1. This patient has unconsciousness of undetermined origin. (a) and (b) are therefore not options. Indeed her EEG does show some activity, although a flat EEG does not mean the patient is dead. The EEG shows burst suppression—periods of flatness followed by some brief activity. The mechanism is not well understood but probably reflects dominance of subcortical and particularly thalamic generated rhythms. The burst-suppression pattern of the EEG is seen in adults in a rather limited number of conditions. It is a recognised feature in deep stages of general anaesthesia, it can occur following cardiorespiratory arrest, and is seen in conjunction with sedative overdose.

Further Reading

2. Paget’s disease. He has cataracts and prostatic outflow obstruction, common pathologies in older people. However, his deafness and back pain are due to Paget’s disease. The X-ray shows a coarseness of the L2-4 vertebral bodies and blurring of the cortico-medullary junction. The bodies are also quite flat and there is thickening of the right border of L3.

Further Reading

3. (a) A rapidly evolving, descending flaccid paralysis with autonomic features is typical of botulism, although there may be no autonomic features. Sudden respiratory paralysis and death may occur in very rapidly evolving cases. Botulism may result from ingestion of pre-formed toxin in food, from wound contamination with spores and subsequent production of toxin, or from intestinal colonisation with spores in infants. There has recently been an increasing number of cases of wound botulism in injecting drug users in the UK, as reported by the UK Public Health Laboratory.

(b) Diagnosis is confirmed by identification of the toxin in blood, or the bacteria from wound specimens. Samples should be sent immediately to the reference laboratory. The bacterial load can be decreased by surgical debridement of any wound and antimicrobial therapy with benzyl penicillin and metronidazole. Early treatment with antitoxin helps neutralize any already produced toxin and reduces the severity of the illness.

Further Reading

4. Haemorrhage from renal angiomyolipoma in tuberous sclerosis. The CT shows subependymal periventricular calcification. 80% of tuberous sclerosis patients have renal angiolyolipomas (AMLs). They are benign hamartomas which are usually asymptomatic, unless they bleed. They may then present with acute abdominal pain, haematuria and hypovolaemic shock. Lesions tend not to bleed unless they are greater than 3.5cm in diameter. Large AMLs may occasionally cause mechanical problems or renal failure through replacement of normal tissue. Most, but not all, AMLs have a high fat content, enabling them to be distinguished from the rarer renal cell carcinomas. The treatment of choice is percutaneous arterial embolisation, or conservative renal-sparing surgery.

Further Reading