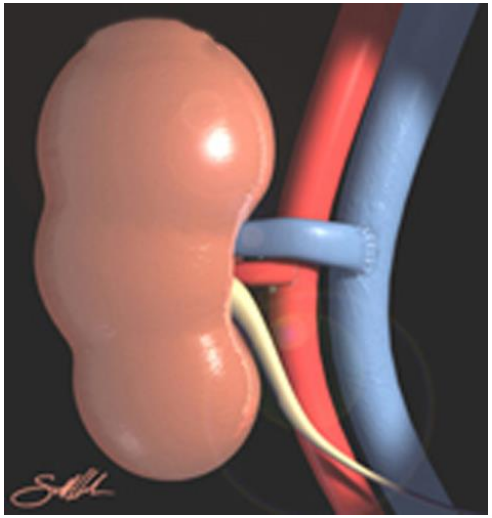
What if I get a Renal Patient?



Transplant Issues

John Kanellis

Monash Medical Centre

Transplantation - an issue for ALL renal patients

Current transplant - multiple issues

Currently listed / waiting - multiple issues

Never transplanted or deemed unsuitable – Why?

Previous transplants - What happened?

Dialysis long case
- some key transplant issues

Transplant listed - now or ever?

- Why not listed or removed from list?

Waiting time

- Reasons why may have waited a long time.

Potential live donors

- Why were they excluded?
- Medical or relationship issues?

Previous Transplants

Why Failed?

- compliance, rejection etc.

Graft still in situ?

Implications for future transplants?

Special plans for next time?

Insight / Awareness

Does the patient understand transplantation?

- Cancer risk
- Infection
- Drug side effects
- Need for compliance
- Risk of rejection / failure
- Disease recurrence - some GNs

- Expectations / hope / plans

Transplant Suitability

Age – a relative factor

Co-morbidities

- Cancer: “disease free” period. 5yrs for some
- Cardiovascular / vascular disease
- Urological issues
- Smoking history
- Infections - eg. Hep B or C, Tb
- Psychosocial issues

