Liver Disease in the Immunocompromised

Nottingham Pathology 2016, BDIAP & Path Soc

Dr Susan E Davies
Cambridge University Hospitals
When is the immune system compromised?

- Primary Immunodeficiency diseases ï PIDs - CVID, hypogammaglobulinaemia
- Acquired ï HIV; largest global problem
- Iatrogenic
  - anti-inflammatory; IBD, AI disease, musculo-skeletal
  - anti-neoplastic, chemotherapy
  - solid organ and blood transplantation
Typical UK experience

- Immunosuppression as part of transplantation- liver, renal, pancreas, MVT, BMT
- Some HIV infections in UK & from abroad
- Immunosuppression in oncology, esp. haematological malignancies, and inflammatory - rheumatology, GI, hepatology!
Opportunistic infections

candida

cryptococcus
What may cause liver injury in immunosuppression?

- Opportunistic infections – bacterial, viral, fungal, parasitic.
- Chronic infections
- Neoplastic transformation – CVIDs, PTLD
- Related to transplantation – GVHD, rejection, recurrence and modification of initial disease (post liver transplant)
- Related to the IS agents themselves – side FX
What may cause liver injury in immunosuppression?

- Opportunistic infections – bacterial, viral, fungal, parasitic.
- Chronic infections
- Neoplastic transformation – CVIDs, PTLD
- Related to transplantation – GVHD, rejection, recurrence and modification of initial disease (post liver transplant)
- Related to the IS agents themselves – side FX
Infections

- Opportunistic: may have fluctuating pyrexia, unusual manifestations.
- May be related to global variations in exposure e.g. schistosomes.
- Prophylaxis and better control of immunosuppression has diminished the incidence.
CMV
CMV hepatitis

- Incidence markedly diminished with prophylactic antiviral therapy (now 2-10% of LTp)
- Later cases being seen, usually mild but may be fatal, may be extra-hepatic
- Donor-recipient mismatch important
- HIV initially seen in 90% of early deaths
BUT globallyé

Necrotising granuloma

Langhans giant cell

ZN stain
Immunosuppression & Hepatitic viruses

- Accelerated fibrosis with HCV in transplants, HIV
- A novel and rapidly fatal pattern of liver damage with HBV liver transplant: FCH
- Later FCH was seen in other cases rapid cholestatic hepatitis in HCV pOLT
- Reactivation of HBV hepatitis with chemotherapy
Resurgent acute HBV hepatitis

- Previously 'cured' or resolved individuals:
  - HBsAg- anti-HBe + asymptomatic carriers, HBsAg- anti-HBc + low-titer-positive, anti-HBs + resolved HBV infection cases

- Issues in lymphoma with rituximab and chemo, several fatalities.

- Proportional to immunosuppression

- Increased awareness, testing for DNA pre-chemoRx and anti-viral Rx commenced