CASE REPORT

Acute painless hepatitis in pregnancy — a cause for concern?

A 26 year old woman, who was 19 weeks' pregnant, was referred by her general practitioner with acute onset hepatitis and painless jaundice. She described a four week history of lethargy and palpitations on exertion. She also reported febrile episodes over the past three days, with no other clinical features on systems inquiry.

Her medical history included pre-eclampsia in her first pregnancy, which resulted in induction at 40+1 weeks and a caesarean section. She was taking aspirin at presentation but no other drugs. She had a history of allergy to penicillin and latex, which both caused a rash. She was married with a 2 year old son and worked as a pharmacy dispenser. She reported no recent travel outside the UK, no unusual hobbies, no risk factors for acquiring blood borne viruses, and no contacts with similar symptoms.

Baseline blood tests showed alanine aminotransferase 1779 U/L (reference range 0-41; 1 U/L=0.02 µkat/L), total bilirubin 65 µmol/L (0-21), albumin 33 g/L (35-50), and prothrombin time of 11.4 s (9.7-11.5). Her full blood count was normal. During admission her transaminases rose and her prothrombin time increased.

1. What are the viral causes of hepatitis in pregnancy and which are of greatest concern?
2. What are the tests for an acute viral hepatitis?
3. How might this patient have acquired this condition?
4. What infection control measures should be taken?
5. How would you manage this patient?

Submitted by Michael Ankcorn, Cariad Evans, and Stephen Thomas Green

Patient consent obtained

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STATISTICAL QUESTION

Treatment effects and placebo effects

Researchers investigated the effectiveness of iron supplementation on reducing fatigue in non-anaemic women with unexplained fatigue. A double blind randomised placebo controlled trial was performed. In total, 144 women aged 18-55 years were recruited from an academic primary care centre and eight general practices in western Switzerland. Women were randomised to oral ferrous sulphate (80 mg/day of elemental iron daily; n=75) or placebo (n=69) for four weeks. The primary outcome was self reported fatigue as measured by a 10 point visual analogue scale, ranging from 1 (no fatigue at all) to 10 (very severe fatigue). At baseline, mean fatigue values were 6.37 points in the intervention group and 6.46 points in the placebo group. The mean decrease in fatigue after four weeks was significantly greater in the intervention group than in the placebo group (1.82 v 0.85 points; difference 0.97, 95% confidence interval 0.32 to 1.62; P=0.004).

It was concluded that non-anaemic women with unexplained fatigue may benefit from iron supplementation.

Which of the following statements, if any, are true?

a) The mean change in the primary outcome for the intervention group represented the treatment response
b) The difference between the intervention group and placebo group in the mean change of the primary outcome represented the treatment effect
c) The mean change in the primary outcome in the intervention group included placebo effects

Submitted by Philip Sedgwick

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ANATOMY QUIZ

Magnetic resonance angiogram of the aortic arch

Identify the anatomical structures labelled A, B, C, D, and E in this magnetic resonance angiogram of the aortic arch.

Submitted by Seyed Ameli-Renani

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We welcome all contributions to the Endgames section. Longer versions are on the Education channel on thebmj.com. Please submit via thebmj.com or contact Amy Davis at adavis@bmj.com
ANSWERS TO ENDGAMES, p xx For long answers go to the Education channel on thebmj.com

STATISTICAL QUESTION
Treatment effects and placebo effects
Statements a, b, and c are all true.

CASE REPORT
Acute painless hepatitis in pregnancy—a cause for concern?

1 Viral causes include hepatitis A, B, C, D, and E, as well as cytomegalovirus and Epstein-Barr virus. These infections can occur during any trimester. Cytomegalovirus is associated with congenital infection and hepatitis E virus is associated with fulminant hepatitis in pregnancy. In rare cases herpes simplex and varicella zoster viruses can cause hepatitis and are associated with congenital and perinatal infection.

2 A combination of serological and PCR tests is recommended. Serology for hepatitis A, B, and E virus; cytomegalovirus; and Epstein-Barr virus should be requested as well as PCR for hepatitis C virus. The patient tested positive for hepatitis E virus IgM, and this was confirmed by PCR.

3 There are four main routes of transmission: faeco-oral (contaminated water), zoonotic (food borne), blood transfusion, and vertical. The incidence of autochthonous (locally acquired) cases without a history of foreign travel is increasing in the UK.

4 The patient should be isolated and barrier nursed as an inpatient during the infectious period.

5 Treatment of acute HEV is mainly supportive. Regular clinical and laboratory evaluation is recommended to assess for acute liver failure and early discussion with the local transplant unit may be indicated.

ANATOMY QUIZ
Magnetic resonance angiogram of the aortic arch
A: Brachiocephalic artery, also known as innominate artery
B: Left common carotid artery
C: Left subclavian artery
D: Left internal mammary artery, also known as internal thoracic artery
E: Right vertebral artery