CASE REPORTS

Haematuria during methicillin therapy

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Haematuria has been reported as a rare complication of treatment with benzylpenicillin and methicillin (Baldwin et al., 1968). This following example provided a difficult exercise in differential diagnosis.

Case report

A 15-year-old boy (P.S. 110521) with a ventricular septal defect was admitted as an emergency 6 days after falling and bruising his knee. After this he had gradually developed an increasing pyrexia, tachycardia and loose stools. He denied dental treatment within the last 6 months. A ventricular septal defect had been diagnosed clinically at the age of 1 year and was shown by catheterization at the age of 7 years to be small (left to right shunt of 0.8 l/min; Dr H. A. Flemming). He had never had effort intolerance. On admission he had a non-productive cough, pleuritic pain bilaterally, increasing dyspnœa and generalized abdominal pain. He was confused.

On examination his temperature was 103·6°F (39·8°C), his pulse 120, regular and blood pressure 100/80 mmHg. He had the characteristic signs of a ventricular septal defect but no specific clinical signs of septicaemia. He was grossly dyspnœic with shallow grunting respiration at a rate of 46/min. He had generalized abdominal tenderness. There were no abnormalities in the teeth of gums and both knees were normal on examination.

Investigations. On admission, haemoglobin 12·5 g%, WBC 8400 mm³ with a normal differential count, ESR (Westergren) 32 mm in 1 hour, MSU protein 1+ no RBC. Throat swab commensals only. Chest X-ray showed some cardiomegaly with pulmonary plethora. IVP (on recovery) within normal limits. Blood culture: Staphylococcus pyogenes 1300 colonies/ml of blood resistant to penicillin, ampicillin and colomycin, and sensitive to cloxacillin, methicillin, erythromycin, cephaloridine, Septrin and fusidic acid.

Treatment was started with methicillin (21g/day) and erythromycin (1·5 g day) given by continuous intravenous infusion. Probenecid (2g/day orally) was also given. Methicillin was given in preference to cloxacillin because a low proportion of it is bound to protein in the plasma. Since L-forms of staphylococci are especially likely with penicillin therapy, erythromycin was also given. The minimum bactericidal concentration of methicillin to this staphylococcus was > 3·12 < 6·25 μg/ml. The minimum serum level of methicillin while given at a dose of 12 g/day was 25 μg/ml. Intravenous fusidic acid (2g/day) was substituted for erythromycin on the tenth day. On the eighteenth day, the dose of methicillin was halved to 8 g/day, the fusidic acid was given orally, and Septrin four tablets daily (trimethoprim 320 mg and sulphamethoxazole 1·6 g) was added.

Course. The main features are demonstrated in Fig. 1. Blood cultures were consistently negative from the seventh day. He developed a morbilliform rash maximal over the torso from the seventh day, gradually fading over the following 5 days. He had macroscopic haematuria of varying degree from the seventh day after admission. A microscopic haematuria persisted at discharge from hospital but had ceased by the follow-up 1 month later. There were no pus cells in the urine. He was discharged 6½ weeks after admission and at out-patient follow-up has remained well 3 months after discharge.

![Graph showing blood urea, eosinophils/mm³, and serum creatinine over time.](http://pmj.bmj.com/)

**Fig. 1.** Temp, oral temperature (°F); Eos, blood eosinophils/mm³; blood urea (mg/100 ml). Drug therapy. Er, erythromycin; Me, methicillin; Pr, probenecid; Fu, fusidin; Se, Septrin. Closed bars, oral; cross-hatched bars, intravenous.
Osteogenesis imperfecta is a systemic disease of the mesenchymal tissues of the body, which is inherited as an autosomal dominant characteristic with a variable degree of expression. The condition usually presents in childhood with pathological fractures, bony deformities and blue sclerae. There is a wide spectrum of severity. Clinical features less commonly seen include dislocated joints, opalescent teeth with defective dento-enamel junctions, (dentinogenesis imperfecta), otosclerosis and deafness. (Heys, Blattner & Robinson, 1960). Neurological complications are rare. Single cases of osteogenesis imperfecta with neurological abnormalities have been reported.

Osteogenesis imperfecta in a child presenting with neurological features

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Summary

A case of osteogenesis imperfecta presenting with a rare neurological complication (spastic paraplegia) is presented. The aetiology of the neurological lesion is discussed.

Osteogenesis imperfecta is a systemic disease of the mesenchymal tissues of the body, which is inherited

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