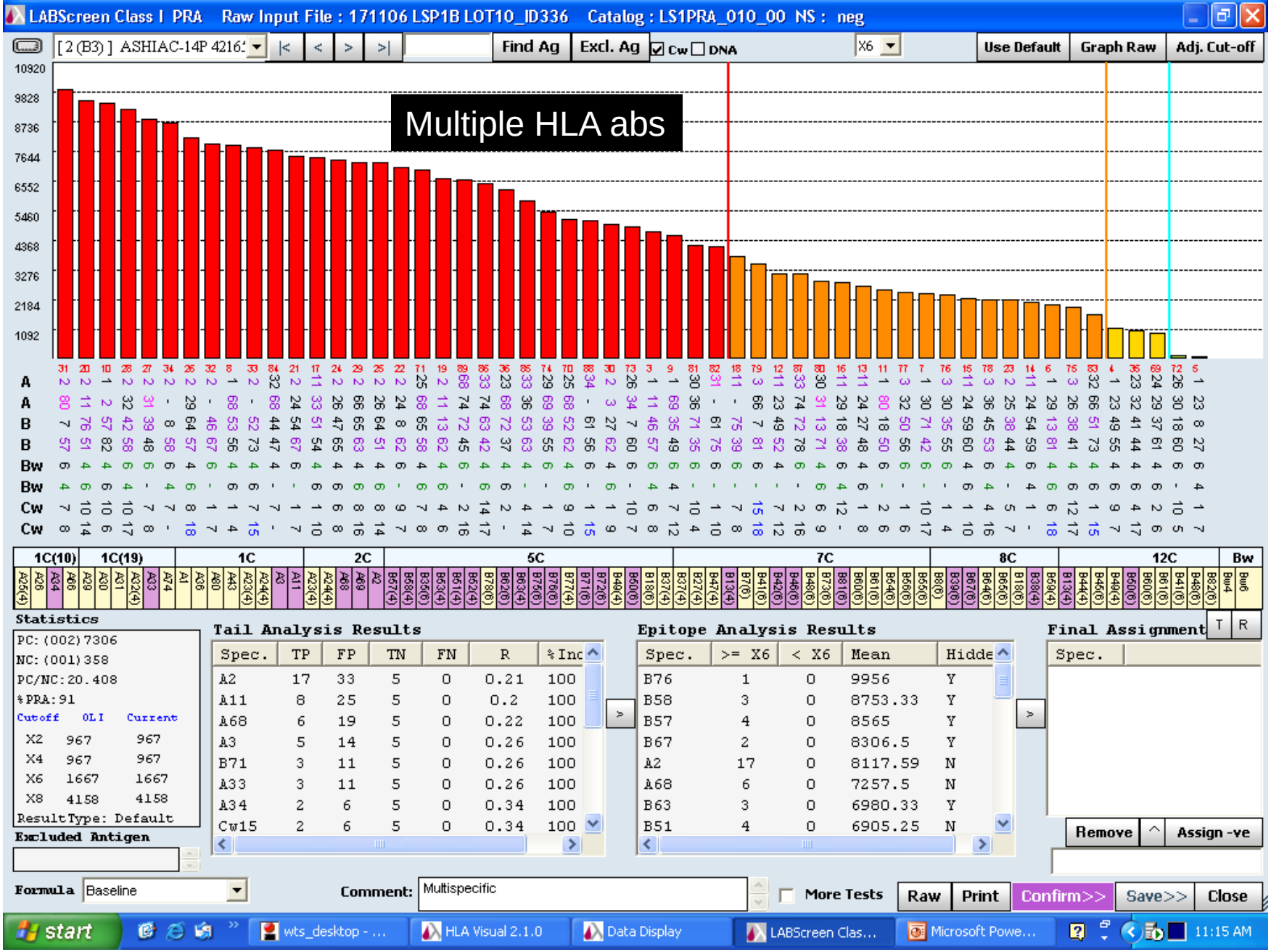
Sensitisation

Pregnancy

Transfusions

Previous transplant

?Viral

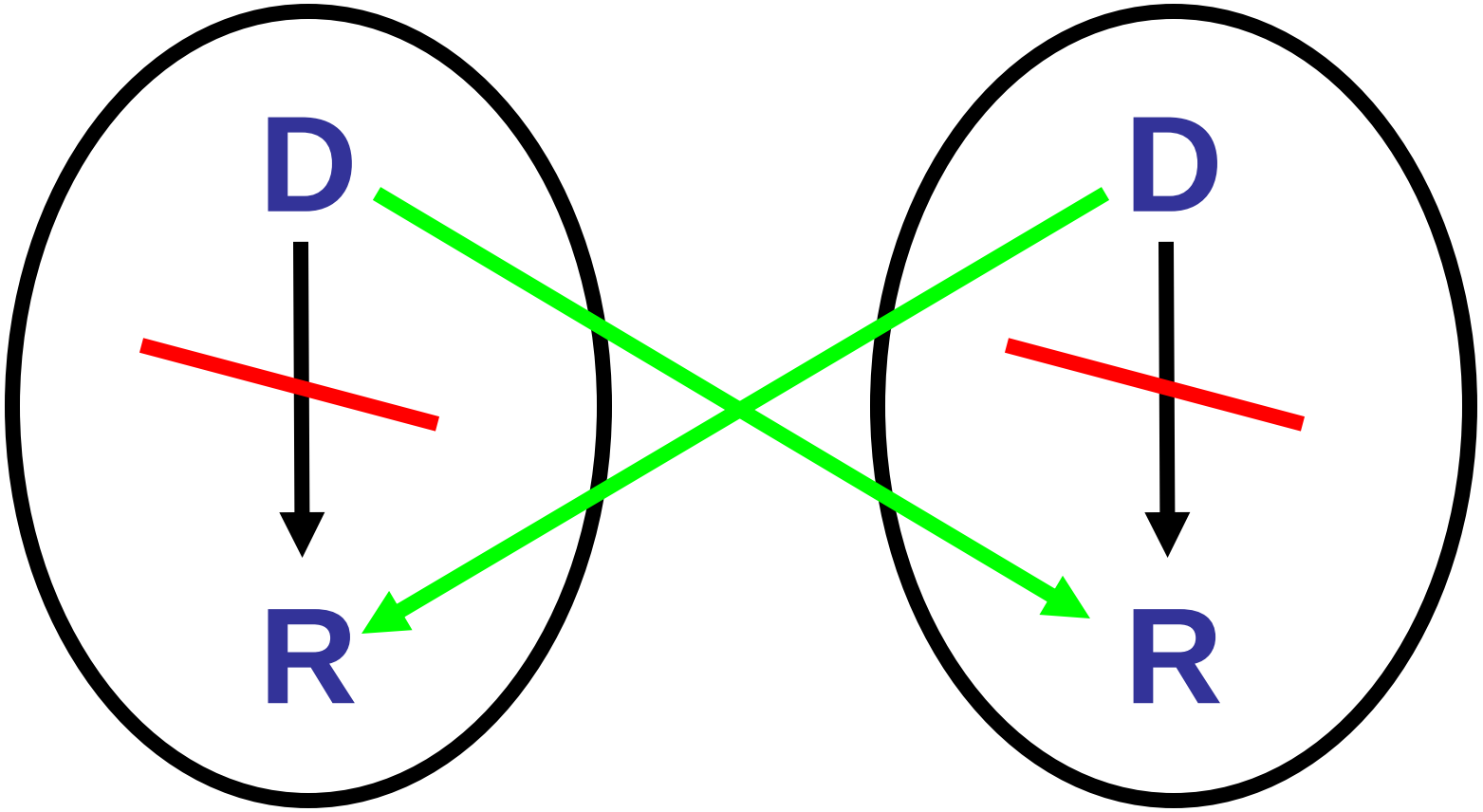


Luminex HLA class I beads - strong pos, multispecific: Prior TRANSPLANT

Paired Kidney Donation: PKD

[Paired Kidney Exchange: PKE]

[Australian Kidney Exchange: AKX]

