Case studies

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Case 1

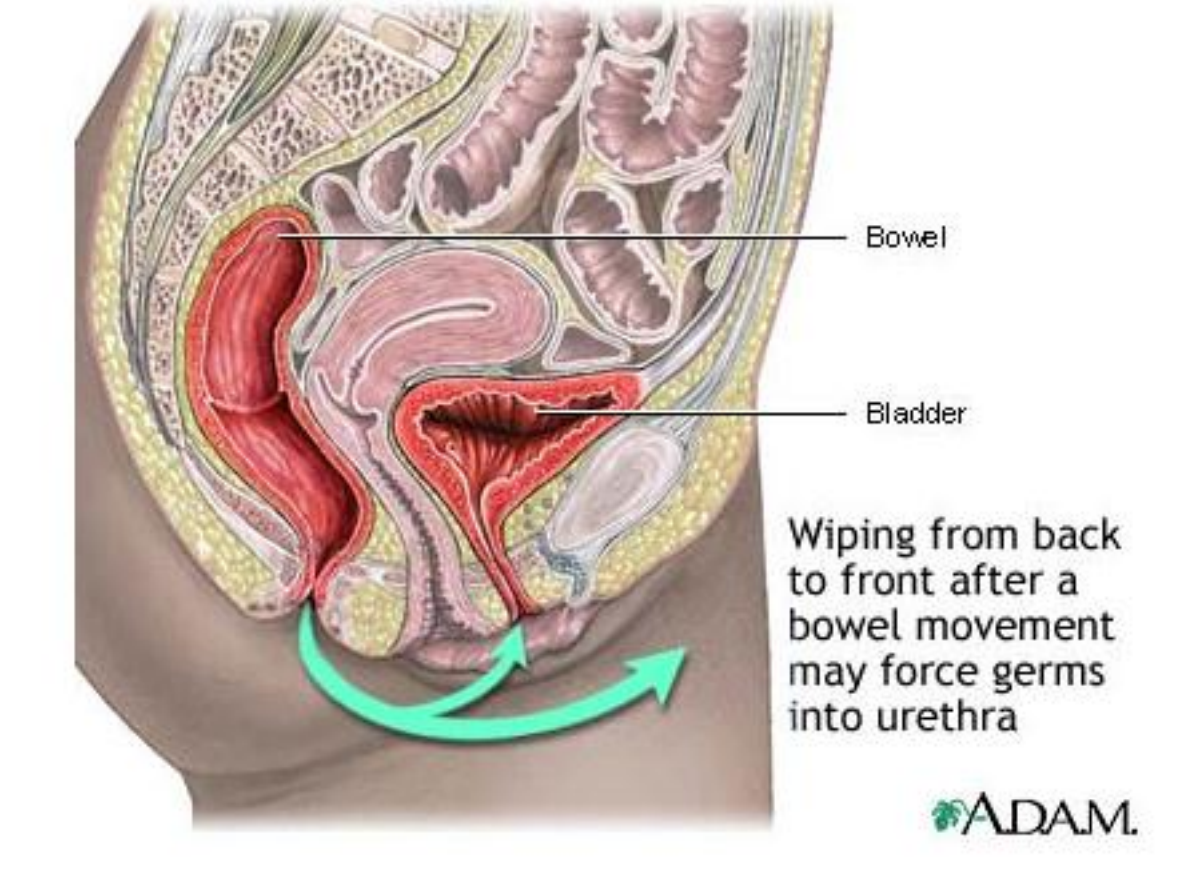
- 31 yr old woman with 3rd UTI.
- E coli
- Frequency and dysuria
- Asymptomatic after treatment

Recurrent UTI

- Lower tract symptoms
- Coliforms
- Asymptomatic after treatment and MSU clear

UTIs in Sexually Active Women

- Anatomy
- Trauma
- Chemicals
- 50% culture negative
  (Many still have beneficial response to emperic antibiotic therapy)


Bowel
Bladder
Wiping from back to front after a bowel movement may force germs into urethra
A.D.A.M.

