Successful Systemic Fibrinolysis in Permanent Hemodialysis Catheter Obstruction

K.	Konstantin	Vogt ^a
U.	Ulrich	Tillmann ^b
A.	Alfred	Blumberg ^a

^aDepartment of Medicine, Section of Nephrology, and ^bDepartment of Radiology, Kantonsspital Aarau, Switzerland

Prof. A. Blumberg, MD, Department of Medicine, Kantonsspital Aarau, CH-5000 Aarau (Switzerland)

Dear Sir, treatment in patients with access problems on hemodialysis [1–4]. Complications with these catheters include The recent development of subcutaneously tunneled exit-site- and systemic infections and clotting problems central venous catheters provides a new possibility of [1, 3, 4]. We should like to communicate our experience Fig. 1. Catheter angiography, arterial limb before systemic fibrinolysis: the catheter tip is embedded in a large sheath of thrombus; there is a filling defect in the superior vena cava. Fig. 2. Catheter angiography, arterial limb after systemic fibrinolysis: the thrombotic sheath around the catheter tip is dissolved; imaging of the superior vena cava is rapid and without filling defects.

Successful Systemic Fibrinolysis in Permanent Hemodialysis Catheter Obstruction

175

with the successful declotting of an obstructed dual-lumen Silastic catheter.

The first catheter of this patient, whose vascular access sites had been completely exhausted, clotted after 10 months. It was removed and a second catheter was placed at the contralateral side via the internal jugular vein. After two weeks this catheter also became obstructed.

Local Fibrinolysis using 15,000 IU of a streptokinase (Kabikinase®) solution per catheter limb was undertaken. This was followed by an attempt of thrombectomy with a Fogarty catheter. However, the flow through the catheter remained poor. Catheter angiography revealed the reason for the obstruction: the catheter was embedded in a large sheath of thrombus (fig. 1). Systemic fibrinolysis using intravenous streptokinase (Kabikinase) was started 2 days later. A priming infusion of 125,000 IU of streptokinase into each limb of the catheter for 1 h was followed by the infusion of 750,000 IU into each limb over 16 h. After an hemodialysis treatment, another 750,000 IU of streptokinase were infused into each catheter limb for another 16 h, adding up to a total of 3,250,000 IU of streptokinase. During the following 24 hours 12,500 IU of heparin were infused per catheter limb and oral anti-coagulation with phenprocoumon (Marcoumar®) was started. Complete dissolution of the thrombotic sheath and patency of the catheter were documented by angiography immediately after fibrinolysis, which was well tolerated (fig. 2). Subsequently, the catheter-

ter was working properly for 4 months until a renal transplantation was performed. Our experience indicates that salvage of obstructed permanent dual-lumen dialysis catheters by systemic fibrinolysis followed by oral anti-coagulation is possible.

References

Raaf, J.H.: Results from use of 826 vascular access devices in cancer patients. *Cancer* 55:1312–1321 (1985).

Reed, W.P.; Light, P.D.; Sadler, J.H.: Access for hemodialysis by means of long-term central venous catheters. *Kidney int.* 25: 838–840 (1984).

Francis, D.M.A.; Hoenich, N.A.; Taylor, R.M.R.; Ward, M.K.; Kerr, D.N.S.: An indwelling right atrial catheter for long-term hemodialysis. *Trans. Am. Soc. artif. internal Organs* 79:348–352 (1983).

Canaud

B.; Beraud

J.J.; Joyeux

H.; Mion

C.: Internal jugular vein cannulation using 2 Silastic catheters. *Nephron* 43:133–138 (1986).