



## **Evening Medical Update: Jaundice** **Tuesday 28 January 2020**

### **An approach to the jaundice patient: Professor Dermot Gleeson**

#### **What is the role of eosinophils in the diagnosis of drug-induced liver injury (DILI)?**

Very limited. Blood eosinophils are raised in <1-% of cases of DILI. Eosinophils on biopsy are also unusually and are sometimes seen in other conditions such as Autoimmune Hepatitis, and so, are of little diagnostic value.

#### **Is 5'-nucleotidase used in the UK?**

Rarely and never in my experience.

#### **In a patient with portal vein thrombosis and coagulopathy, should treatment include vitamin K and heparin or only one of the two?**

The only indication for vitamin K is in cholestatic jaundice (obstruction, DILI) without liver failure, when there is Vitamin K malabsorption – a situation identical to that on warfarin therapy (warfarin induces vitamin K deficiency by preventing its regeneration). In liver failure the coagulopathy is due to failure to synthesise clotting factors and vitamin K has usually no effect.

That said, sometimes it is hard to exclude a “Vitamin K deficiency” component and often haematologists advise giving vitamin K and seeing if it has any effect before using coagulation factor replacement.

#### **What kind of liver enzyme changes are typically seen in ischaemic hepatitis after shock or cardiac arrest? Is AST >> ALT?**

Typically a sharp transaminase spike with a rapid fall over days (like in the case of CBD stone with cholangitis I presented (case 1)). Usually AST is indeed higher than ALT.

#### **Is positive anti-smooth muscle antibody (ASMA) sufficient to confirm a diagnosis of autoimmune hepatitis (AIH)? And when should steroid treatment be started?**

ASMA is not very good test on its own. Seen in about 75% of patients with AIH, but also in about 20% of cases of NAFLD. So neither very sensitive or very specific. Steroids are nearly always indicated following a diagnosis of probable or definite AIH. This is done by accruing enough diagnostic points (discussed in the case I did not have time to present but is in the slide set). Sometimes, steroids can be deferred if patient is older and/or has mild disease on biopsy (i.e. mild inflammation and mild or no fibrosis). This, however, cannot be decided without a biopsy. In a multicentre audit we performed, 8% of patients did not receive steroid treatment and these had a high mortality rate.

#### **Is serum caeruloplasmin sensitive enough in Wilson's disease?**

Usually a combination of serum normal caeruloplasmin and 24 hour urine copper is adequate to exclude Wilson's. The caeruloplasmin on its own is not sensitive especially when there is severe hepatitis (it may be falsely raised because of an acute phase response, or falsely low because of liver failure). Indeed no single test is 10% accurate for diagnosis or excluding Wilson's. The EASL guidelines (2102), available online give a diagnostic scoring system (Table 5).

### **Liver transplant – who & when? Dr Kenneth Simpson**

#### **Are there relative 'social' contraindications for transplant?**

No

Please could you comment on the relevance/importance of the King's College Criteria?



There are the criteria we use for deciding on the need for transplantation in the UK for patients with acute liver failure, so are both relevant and important.

**What is the best way to refer a patient to your service?**

In routine cases write a letter of referral, and in acute or urgent cases phone the transplant registrar via the RIE switchboard.

**Why is there such disparity in need versus access for the Western Isles?**

It's a small population, far distant from the transplant centre.

**How difficult is it to find donors?**

There are lots of donor offers, but relatively few are appropriate for organ donation.

**What is the proportion of cadaveric to living donors?**

In Scotland there have only been a handful of living donors for liver transplant.

**What is the difference in outcomes between Donors after Brain Death (DBD) versus Donors after Cardiac Death (DCD) post-transplant?**

The issue is the hypoxia between the heart stopping and the liver being retrieved in DCDs. This causes biliary injury and a picture very similar clinically to PSC. This problem has been significantly reduced with the introduction of NRP or organ machine perfusion techniques.

**Hepatocellular carcinoma (HCC) patients are usually given high MELD (Model for End-Stage Liver Disease) scores, taking them to the top of waiting lists. Does this contribute to improved overall survival?**

Firstly, HCC has lower longer term survival than other transplant due to cancer recurrence. MELD exception also doesn't apply in the UK.

**What is the waiting time for liver transplant in Scotland?**

The simple answer is "as long as it takes". Patients listed with variant syndromes can wait 2-3 years.

**What would be the oldest patient transplanted in Scotland and should referring units perform cardio-pulmonary exercise testing (CPEX) or similar before referral?**

Early seventies, we CPEX test and also do other CV testing, so extensive CV testing in referring units is unnecessary.