UTIs in Sexually Active Women

- Anatomy
- Trauma – sexual intercourse, anatomy
- Chemicals – oestrogens (post menopausal)
- 50% culture negative
  (Many still have beneficial response to emperic antibiotic therapy)

When to Investigate?

- Failure to eradicate an infection 3 day therapy
- Multiple infections
- Investigations
  KUB & renal ultrasound

Uncomplicated UTI treatment

- Single dose therapy
  or 3 day therapy
- Trimethoprim 600mg (2)
- Co-trimoxazole 2.8gm (3)
- Nitrofuantoin 50- 100mg BD (NICE guidelines)
- Norfloxacin 800 mg (2)
  or ciprofloxacin 500mg
- Caution with Amoxyl – clavulinac acid.

MSU Culture result

MID-STREAM URINE

MICROSCOPY

Leucocytes:1960 x10^6/L Red Cells: 70 x10^6/L

Small numbers of epithelial cells.

CHEMISTRY (Approximate value in brackets)

Albumin: ++ (1.0g/L) Glucose: Negative

BACTERIAL COUNT 100 organisms x10^6/L

CULTURE

Heavy growth of E. coli

SENSITIVITIES

Amoxycillin	RESISTANT
Co-amox/Clav(Augmentin)	Sensitive
Trimethoprim	Sensitive
Nitrofurantoin	Sensitive
Norfloxacin	Sensitive

Recurrent UTI

- Fluids
- Regular complete empyting (post intercourse)
- Laxative
- Probiotic
- Cranberry
- Antibiotic prevention (6 weeks) or intermittent (Trimethoprim / Nitrofurantion)

Treatment of UTIs

- Non- pharmacological
- Symptomatic but not bactericidal
- Alkalinisation urine negates efficacy nitrofuantoin

Antibiotic Prophylaxis

- Indications?
  Recurrent UTI, > 2 in 6 months or > 3 in 12 months
  At risk individuals – pregnancy, Tx
- Therapy
  Trimethoprim 150mg (half tablet)
  Norfloxacin 200 mg (caution –NICE)
  Nitrofuantoin 50mg (normal GFR caution long term use)
- Duration – up to 6 months
  NNT to prevent any recurrence in one year 1.85
- Post menopausal women – topical oestrogens
  (0.5 vs 5.9 episodes per patient yr. reduced vaginal colonisation with E Coli.)
- Cranberry juice – no good clinical evidence
  2 RCTs. vs placebo or vs TMP-SMX

UTI Assessment

- Hx and Exam only
- KUB for bowel assessment
- Renal US in male and complex UTI

- Refer male UTI if recurrent or LUTS and UTI

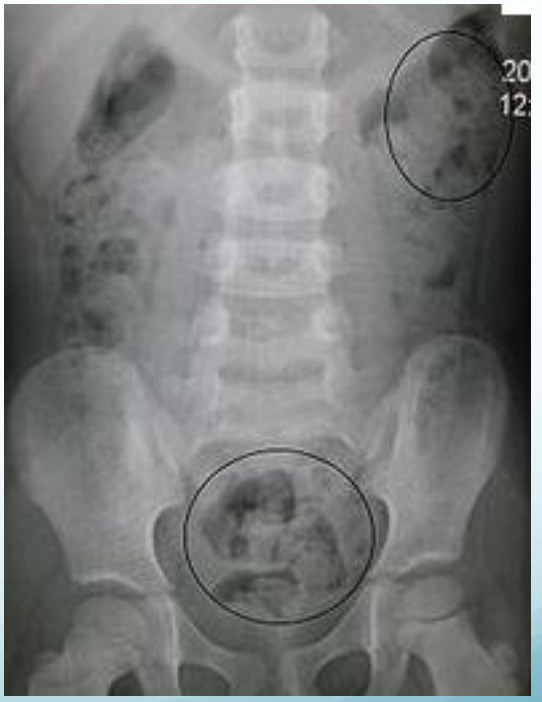
Complex UTI - Imaging

- Paeds: Recurrent lower UTI (> 3 per 6 months), or > 2 Upper UTI and or Fhx. (NICE guidelines)
  Renal US. Refer if abnormal