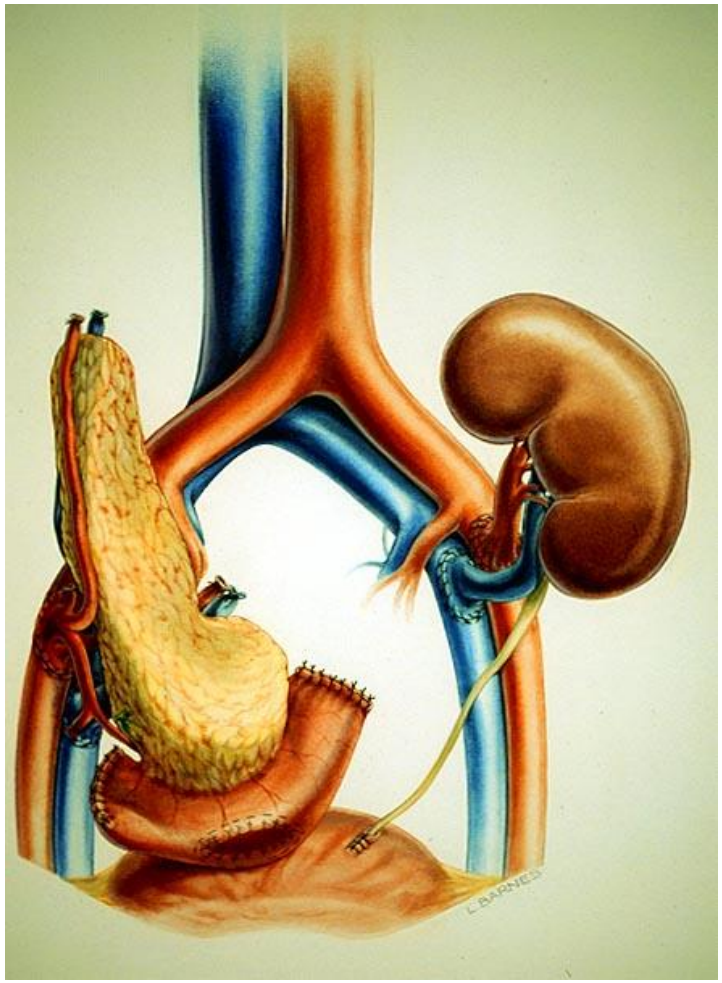


Type 1 Diabetics

Simultaneous Kidney Pancreas Transplant for those with renal failure

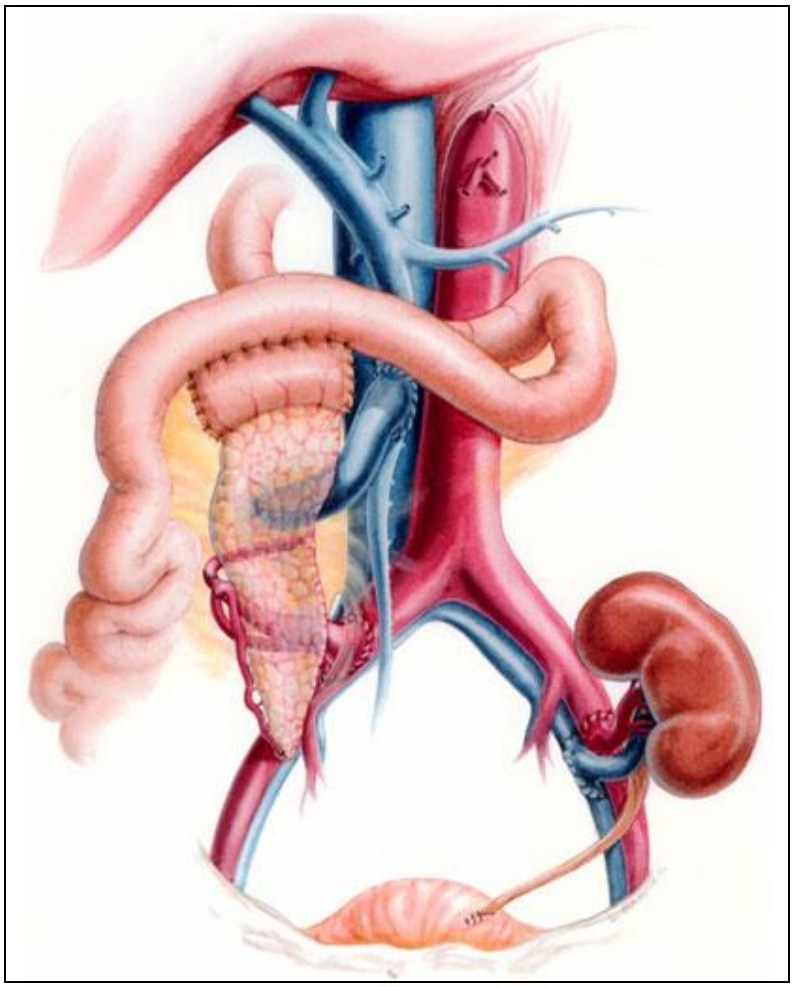
- Usually <55 years old
- Significant co-morbidities excluded
- C-peptide level may help classify to type 1 or 2 when “type” is unclear

