Systemic Amyloidosis in the Course of Maintenance Haemodialysis

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Dear Sir,

Considerable attention has been paid, in recent years, to the side-effects encountered during maintenance haemodialysis [1]. One of these is the carpal tunnel syndrome whose existence has been increasingly demonstrated [2]. Angioaccess-related vascular engorgement ischemic neuropathy and amyloidosis in a single patient with carpal tunnel syndrome has prompted us to set up a systematic survey of 134 patients on maintenance haemodialysis.

A 51-year-old male was followed up for histologically proven nephroangiosclerosis. The haemodialysis regimen consisted of three 6-hour sessions per week and the dialysis time was over a period of 10 years. Hollow-fibre and parallel sheet dialyzers were used. The patient developed carpal tunnel syndrome in his left wrist and amyloid was demonstrated by characteristic staining on polarizing microscopy and confirmed by electron microscopy. 6 months later, he developed carpal tunnel syndrome in his right wrist and again surgery was necessary. 3 months later, he complained of mechanical shoulder pains which could neither be abated by non-steroid anti-inflammatory drugs nor by local infiltrations. Physical examination revealed ulcerative macroglossia, global heart failure, multiple subcutaneous nodules, pelvis riding-breeches-like infiltration and eyelid ecchymosis. X-rays showed cystic lesions in the humerus and radius, and osteonecrosis in the carpal bones. Serum immunoelectrophoresis pinpointed monoclonal kappa chains but bone-marrow aspirate showed no evidence of plasma cell dyscrasia (6% of plasma cells).

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A systematic survey of 134 patients on maintenance haemodialysis was then initiated and 13 patients (5 M/8 F) were shown to have amyloidosis symptoms (carpal tunnel syndrome and/or cystic bone lesions and/or bilateral mechanical shoulder pains). The dialysis duration was far longer ($p < 1(H)$) in the 13 presumably amyloidosis-positive (140.5 ± 36.5 months) than in the 121 amyloidosis-negative (57.6 ± 45.2 months) patients, whilst no significant difference in age

could be found. Furthermore, we were not able to show any difference between the two groups as to the cause of renal failure nor a difference in the serum level of aluminium and parathormone.

It is worth pointing out that there is a possible unique pathological pattern of amyloidosis in patients on maintenance haemodialysis.

References

Ritz, E.; Bommer, J.; Andrassy, K.; Mehls, J.: Perspectives thérapeutiques dans l'insuffisance rénale. Act. Néphr. de l'Hôpital Necker (1983).