- Female: recurrent, febrile or

  unusual organism, consider

  Renal US and AXR



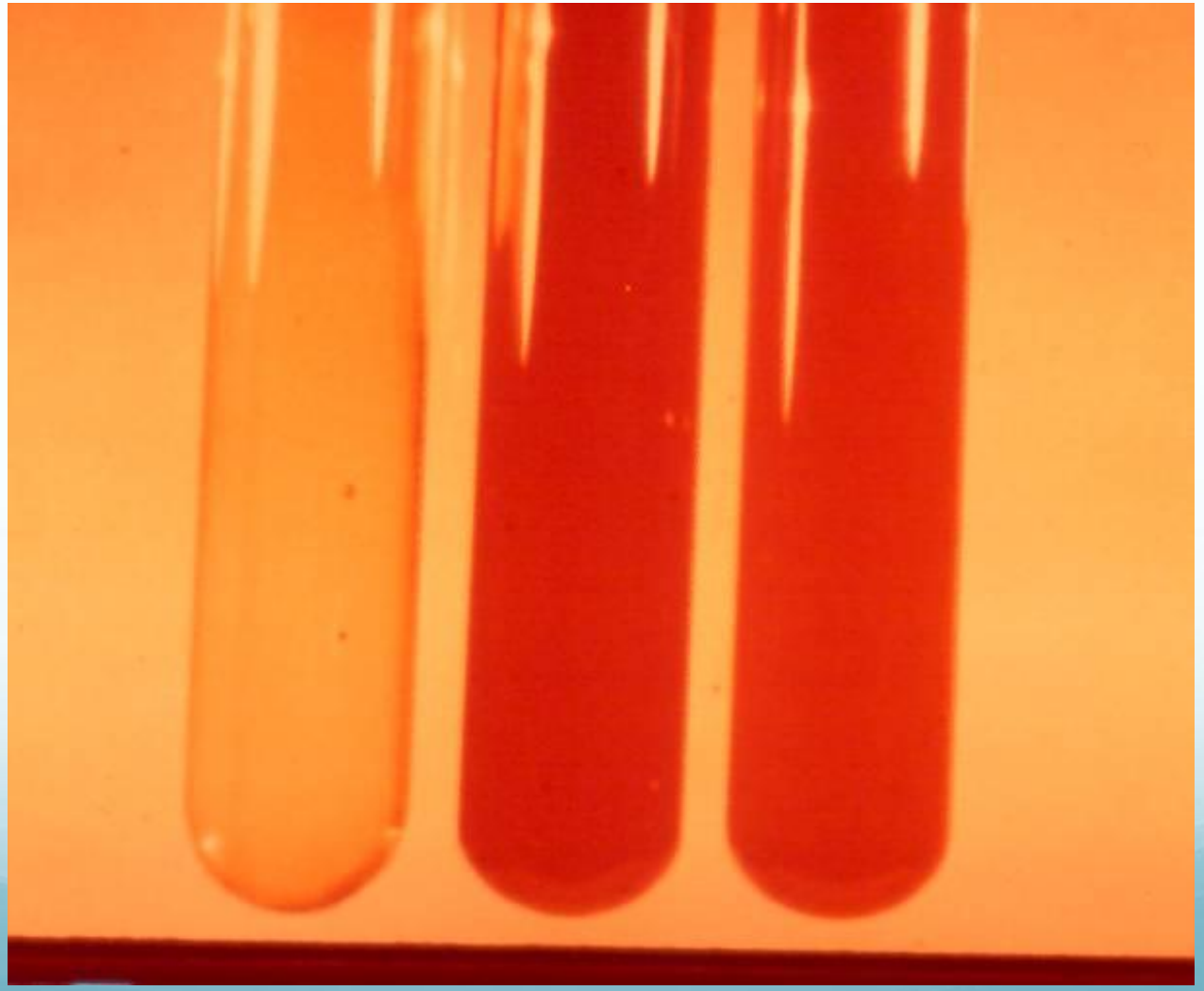
Case 2

- 56 yr old male 1 week intermittent macroscopic haematuria

  No loin pain or weight loss

  No LUTS

Haematuria:



Haematuria

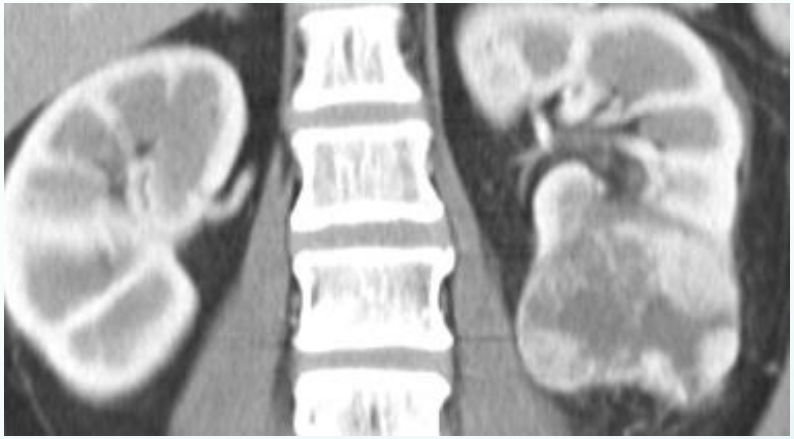
- Nephrological / Urological
- MSU and Cytology
- Urea and Creatinine
- Age< 40 Renal US, if normal nil else
- Age 40 – 80: Renal CT and cystoscopy
- Age 80 + Renal US and cystoscopy

Renal tumour

Surgical disease
Lap vs open and total vs partial

Follow up 5 years

Palliative : Sunitnib may be useful



Bladder tumour

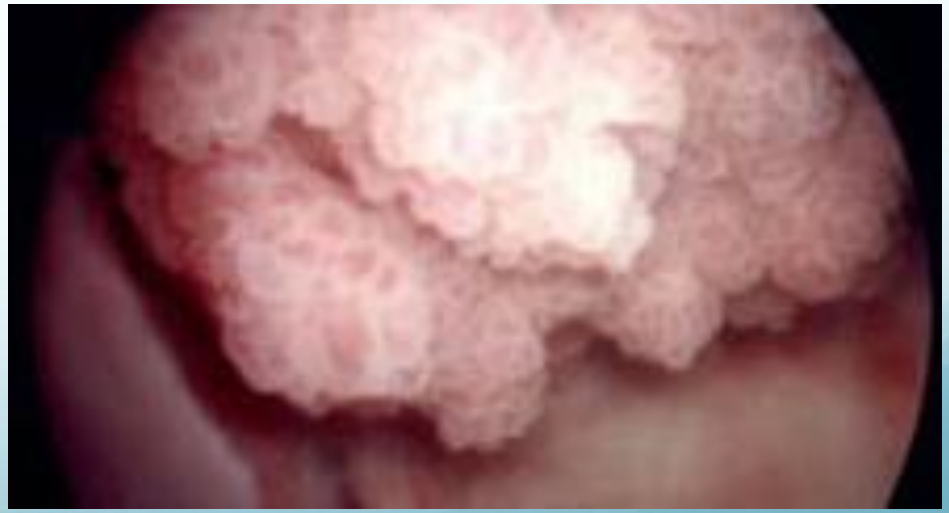
Biopsy and resection : Stage and Grade TCC