Bladder drainage



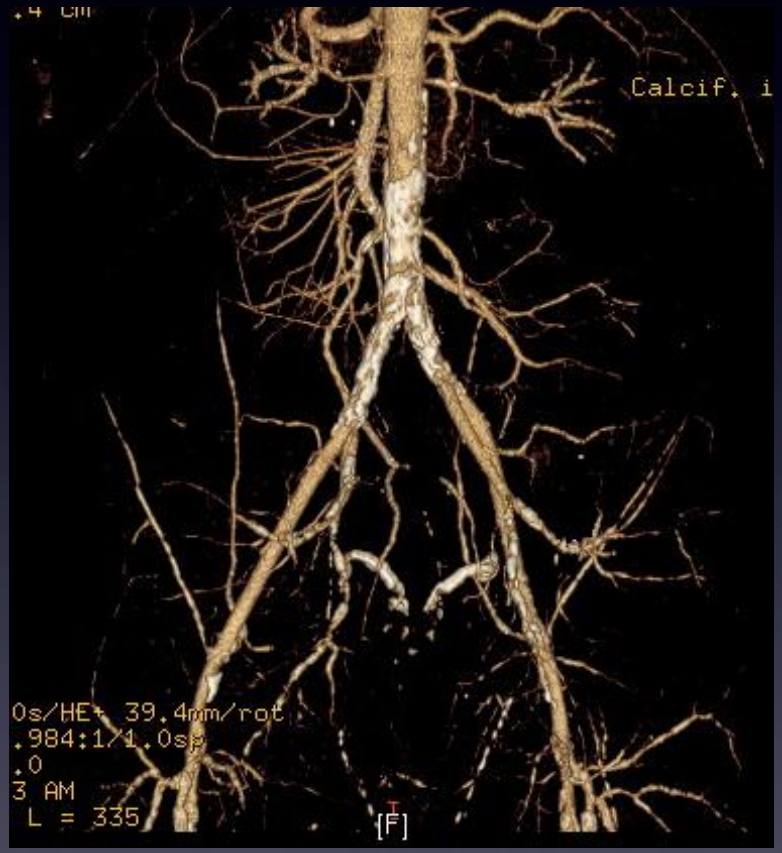
Systemic vein

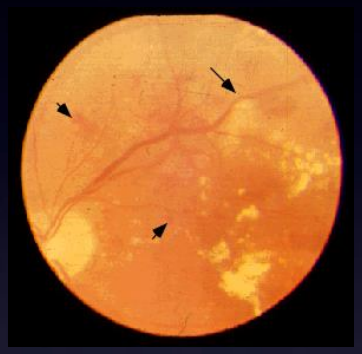
Enteric drainage

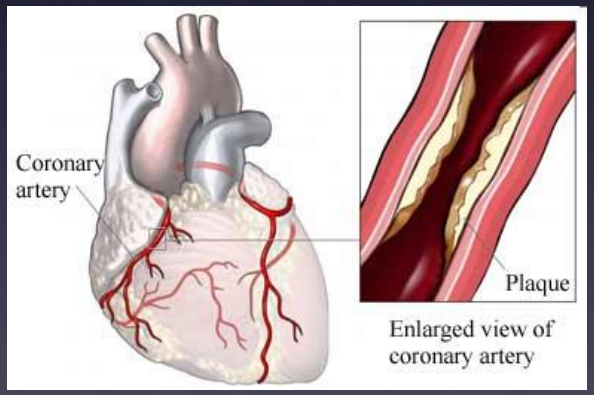


Portal vein

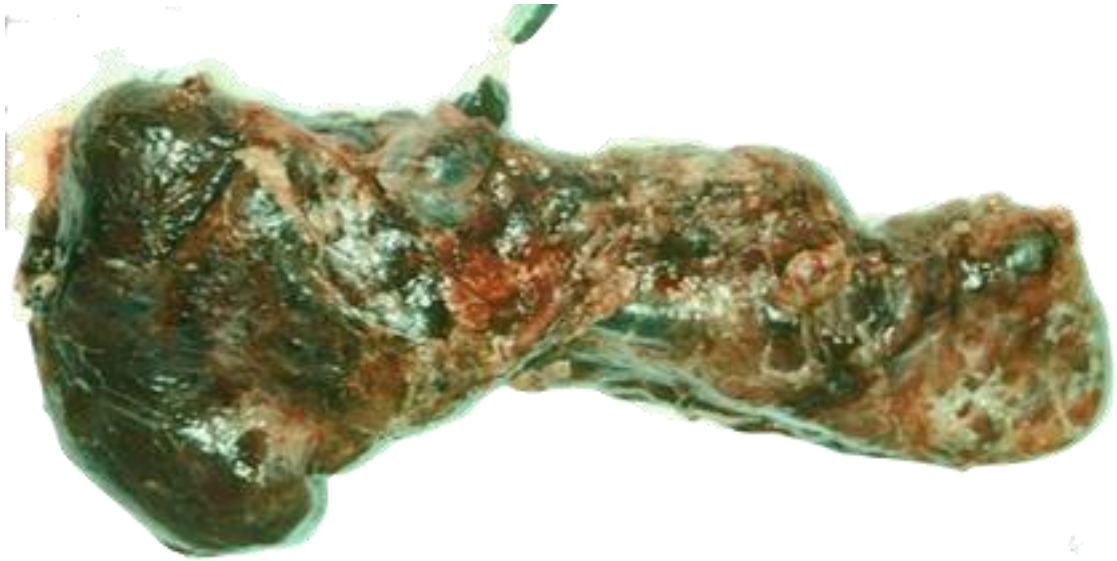
“Get in before it’s too late…..”







Pancreatic Thrombosis



Systemic-Bladder: 10.8%
Portal-Enteric: 7.4%

P(FET) = 0.497 (NS)

Recipient BMI >30
Donor BMI >30
Donor non-trauma
Ischemia time >24h

Low Blood Pressure

Ben Kave, MMC, 2005

Type 1 Diabetics - combined transplant and end organ disease

- Eyes - may worsen in short term
- Nerves - improvement
- Cardiovascular - may not improve

- Kidney protected (if do well long term)
- Lifestyle benefit - no insulin. Less dietary restrictions

Transplanted Patient - History

Donor details?

- Age, other issues or concerns

Surgical complications?

Delayed graft function / Primary non function

Biopsies?

Rejection episodes and treatments?

- Pulse steroids, OKT3, ATG, Plasma Exchange, changes in oral immunosuppression

Transplanted Patient - History

Current Function? Creatinine, GFR

- Prognosis for the transplant?
- Transplant again?

Proteinuria?

- Interstitial Fibrosis / Tubular Atrophy
- Disease recurrence? IgA, FSGS, MCGN, DM

Medications and Problems?

Major Post Transplant Issues

Diabetes

Hypertension

Cancer

Cardiac

Infections

Bones

Haematology

Lipids

“Graft dysfunction”

Current Graft Dysfunction

Pre-renal, Renal, Post Renal

- Usually volume related, drugs (NSAIDs etc)
- Urological issues

Chronic Allograft Nephropathy (IF/TA)

Calcineurin Inhibitor Toxicity

“Chronic Rejection”

Polyoma Virus (BK nephropathy)

Acute Rejection

Disease recurrence (GNs), DM

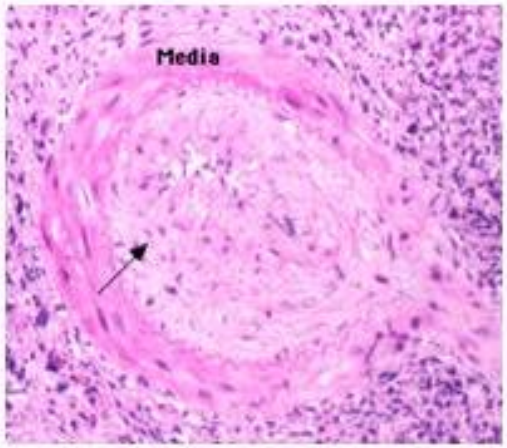
Interstitial Fibrosis / Tubular Atrophy (IFTA)

