Hypertension after Hemorrhagic Fever with Renal Syndrome

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Dear Sir,

Acute renal failure due to hemorrhagic fever with renal syndrome (HFRS) has now become a common disease in western Europe, and spontaneous complete recovery seems the rule [1]. We observed 2 patients who developed severe hypertension during the acute phase of HFRS, and who remained hypertensive several months later.

Two previously normotensive men, aged 33 and 35 years, developed suddenly malaise, low grade fever, followed by loin and abdominal pain, headache, and vomiting. At presentation, blood pressure was 230/120 and 230/110 mm Hg, without evidence of overhydration. Funduscopy was normal. No cutaneous signs were found. Oliguria was transient with mild proteinuria (< 1 g/24 h). Platelet counts were 100 and 118 × 10⁹/l. Serum aminotransferase levels did not exceed twice the upper limit of normal values. Serum creatinine peaked at 440 and 569 μmol/l. Renal echography showed enlarged and symmetric kidneys. On a renal biopsy specimen, glomeruli and renal arteries were normal, with focal tubular lesions and mild interstitial infiltrates of mononuclear cells. No renal artery stenoses were seen on the renal angiograms. Elevated levels of antibodies against the Puumala-related virus (CG and IPH) were present (1/256 and 1/512). Serology for leptospirosis was negative. Renal function returned to normal within 2 weeks. Two to six months later, the patients remained hypertensive, requiring combined therapy with nicardipine and rilmenidine, or with perindopril.

As a serological diagnosis is now available, hantavirus-related infection is more frequently recognized in European inner city populations. Our 2 patients lived in the Parisian suburbs, and contamination by rats was

strongly suspected in one of them. Hypertension is mild and inconsistently found during the acute phase of the disease, and is usually due to fluid overload [1-3]. Persistence of hypertension after renal recovery is exceptionally quoted [3]. Hantaviruses seem able to infect endothelial cells, and hyperemic peritubular capillaries with medullary interstitial hemorrhages are often prominent on renal pathological examination [1, 2]. Such lesions were not found in our cases. These 2 patients could have been more prone to develop a high blood pressure, since both had family histories of hypertension, and 1 was overweight. However, hypertension was recorded in some patients who contracted HFRS during the Korean war [4], and similar observations were made in Finland [5] and Yugoslavia [6] several years after an

outbreak of HFRS. Moreover, Glass et al. [6] recently reported that infection with rat-borne hantaviruses in inner city populations in the United States is associated with an increased occurrence of hypertension, with or without chronic renal disease. These results suggest that hantavirus infection may contribute to the onset of hypertension in some predisposed individuals, and that full recovery is not invariable in benign forms of HFRS.

References

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