Reversible Renal Failure in Malignant Hypertension

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Dear Sir,

Recovery of renal function in patients with uraemic malignant hypertension has been reported previously but is rare [1–3]. In all such cases recovery has been sufficient only to avoid the need for long-term dialysis. Complete recovery of renal function as in the following case report has not been previously described.

Case Report

A 28-year-old previously healthy black male was admitted with a blood pressure of 250/150, mental confusion and oliguria. He was noted to have bilateral fundal haemorrhages, exudates and papilloedema. Clinical and radiological examination showed left ventricular enlargement and pulmonary venous congestion. No focal neurological deficit was found. Electrocardiography confirmed left ventricular hypertrophy and strain. Blood urea was 55 mmol/l and serum creatinine 1,358 µmol/l. The endogenous creatinine clearance was 1.42 ml/min. The haemoglobin concentration was 13.7 g/dl and examination of blood films showed no evidence of red blood cell fragmentation. An ultrasound examination of the kidneys showed them to be of normal size and shape. Percutaneous renal biopsy revealed evidence of malignant nephrosclerosis with intimal proliferation and fibrinoid necrosis of the afferent arterioles and areas of focal necrosis of the glomeruli.

Intermittent peritoneal dialysis was commenced and the blood pressure rapidly controlled initially with parenteral dihydralazine and later with oral furosemide, methyldopa and prazosin. The patient was discharged 4 months later with a blood urea, serum creatinine and creatinine clearance of 5.5 mmol/l, 118 µmol/l and 114 ml/min, respectively. The patient defaulted treatment and was readmitted 1 month later with a urea of 15 mmol/l which fell to 8 mmol/l on antihypertensive treatment alone. On the third and final admission the blood urea was 26 mmol/l and showed no appreciable change with reduction of blood pressure to normal levels.

Comments

The poor prognosis of acute oliguric renal failure due to malignant hypertension has been stressed in the past [3, 4]. Renal function at the time of diagnosis is the primary determinant of survival. In the series of Woods et al [1], patients who died within 6 months had a mean glomerular filtration rate of 9 ml/min compared with a value of 20 ml/min in the survivors. In most patients malignant hypertension is due to a transformation of benign essential hypertension [5]. The occurrence of malignant hypertension-associated acute renal failure in these patients is

usually superimposed on a kidney which has suffered mild to moderate chronic irreversible damage from essential hypertension. Recovery of renal function can therefore only be expected to occur to levels prior to the onset of malignant hypertension.

However, where malignant hypertension constitutes the first and only insult to the kidneys as was probably the case in our patient, renal function may return to normal levels providing the blood pressure is rapidly controlled.

Several mechanisms may account for the reversibility of acute oliguric renal failure associated with malignant hypertension. In patients with left ventricular failure hypotensive therapy may result in an increased cardiac output and renal perfusion [4]. Although the pathological changes are mainly vascular a variable degree of tubular necrosis has been noted [3]. The prolonged time for rec-

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covery and absence of tubular damage in many patients, however, suggests recovery from vascular damage rather than acute tubular necrosis.

References

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Book Review

Vittorio E. Andreucci *Acute Renal Failure*

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Professor Andreucci has done an excellent job in editing and in writing, as single author or in collaboration, 8 chapters of this book. An equally excellent work has been done by the 30 well-known experts who wrote the various sections devoted to pathophysiology, morphology, prevention and treatment of acute renal failure.

In the 25 chapters of the book which are followed by a complete and up-to-date list of references, these aspects have been deeply examined and clearly exposed. The final result of these combined efforts of all these nephrologists is a classic text that may be regarded as the most up-to-date book now available in the field.