Tubular damage

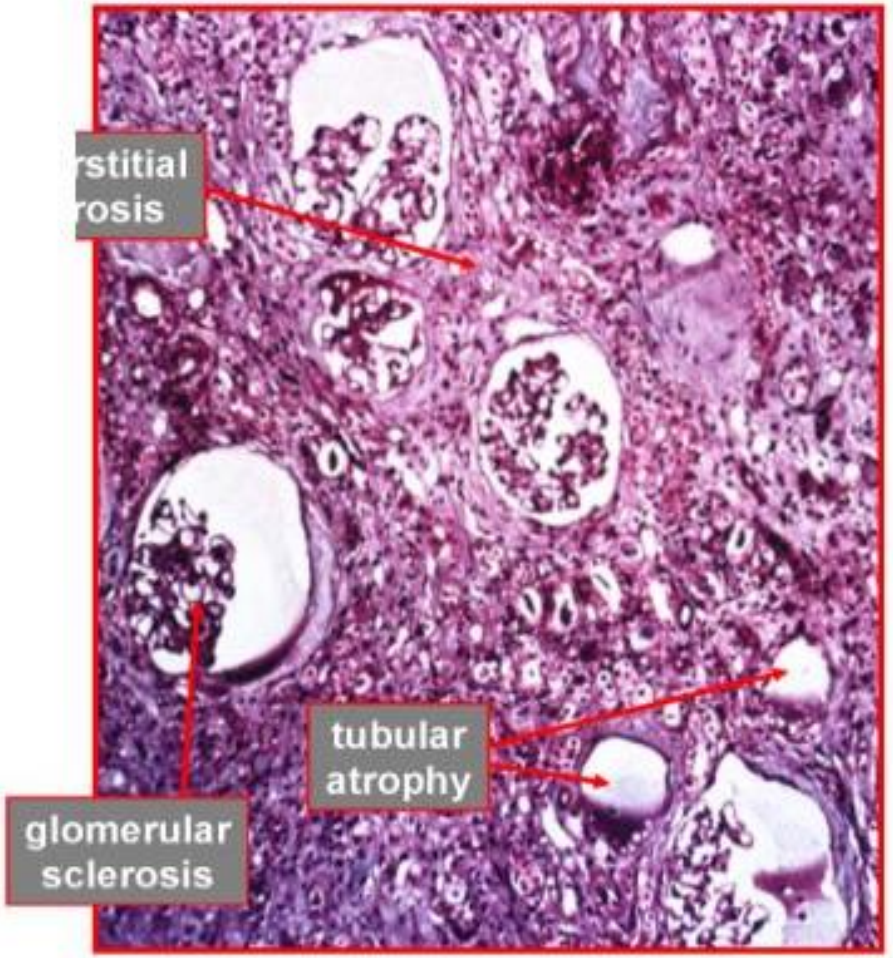
Fibrosis

Glomerulosclerosis

Arteriolar hyalinosis / sclerosis



UpToDate / H Rennke



Nankivell, Chapman et al

Immunosuppressive Drugs

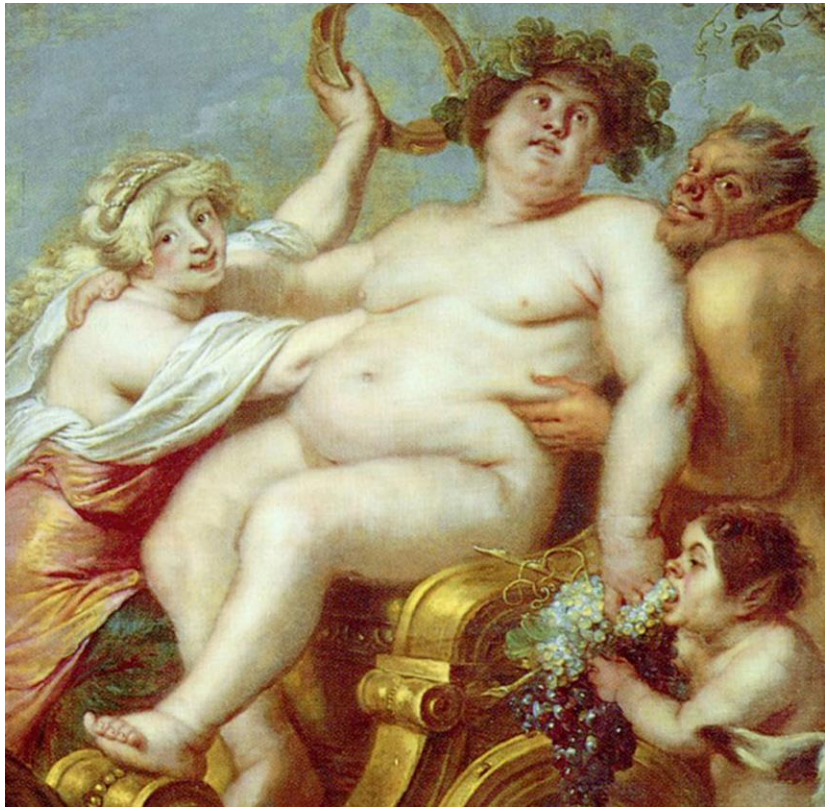
STEROIDS or Not

Cyclosporin (Neoral) or Tacrolimus (Prograf) CALCINEURIN INHIBITORS

Mycophenolate (MMF / Cellcept / Myfortic) or Azathioprine - ANTIPROLIFERATIVES

Other - Sirolimus or Everolimus - mTOR INHIBITORS

Prednisolone



Weight gain

Diabetes

Skin

Psychiatric

Bones

Cataracts

Hypertension

Lipids

Tacrolimus (FK506, Prograf)

Hair loss
Diabetes
Nephrotoxic
Hypertension

Neurotoxicity
Thromb Microangiopathy

HyperK+
HypoMg
Hyperuricaemia

Drug Interactions (Cyt P450)