**How common is graft rejection?**

When we did routine day 7 biopsies (a long time ago) histological acute rejection was common, maybe 70-80%. But, we don't do these now and so pick up rejection much less commonly. Acute rejection is not usually a problem in liver transplantation, it responds promptly to high dose steroid. Chronic rejection is rare now days.

**Can a 90-year-old patient donate their liver, who has multiple co-morbidities but a healthy liver?**

Yes.

**Would blood transfusion preclude someone from liver transplantation?**

No.

**Is/are there any particular liver diseases that have poor prognosis or a high rate of recurrence after liver transplant?**

Not now we can treat HCV so easily.

**Updates in viral hepatitis: Dr Andrew Bathgate**



**Is Hepatitis B curable?**

Not yet. Viral Replication is controllable with anti-virals.

**If Hepatitis B core antibody is positive does it mean definite previous infection or can it be positive post-vaccination?**

Vaccination is with surface antigen only, therefore, antibody to surface only whereas natural infection will lead to anti-core antibody and in most cases anti-surface.

**Are Hepatitis C antivirals contraindicated in severe chronic heart disease with chronic kidney disease (CKD)?**

Not absolutely, contra-indicated as maviret can be used in renal failure. However, it may not be the appropriate thing to do if heart disease is severe and not cirrhotic as very unlikely to influence survival. Hepatitis C is a slow disease.

**Regarding the patients who cannot be cured... Is this due to patient or viral factors?**

**Is Hepatitis C or Hepatitis B positivity a contraindication for biological immunosuppressive treatment for co-existing inflammatory bowel disease (IBD)?**

No. Both can be treated concurrently if required.

**How long does an HEV-infected (Hepatitis E infected) individual remain infectious?**

Person to person spread in the sporadic infections is extremely rare. Theoretically virus is present in stool for a number of weeks during infection and could potentially be transmitted.

**Can the newer Hepatitis C drugs be used in Hepatitis E chronic infections?**

No. Different structural proteins therefore different drug targets.

**Should patients be screened for hepatitis before starting non-biological DMARDs (disease-modifying antirheumatic drugs), such as methotrexate and azathioprine?**

**Do you think Hepatitis B vaccination is the major factor for low incidence?**

Low incidence of chronic infection in the UK is due to a variety of factors. All pregnant women have been screened for many years and therefore at risk babies are protected by rapid vaccination (plus HBIG in some cases). Adults becoming infected are at low risk of developing chronic infection.

**What is the significance of isolated positive HepB core antibodies of IgG type? Is there any need for continuous follow up?**

No need for follow-up. Significant only in extreme immunosuppression when reactivation can occur.

**Can Hepatitis E present with isolated raised ALT with normal other liver functions?**

Yes

**Should all patients starting cancer chemotherapy be screened for hepatitis viruses routinely?**

Yes in my opinion

**Do you think the cost of Hepatitis C drugs is justified?**

Yes. £4,000 for a cure of potentially life threatening illness with significant morbidity and cost (i.e. cirrhosis) is extremely cost-effective.



**After the initial rise, does ALT generally fall quicker with drug-induced liver injury (DILI) than with viral hepatitis, and can this help distinguish between them?**

Not really in acute setting. Viral serology/pcr much better way to make distinction.

**If a person suffers a human bite from someone with Hepatitis B, how many doses of Hepatitis B vaccine are required and at what frequency? Similarly, what is the vaccine treatment regime for needle stick injury from a Hepatitis B patient?**

Hepatitis B immunoglobulin should be used if definite exposure. At the same time an accelerated course of vaccination should be given (0.1.2 and 12 months)

**Can Hepatitis B reactivate after complete clearance after the initial infection?**

Yes.

**Are tattoos still related to Hepatitis B and C in the UK, as they were in the past?**

Transmission could still theoretically happen but haven't seen it in my experience.

**Can you still get Hepatitis B if you are vaccinated?**

As with most things in medicine it would be foolish to say never because these are rare HBV viruses out there with mutation in the surface antigen that could "escape" the vaccine induced immunity.

**Is there any need for prophylaxis in patients you are giving courses of steroids to? Such as in acute admissions in patients with previous Hepatitis B?**

No.

**If someone's sAb is <10 post vaccination, is there a chance they still will launch an immune response if they came in contact with the Hepatitis B virus?**

Yes. More in-depth analysis of T-cell expansion to HBV antigens in this setting has demonstrated reactivity.

**Do you see much HIV co-infection with Hepatitis C in Scotland?**

Not a huge amount but treatment is now very straightforward.

**Why is there still no vaccine for Hepatitis C?**

Virus too heterogenous.

**What is your experience with ischaemic liver injury?**

Reasonably common in hospital setting. Rapid rise in transaminases and often accompanying PT prolongation. Usually resolves quickly unless underlying chronic liver disease in which case can be prolonged jaundice.