Enalapril-Associated Anemia in a Patient with IgA Nephropathy and Hypertension

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Fig. 1. Time course of hemoglobin and creatinine in relation to antihypertensive treatment in the male, 45-year-old patient.

Although anemia is often not mentioned as a possible side-effect of CEI [6], we conclude that the existence of enalapril-associated anemia must be considered when this complication develops during enalapril treatment.

References

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Dear Sir,

Enalapril has been associated with minor decreases in hematocrit in a small group of volunteers [1], and a few reports have focused attention on a reduction in hematocrit in renal transplant recipients [2,3] and also in patients on chronic hemodialysis [4].

We report enalapril-associated anemia in a patient known to have IgA nephropathy. A 45-year-old white male attended the outpatient clinic in August 1990 because of severe hypertension. Laboratory investigations showed a hemoglobin level of 13.4 g/dl and a plasma creatinine of 179 $\mu\text{mol/l}$. Enalapril, furosemide and nifedipine were prescribed and later on adjusted according to blood pressure and complaints of orthostatic hypotension. A normochromic, normocytic anemia was found in November 1990 (fig. 1). No explanation of this anemia was found: WBC and platelets were within the low normal range, reticulocytes 2%, haptoglobin 0.3 g/l, ferritin, folic acid, vitamin B₁₂, lactate dehydrogenase and bilirubin were also normal. Antinuclear antibodies were positive, without a positive LE cell phenomenon nor positive antibodies to dsDNA. A bone marrow aspiration and biopsy showed a normocellular aspect. After discontinuation of enalapril, hemoglobin rose to normal values. A challenge with a lower dose, given after 3 months, provoked anemia again. Animal studies [5] have pointed out that the ischemic response elicited by angiotensin II might be an important stimulus for the production of erythropoietin, which could be overruled by giving an angiotensin-converting enzyme inhibitor (CEI). The observations [4] done in chronic hemodialysis patients offer also support for this finding, because strong

correlations were found between angiotensin II, erythropoietin and the reticulo-cyte count before and during therapy with CEI.

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1990/1 120 Enalapril, mg/day

Nifedipine, mg/day] 11

40 -1 1

Furosemide, mg/day

8 1 Doxazosin, mg/day

Colchicine, mg/day 1]

Allopurinol, mg/day 100]

Hemoglobin, g/dl

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