80% superficial
20% invasive

10% Superficial to invasive

Superficial: resection and
Intravesical treatment
Surveillance

Invasive : Cystectomy



Prostate bleeding

- Commonest cause in older male
- Diagnosis of exclusion
- Finasteride treatment

- TURP if continues to bleed

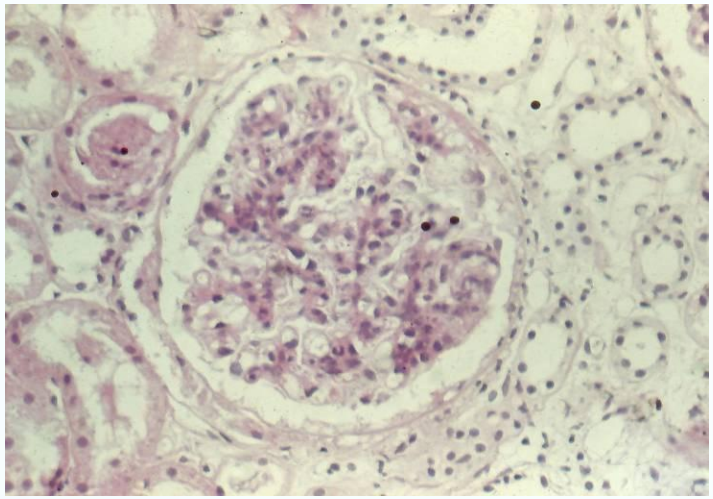
Case 2

- 26 yr old male
- Upper respiratory tract infection
- Macroscopic haematuria 1 – 2 days later
  “synpharyngitic haematuria”
- Associated non-specific malaise and lethargy
- 3 days later haematuria persisting
  Episode of R sided loin pain.

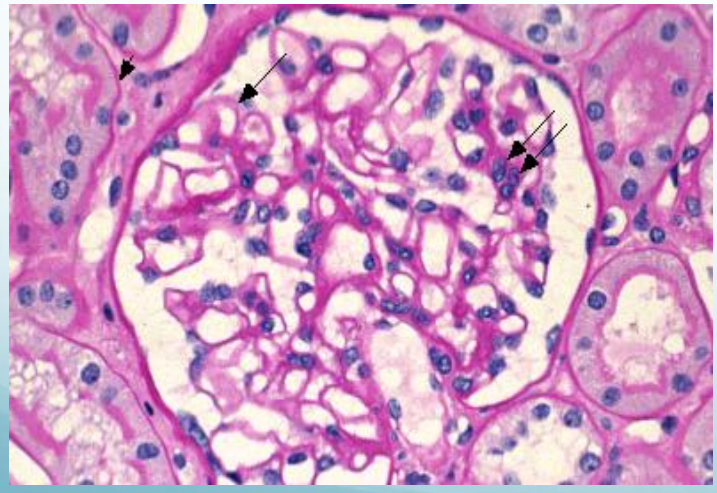
Case 2. Investigations

- Normal renal function, normal blood pressure, normal haematology, auto-antibody screen negative. Normal renal US
- Renal Biopsy.
- Note:
  Not post-infectious GN (not a nephritic presentation)

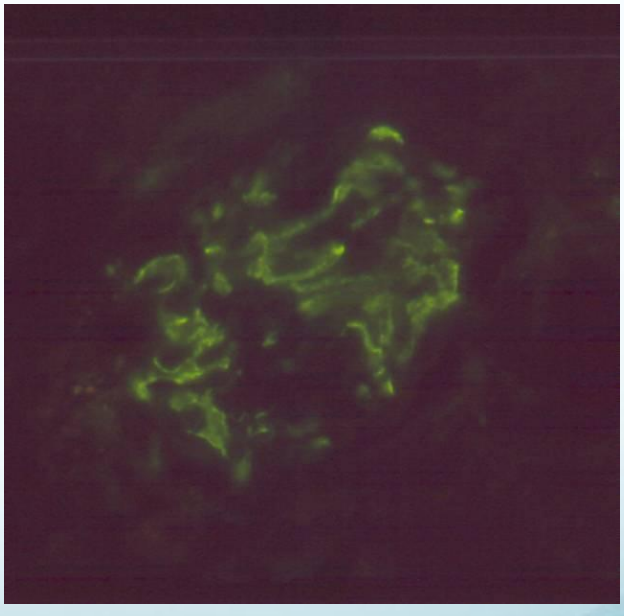
Mesangial proliferative GN
IgA Nephropathy



H+E Stain



normal



Immunofluorescence
IgA

Haematuria

- With proteinuria & absence UTI symptoms (culture negative)
  GN until proven otherwise.
- Haematuria in absence of urological findings
  Also consider GN.
- Warrants nephrological review – discussion.

