Percutaneous TransluminalThrombectomy of Hemodialysis Access.A One-center Experience by Nephrologist

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Introduction: AVF and AVG are the two main hemodialysis vascular accesses for ESRD patients. Clotting of this access can lead to many complications. Thrombectomy either by surgical or interventional techniques will prolong this access life without to re-doing new access and will avoid complications related to hemodialysis catheter. Here, one-center experience of dialysis thrombectomy will be presented.

Design: The percutaneous thrombectomy procedures for hemodialysis access done by nephrologist in Rajavithi hospital were prospective collected for one year. Most of the procedures use two vascular sheaths crossing each other, one pointing to arterial anastomosis and another to venous outflow. Most of clots were aspirated by different length and different size of vascular sheath. No thrombectomy devices were used in this reported.

Results: From01 Dec 2011 to01 Dec 2012, patients with thrombosed hemodialysis access (N=40, AVF 28 and AVG 12)with median clotting time of 6 days (range: 1-38 days) were treated by percutaneous transluminalthrombectomy with success rate of 82.50% (AVF 85.70% and AVG 75%, P=NS).Most of the clot AVF were moderate to high clot burden.All was done by clot aspiration and balloon maceration techniquewith median procedure time of 2.08 hr.The causes of failed thrombectomieswere including: failto pass the guidewire throughcalcified tortuous vein or graft adjacent toarterial inflow(N=3);fail to pass the guide wire to venous outflow (N=1); failto get rid of a large clot burden (N=1); and fail to stop bleeding of ruptured vessel wall (N=1). Complications related tothrombectomywere: 2 cases havingfor-arm arterial embolismand 2 cases with rupture of vessel. The arterial embolism can be pullingback to the access, and one ruptured vessel can be manually stopped. For the sub group of AVG with median follow-up time of 4 months: one was death unrelated to procedure;and one had recurrent clot in 1 monthwith successful re-thrombectomy. For the sub group of AVF with median follow-up time of 6 month: one was also death unrelated to procedure; 3 had recurrent thrombosis in 2-4 months, one was abandoned for access salvage, and the others had been re-thrombectomysuccessfuly; 5 had to do 7 percutaneous balloon angioplastytomaintainvascular access life.

Conclusions: Clotting of AVF or AVG can be salvaged successfully by nephrologistusing simple aspiration technique with minimal complication. Some need repeated interventionsfor maintain access life.

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