Side-Effects of High-dose Intravenous (Pulse) Methylprednisolone Therapy Cured by Potassium Infusion

Sir—High-dose i.v. (pulse) methylprednisolone (HDM) has been widely used in the treatment of autoimmune diseases. Side-effects of this therapy include mainly infections, cardiac disorders (arrhythmias, myocardial infarction) and metabolic complications (hypokalaemia) [1–5]. In the two cases reported here, side-effects (arthralgias, electrocardiographic modifications) that occurred during HDM therapy were cured by potassium infusion, even though the serum potassium level was normal.

Case 1 was a 25-yr-old woman treated by HDM therapy (500 mg/day for 3 days) for a cardiac sarcoidosis. During the second day of methylprednisolone infusion (500 mg/3 h), the patient presented with severe arthralgias of the knees, ankles, wrists, elbows and hands. These acute arthralgias persisted after methylprednisolone infusion. The non-steroidal anti-inflammatory drugs, paracetamol and codeine, were ineffective. Even though the serum potassium level was normal (4 mmol/l), the patient’s condition was dramatically improved by a potassium infusion (3 g/6 h).

Case 2 was a 38-yr-old man treated by HDM therapy (500 mg/day for 3 days) for a severe relapse of Churg–Strauss disease. During the first methylprednisolone perfusion (500 mg/3 h), typical hypokalaemia-related electrocardiographic abnormalities (flat T wave and U wave) were observed, even though the serum potassium level was normal (4.2 mmol/l). These abnormalities were corrected after potassium infusion (3 g/6 h). On the second and third days, the patient received a potassium infusion (3 g/day) before HDM therapy and the electrocardiogram remained normal.

Hypokalaemia is a well-known side-effect of HDM therapy. This metabolic disorder might be involved in the lethal complications of HDM described in the literature, which have all occurred in patients with severe cardiac or renal disease. In the two cases reported here, clinical and electrocardiographic signs of hypokalaemia were observed despite normal serum potassium levels and these side-effects were cured by potassium infusion. We would postulate that the speed of HDM infusion could induce an acute modification of the potassium pool responsible for clinical (arthralgias) and electrocardiographic signs usually observed in the setting of well-proven hypokalaemia, before any measurable serum potassium level change.

The cases reported here suggest that potassium infusion before and during HDM therapy could prevent and cure unexplained arthralgias and cardiac disorders that occur during this therapy, even if the serum potassium level is normal.

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Autosomal Chronic Granulomatous Disease and Systemic Lupus Erythematosus with Fatal Outcome

Sir—Chronic granulomatous disease (CGD) is a process which includes several inborn disturbances in the oxidative metabolism of the polymorphonuclear (PMN) leucocyte [1]. The hallmark of the disease are early and recurrent infections by fungi and catalase-positive bacteria, with the appearance of abscesses and granulomas. In most instances, the inheritance of CGD is X-linked, but there are also some reports of patients with autosomal transmission, dominant or recessive, with variable penetrance [1, 2]. Among CGD patients, recurrent aphthous stomatitis and chronic discoid lupus-like lesions have been reported [1, 2]. To the best of our knowledge, there are only two reports of children with X-linked CGD and evidence of SLE [3, 4]. We present a case of CGD with autosomal recessive inheritance who developed a very aggressive SLE with fatal outcome.

The female patient was 26 yr old when we first saw her. At the age of 12 yr, she had several episodes of necrotizing pneumonias, cervical and mediastinal adenopathies, extrapleural abscesses and cervical torpid fistulae. Bacteriological studies were always