Haematological Complications of Proguanil in a Patient with Chronic Renal Failure

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Dear Sir,

Proguanil hydrochloride, a dihydrofolate reductase inhibitor which is used as an anti-malarial agent, is generally regarded as a safe drug with few side effects. There has been a report of serious haematological complications arising from its antifolate activity in 2 patients with chronic renal failure [1].

While on a visit to India, a 38-year-old Dutch lady, known to have chronic renal failure, was taking a proguanil tablet (200 mg/day) for malaria prophylaxis. Fifteen days after commencing treatment with proguanil she developed generalized weakness, malaise, anorexia, nausea, dizziness and epistaxis. Five days later she noted ec-chymotic and purpuric lesions all over the body. At that time her haemoglobin was 8 g/dl, total leucocyte count 6.7 × 10^9/l, platelet count 5 × 10^9/l, blood urea nitrogen 77 mg/dl and serum creatinine 7.3 mg/dl. Peripheral smear showed anisocytosis, macro-ovalo-cytes, elliptocytes, a few target cells, a few fragmented red blood cells and hypersegmented neutrophils. Reticulocyte count was 0.5%, mean corpuscular volume 93.4 fl, mean corpuscular haemoglobin 29.9 pg, mean corpuscular haemoglobin concentration 32 g/dl. Coagulation profile was normal. A bone marrow examination revealed megaloblastic erythropoiesis with dyserythro-poietic changes and ‘giant’ metamyelocytes and myelocytes. Serum proguanil estimation was not possible. Proguanil was discontinued and the patient was treated with citrovo-rum factor and oral folic acid. Her general condition improved and by the 8th day her platelet count was 160x10^9/l. The haematological abnormalities mentioned above also reversed gradually.

Since 40-60% of a dose of proguanil is excreted by the kidney [2], in patients with impaired renal function there is an accumulation of the drug resulting in toxicity. It should therefore be avoided by patients with renal failure.

References


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