Screening for Corynebacterium diphtheriae

A P R Wilson, S Matthews, M Bahl, A Efstratiou, B D Cookson

Abstract
A throat swab from a 9 year old girl with pharyngitis yielded a non-toxigenic strain of Corynebacterium diphtheriae var mitis and Streptococcus group G. C pseudodiphtheriticum was isolated from the throats of two of her four brothers. In each case the isolate was sent to the reference laboratory before full identification. The growth was found to be mixed for one brother; the other isolate being a toxin producing C diphtheriae var gravis. The child was asymptomatic and the case proves that all colonial types on the Hoyles plate should be identified.

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We have already suggested that routine screening for Corynebacterium diphtheriae should not be abandoned in the United Kingdom despite the current lack of staff and resources. 1 We describe a family outbreak that would not have otherwise been detected and which illustrates a potential pitfall in diagnosis.

Case report
A 9 year old girl presented with a history of sore throat and was noted to have pharyngitis, fever, and lymphadenopathy but no pharyngeal membrane. She lived with her parents and four brothers, aged 7 years, 5 years, 2 years and 6 months. They were not affected and she was treated with oral penicillin. Culture of the throat swab showed growth of a group G Streptococcus. Gram positive bacilli were observed on the Hoyles plate and later identified by API Coryne (BioMérieux) as C diphtheriae var mitis. The Elek test and guinea pig inoculation showed the strain to be non-toxigenic. Treatment was changed to erythromycin.

The family were then requested to attend the general practitioner to have throat swabs taken and they were treated with erythromycin. The parents and two of the brothers were asymptomatic, but the 2 year old and the 4 month old brother had fever without a sore throat. The family had been in the United Kingdom for 13 years since leaving Malaysia. One month earlier, the parents and the youngest child had been on a pilgrimage to Mecca. The other children had been looked after by a grandmother who was visiting from Malaysia.

Comment
The source of the two strains of C diphtheriae in this family is unknown. The parents or the baby may have been transient carriers of the organism after their pilgrimage, as may have the visiting grandmother. All of the children were known to have received vaccination against C diphtheriae toxin and this might have accounted for the lack of serious symptoms. In one United Kingdom survey, history of vaccination was not found to be a good predictor of immunity; 21% of those said not to have been immunised were not immune compared with 9% of those who had. 2 This incident shows not only the importance of culturing routine throat swabs for C diphtheriae, but also that all colonial types on the
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Severe thrombocytopenia secondary to asymptomatic cytomegalovirus infection in an immunocompetent host

J G Wright

Abstract
A healthy 33 year old man presented with a short history of purpura and easy bruising. Investigations showed profound thrombocytopenia with atypical lymphocytes in the peripheral blood. Marrow appearances were consistent with platelet consumption. Biochemical hepatitis was also noted. An infection screen showed the underlying diagnosis to be cytomegalovirus (CMV) infection. He was treated successfully with oral prednisolone. This subsequently tailed off without relapse.

Careful examination of a stained blood film is needed in all cases of apparent idiopathic immune thrombocytopenic purpura.

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The most common form of cytomegalovirus (CMV) infection in the immunocompetent is asymptomatic and usually detected retrospectively. It is a well recognised cause of a "glandular fever"-like illness characterised by myalgia, malaise, headache, fever and sore throat. Peripheral blood examination shows the atypical mononuclear cells present in all causes of this symptom complex—for example, Epstein Barr virus infection, toxoplasmosis, Q fever. The illness is usually self limiting and serious complications (such as haemolysis, Guillain-Barré syndrome, granulomatous hepatitis, carditis, pneumonia and meningencephalitis), though well recognised, are rare.

Although thrombocytopenia is well described in congenital CMV infection, there are only three recorded cases in otherwise healthy individuals. We report a case of a man with acquired CMV infection presenting with purpura and bruising in the absence of other symptoms.

Case report
A 33 year old male newsagent presented with a three day history of purpura, epistaxis, and easy bruising. He was otherwise asymptomatic and receiving no drugs. Examination showed that he was a healthy aperistinal man. There was extensive purpura over his limbs and trunk with haemorrhagic bullae in his mouth. Fungoscopy yielded normal results. There was no lymphadenopathy or hepatosplenomegaly.

Full blood count showed a platelet count of 5 × 10^10/l and a lymphocytosis (4.8 × 10^9/l) with atypical mononuclear cells. The Monospot test was persistently negative. Sternal marrow appearances were consistent with thrombocytopenia due to peripheral consumption; megakaryocyte morphology was normal. Coagulation screen was normal apart from a prolonged KCCT at 47:3 seconds (normal range 30–41), and tests for lupus-like anticoagulant (dilute Russell viper venom time with platelet neutralisation procedure) were positive; anticoagulant antibodies were not detectable. Liver function tests showed raised transaminases (ALT 288 IU/l, AST 88 IU/l, alkaline phosphatase 14 IU/l, and glutamyl transpeptidase 136 IU/l). Hepatitis screen (including hepatitis A, B, and C), autoantibodies including antinuclear antibody, rheumatoid factor, and anti-double stranded DNA were negative. CMV titres performed on the day following admission showed a titre of 320 with anti-CMV IgM detected, indicative of recent infection.

Treatment with prednisolone 80 mg per day was started shortly after admission. The platelet count was initially slow to respond; at
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