Renal stone
Haematuria and colic

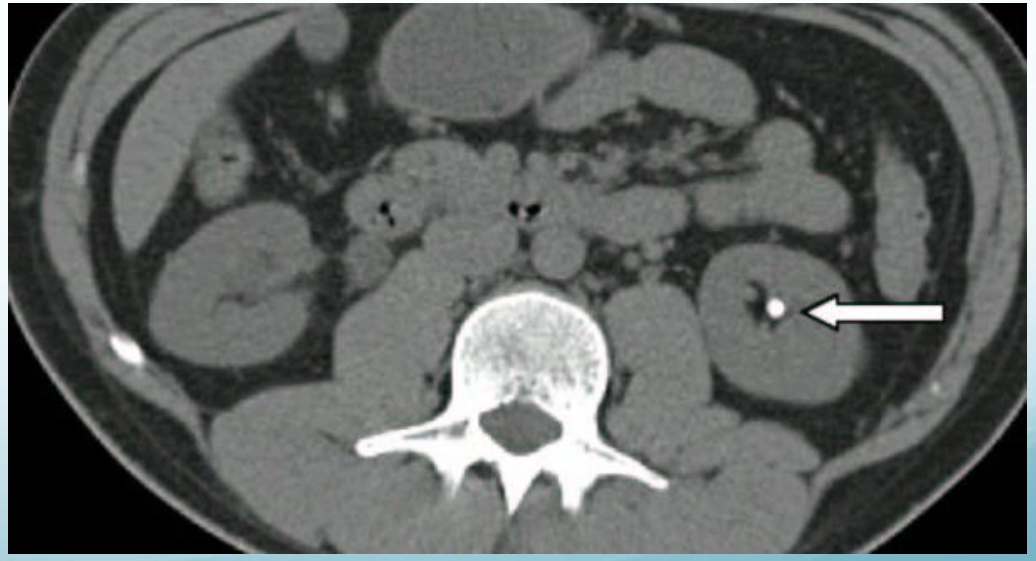
Diagnosis: CTU

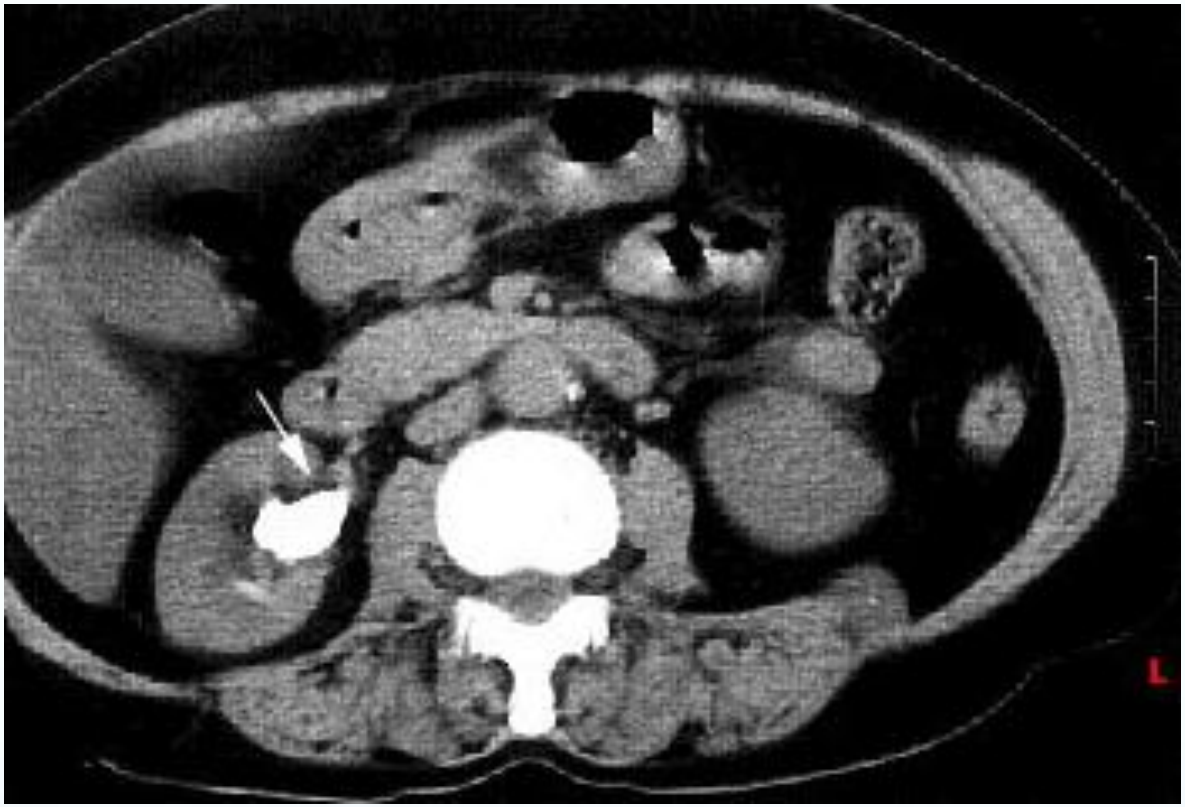
Management: Renal colic
Alpha blocker and analgesic

