A 71-year-old woman with end-stage renal disease secondary to membranoproliferative glomerulonephritis presented with persistent numbness in the three radial digits of her left hand and severe pain of the left wrist, radiating to the shoulder. The onset had been delayed for months; intermittent paraesthesiae had gradually evolved into constant tingling and burning pain. Ten years earlier, a side-to-end Cimino–Brescia arteriovenous fistula (AVF) had been performed on the same wrist; in the last year, a remarkable dilation of the efferent vein had occurred. Examination revealed sensory loss in the median nerve distribution, thenar muscular weakness, no signs of vascular insufficiency; wrist flexion and pronation were restricted by pain. A thrill was palpable over a remarkably dilated efferent vein and a stiff aneurysm at the anastomotic site, whose direct pressure precipitated the pain, was observed (Figure 1). X-ray examination revealed a notable calcification of the radial artery and a calcified mass at the anastomotic site (Figure 2, arrow). In view of the ongoing pain and progressive neurological signs, the patient underwent surgical exploration of the AVF. During operation a calcified aneurismatic anastomosis was identified and excised. The AVF was tied off and a proximal prosthetic AVF was placed subsequently on the same limb. The patient was discharged home with slow recovery of neuronal function.

Median nerve dysfunction is a well-recognized complication in haemodialysis patients, most cases being secondary to dialysis-related amyloidosis, vascular steal phenomenon or less commonly, extravasation of fluid, bleeding from the access,
development of brachial fistula pseudoaneurysm [1–4]. Our case illustrates an uncommon cause of median nerve injury due to anatomical changes around a Cimino–Brescia AVF: the stiff anastomotic aneurysm increased AVF flow, inducing an excessive dilation of the run-off vein, and caused progressive median nerve damage via space filling. The National Kidney Foundation-Disease Outcomes Quality Initiative guidelines suggest surgical revision of aneurysm involving the anastomosis [5]. The presence of nerve damage due to the AVF should be a further important indication in order to avoid disabling neuropathy.

Conflict of interest statement. None declared.

References


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