Rare and Renal

Advanced Nephrology Oxford Jan 2015

Neil Turner

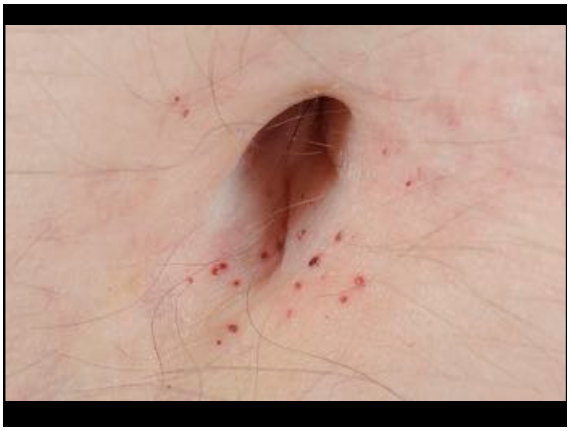
Neil Turner
University of Edinburgh
Edinburgh Royal Infirmary

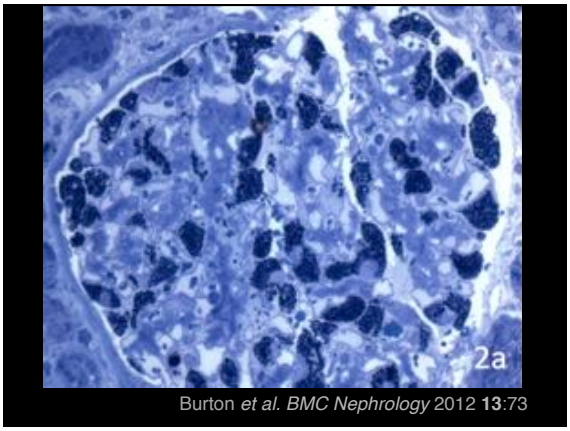
Why

- Fascinating, changing group of patients
  - New genetics
  - New, often expensive therapies
- Complex, multisystem, needing longitudinal care across specialties
- Need new models of care
- Career opportunity?

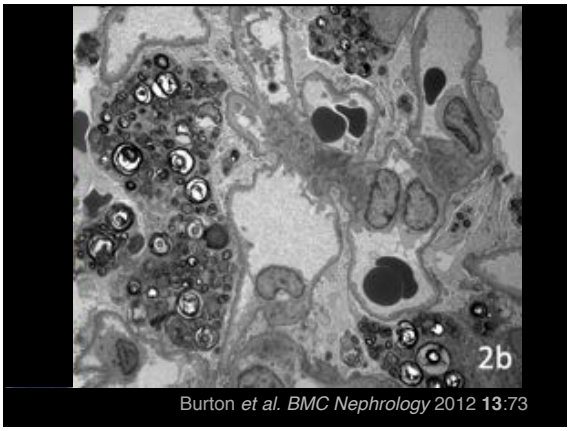
Fabry disease

- 2nd most common lysosomal storage disorder after Gaucher's disease
- 2-3 per million?
- α-galactosidase deficiency
- Globotriaosylceramide deposits in lysosomes of endothelial cells
- GLA gene on X chromosome





Burton *et al. BMC Nephrology* 2012 **13**:73



Burton *et al. BMC Nephrology* 2012 **13**:73

Childhood
- Acroparaesthesiae
- Angiokeratomas
- This and that (ear, eye, later chest)

Young adult
- More of same; heat sensitivity, hypohidrosis
- Abdo pain and diarrhoea
- Proteinuria

Over 30
- Kidneys
- Heart
- Cerebrovascular

Who to treat?

Anyone with symptoms or signs, so
- All males
- Some females

Fortnightly IV infusions over 2-3h
Screen and monitor for complications

How not to miss the next one

- Screening?
- Always be ready for the weird
- Examine skin
- Biopsy unknown proteinuric disease
- Look it up
- Send the test
  - Enzyme activity best test in men
  - Genetics needed to confirm in women

The problem with rare diseases

- Doctors don't know about them
- You don't know anyone else with them
- It's hard to find reliable info
- For staff as well as patients

and more ...