Treatment:

Renal :
ESWL or Ureteroscopy
Or perc

Ureteric:
<5mm DX to GP
5-6 mm Follow up
7mm + Acute operation

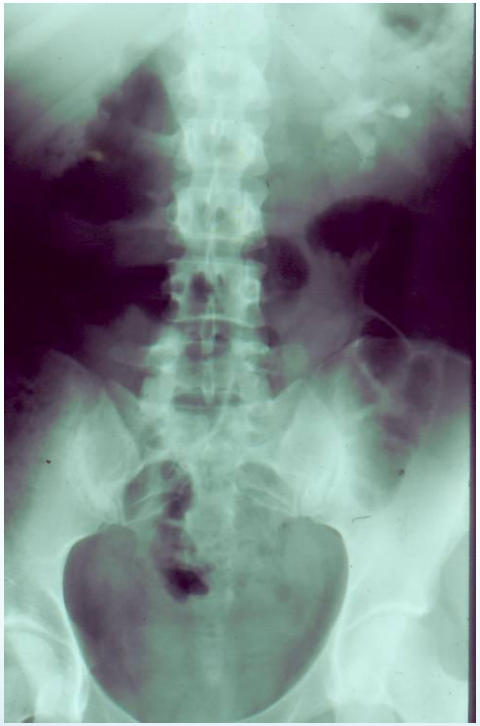


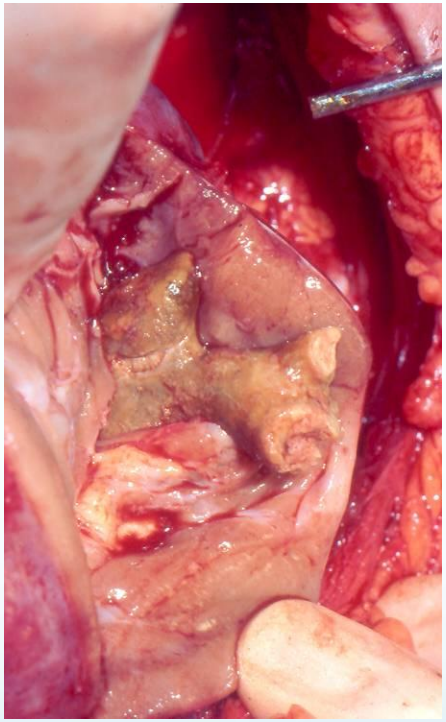


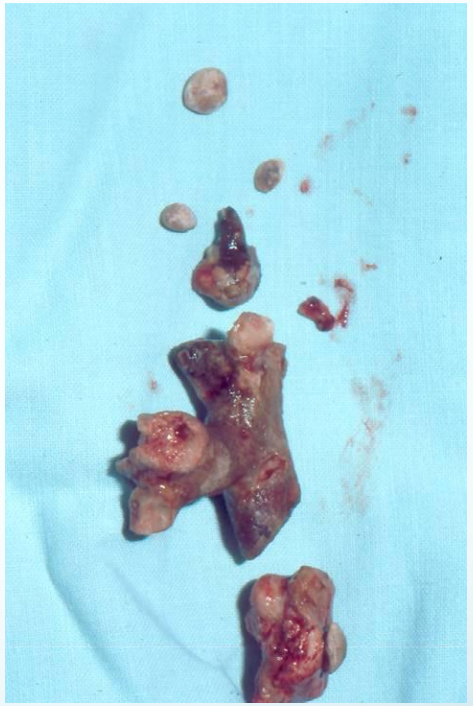
Staghorn calculus R Kidney

Renal Calculi

Recurrent UTIs – Proteus sp.







Stone Investigations

- History – bowel disease
- Investigations
  Stone analysis
  Plasma calcium, phosphate, uric acid,
  consider electrolytes and pH
- Urinary excretion calcium, oxalate, phosphate, uric acid.
  (volume helpful)
- Dietary review
  Dietary calcium and salt intake
  Foods rich in oxalate, vitamin C excess

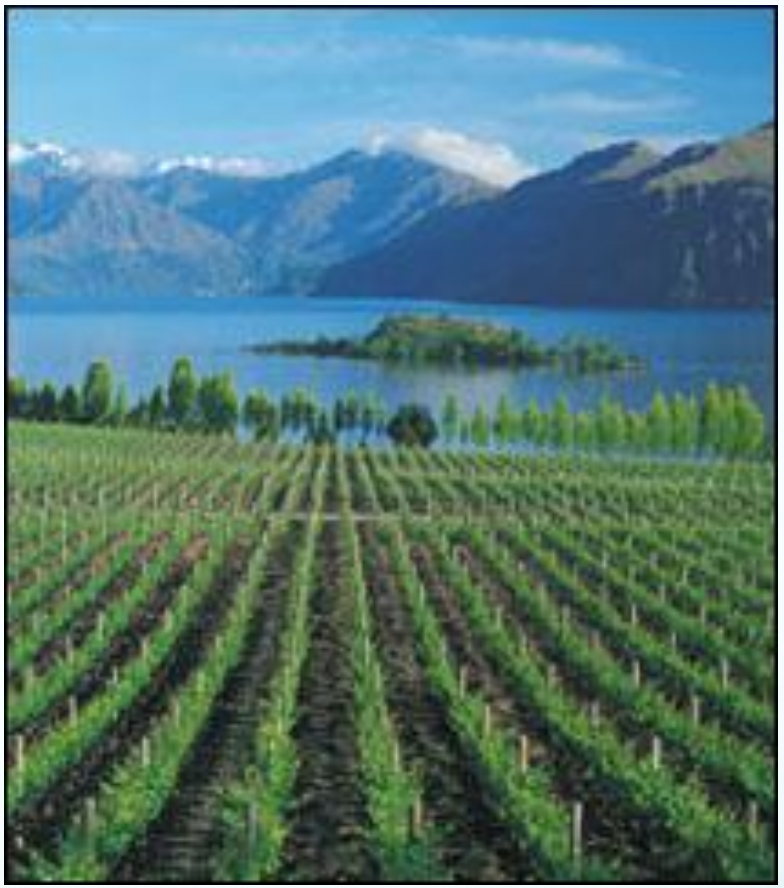
Stone Prevention

- Fluids fluids and more fluids
- Non opaque stones (Uric acid) : Fluids, alkalinisers, allopurinol and surveillance.
- Calcium oxalate stones
  High normal dietary calcium, reductions sources oxalate, low dietary salt intake
  consider allopurinol (uric acid levels & possible seeding)
- Hypercalcuria - thiazides

Back Pain is not Kidney Pain

- Renal Colic very specific in nature.
- Acute Pyelonephritis
  UTI, fever >38.5oC and loin pain
- Remember anatomically where kidneys are
- Careful examination necessary.
- Majority – musculoskeletal.

What is man, when you come to think upon him, but a minutely set, ingenious machine for turning, with infinite artfulness, the red wine of pinot noir into urine?



Apologies to Karen Blixen C19th writer.