Cyclosporin (Neoral)

Hirsutism
Coarsening of features
Hypertension
Nephrotoxic

Hyperlipidaemia
Thromb Microangiopathy

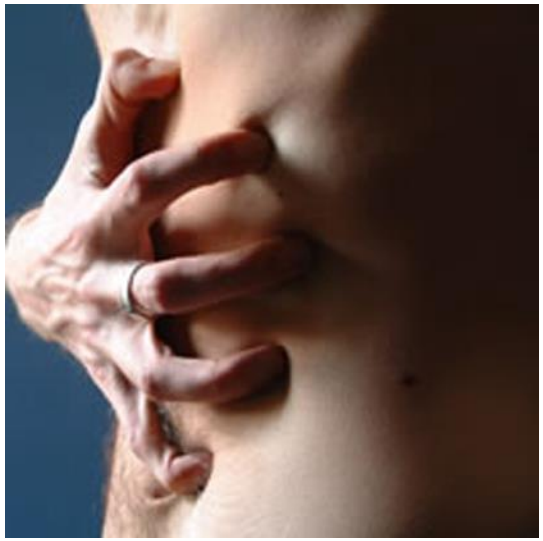
HyperK+
HypoMg
Hyperuricaemia

Drug Interactions (Cyt P450)

Mycophenolate

Gut

- **Nausea**
- **Bloating**
- **Diarrhoea**
- **CMV**



Anaemia
Leucopaenia

Colitis

mTOR Inhibitor - problems

Painful Mouth ulcers
Hyperlipidaemia
Anaemia, leukopaenia, thrombocytopaenia

Wound problems
Lymphocoeles
Pneumonitis
Joint aches
Oedema

Proteinuria

Infections

Common ones - pneumonia, UTIs, skin

Opportunistic

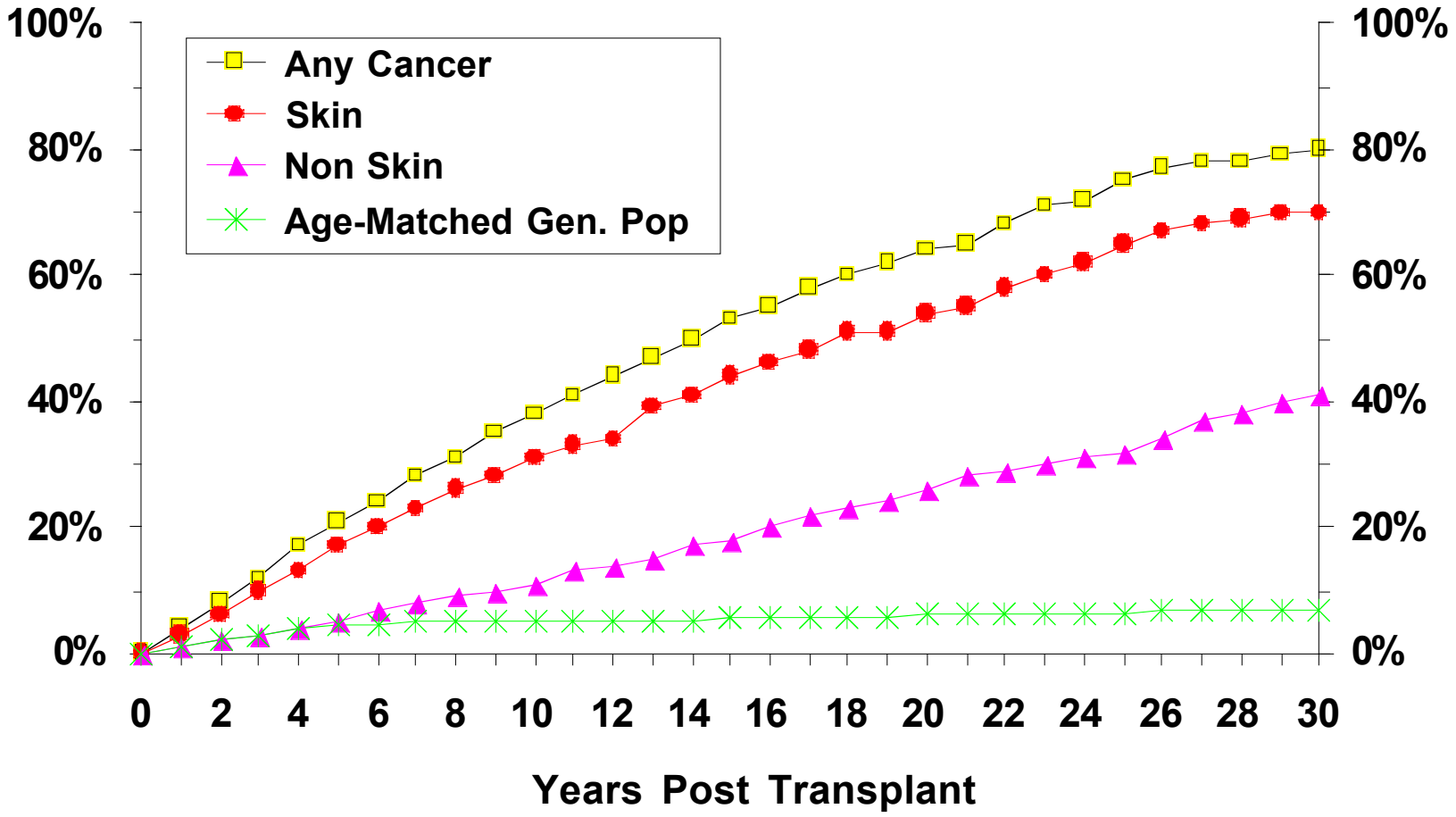
- CMV: Valganciclovir 1st 3-6 months
- “BK virus” / polyoma: Nephropathy (MMF, Tacrolimus)
- Pneumocystis: Bactrim 1st year
- Cryptococcus, Aspergillus

