrhagic Fever with Renal Syndrome

- Hanta virus group (Bunyaviridae)
- Hanta Diseases
  - Old World (Eurasian)  $\approx$  HFRS
    - » Puumala - mild
    - » Hantaan, Dobrava and Seoul - moderate/severe
  - New World (Americas)  $\approx$  Haemorrhagic Pulmonary Syndrome (HPS)
    - » Sin Nombre, New York
    - » Andes, Black Creek Canal, Bayou - renal variant
- Rodent reservoir, species specific
- Aerosolised excreta & saliva
- Considerable clinical variation
- Individual strains associated with certain clinical features and severity
- ? Host (HLA) predisposition

# HFRS – does it fit?

- ✓ Potential exposure
  - European continent
  - Rural activities
- ✓ Incubation 2 days to 6 weeks
- ✓ 5 stages: Febrile, hypotensive, oliguric, polyuric, convalescent
- ✓ Fever, headaches, aches, haemorrhagic features, petechial rash
- ✓ ARF, proteinuria, thrombocytopenia, left shift, hypoalbuminaemia
- ✓ ATN and interstitial haemorrhage
- ✓ Confirmatory serology (acute and convalescent)
- ✓ Recovery with supportive care

# You Dirty Yellow-neck mouse / striped field mouse!



*Apodemus flavicollis*



*Apodemus agrarius*

# References

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