- Things keep changing
- Quality of care is patchy
- The list of diseases is getting longer

How to get more info

Getting testing done; local management expertise/ pathways

- rarerenal.org – is there a group?
- Your colleagues
- Your local geneticist
- UKGTN

UK Rare Renal initiative

- Patient info
  - Online
  - Patient group
- Clinician info
  - Online
  - Expert group
- Disease Registers

Nail patella syndrome (hereditary onycho osteo dysplasia)

- Autosomal dominant. LMX1B, 19q34
- Absent patellae, iliac horns, elbow contractures, absent capitellum, scoliosis, other skeletal anomalies
- Nail abnormalities, thumbs worst
- GBM changes in some assoc with proteinuria, ESRF (but variable)
- Glaucoma, perhaps other features

Are we missing NPS?

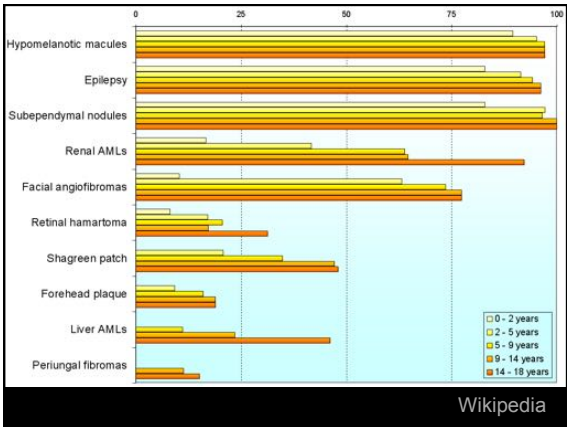
- Highly variable penetrance/ manifestations
- Renal involvement not closely correlated with other features
- Cases now appearing with EM changes but no other clinical manifestations

Tuberous sclerosis

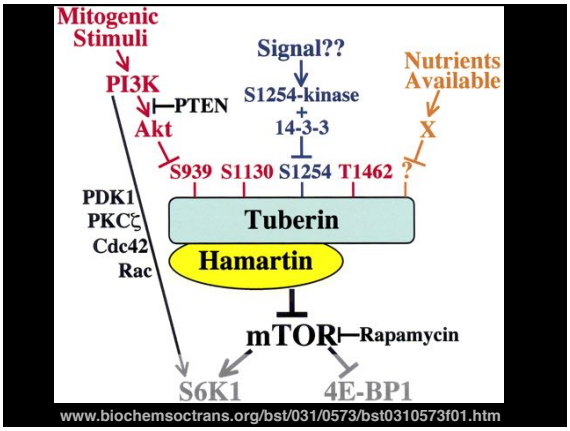
- Autosomal dominant
  - TSC1, hamartin
  - TSC2, tuberin, adjacent to PKD1
- Tubers affect brain, skin, kidneys and elsewhere.
- Angiomyolipomas in kidney may grow and bleed
- Cysts – 20-30% some; 1-2% overlap
- ESRF

Tuberous sclerosis

- Brain disease: tubers; sub-ependymal nodules; GC astrocytoma.
- Pulmonary lymphangioleiomyomatosis
- Cardiac rhabdomyoma
- Skin: angiofibromas (adenoma sebaceum), ash leaf spots, periungual fibromas, ash leaf spots, shagreen patches.



Wikipedia



www.biochemsoctrans.org/bst/031/0573/bst0310573f01.htm

What does this mean for us?

- Add patients to Registries
- Specialist interest clinicians?
- Befriend your geneticists

neil.turner@ed.ac.uk

edrep.org/resources ... Rare

rarerenal.org

patientview.org

renalradar.org