Bronchoscopy, colonoscopy, FNB, where indicated

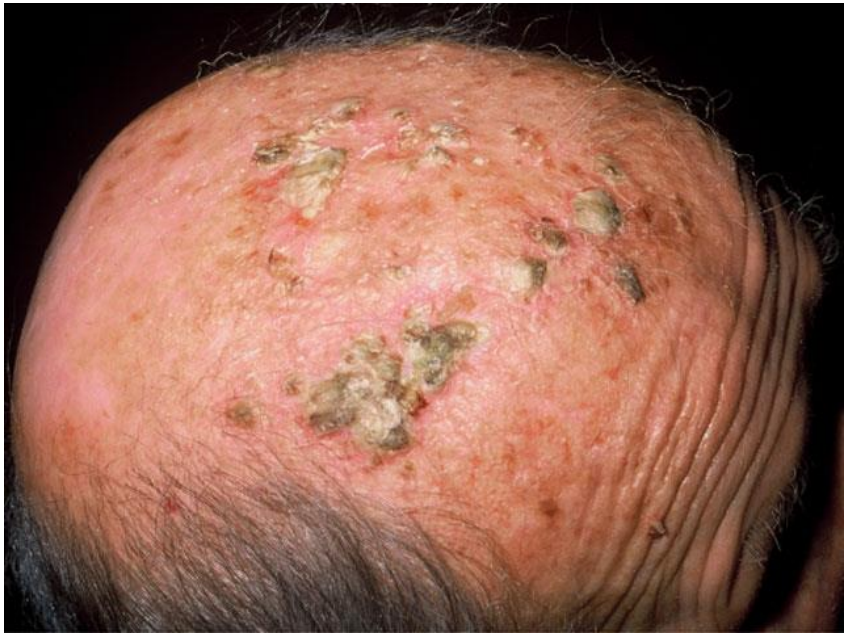
Culture widely

Vaccinations

Cancer risk in renal transplant patients

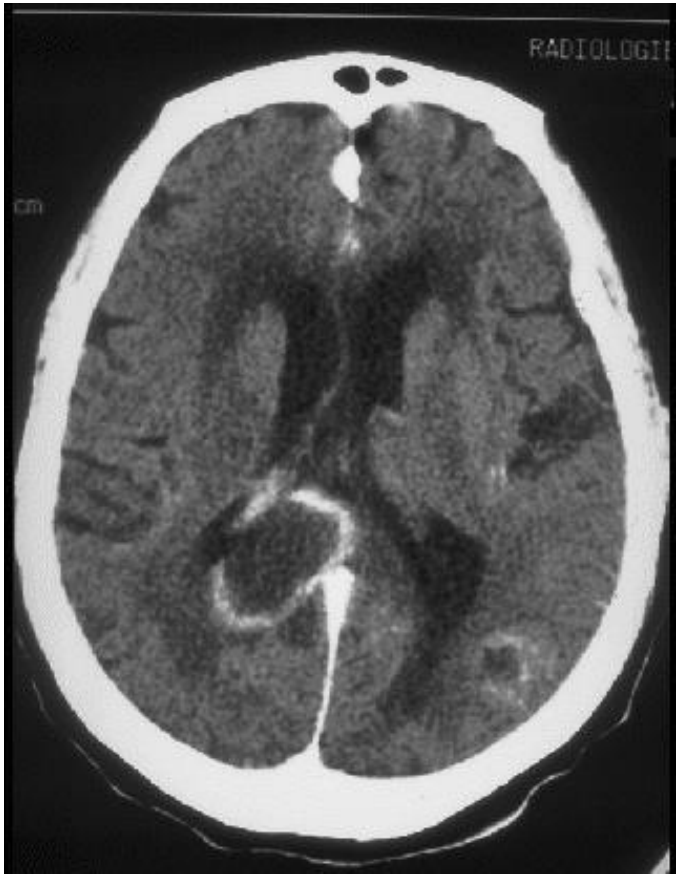


Skin cancers



Australasian Journ Derm 2002, 43, 269-273

Cerebral Lymphoma



Reproduction

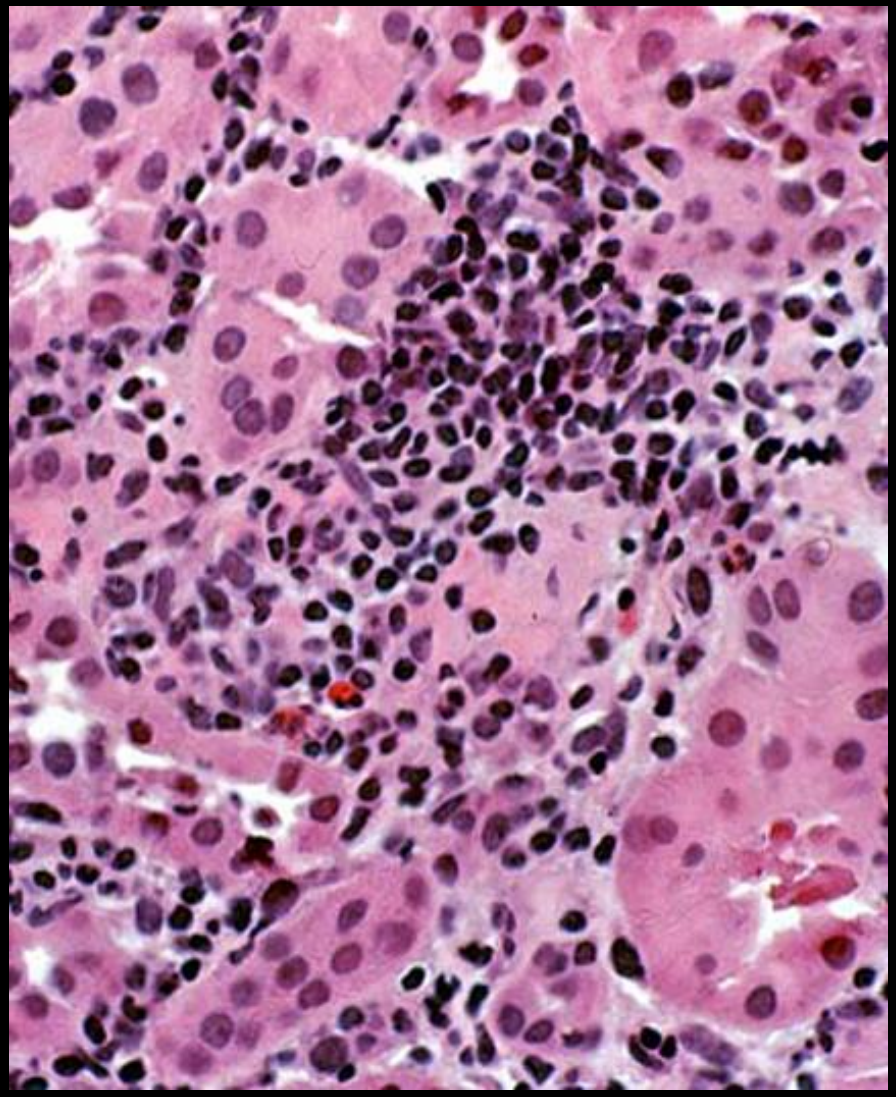
Drugs

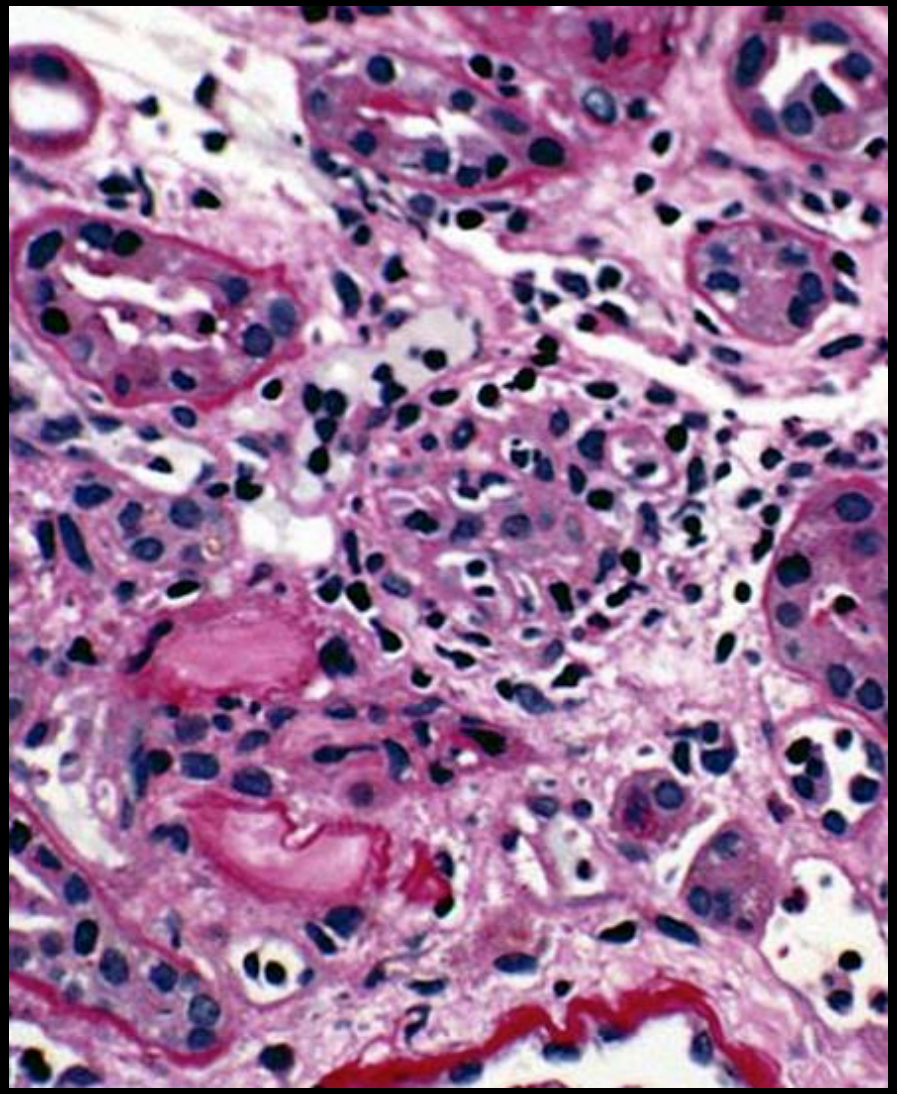
- Azathioprine OK (males also)
- Cyclosporin and Tacrolimus OK
- Steroids OK

- Mycophenolate: malformations, miscarriage
- Sirolimus unclear. Causes infertitlity

- Antihypertensives: labetalol, aldomet, hydralazine

Cellular Rejection





Antibody Mediated Rejection (AMR)

- Donor specific HLA ab - class I or class II
- Positive C4d staining

- Neutrophil margination, glomerulitis, peritubular capillary dilatation

- Tubular sparing
  (compared to cellular rejection)

AMR “treatments”

- Immunosuppression
- PEx
- IVIG
- Splenectomy
- ?Rituximab
- Others – Bortezomib, Eculizumab

Examination

- Volume / Fluid status
- BP
- Abdomen – graft, PCKD
- Associated conditions – eg. diabetes, heart disease, autoimmune disease
- Immunosuppression related issues

Issues for discussion time

Psychosocial issues…

Quality of life

Impact on work, family members

Social supports

Compliance, insight

Longer term medical issues…

Cancer risk, Infections, graft loss

Cardiovascular disease risks and diabetes

Reproduction

Questions