

Title: Endovascular Treatment of Dialysis Patients with Central Vein Occlusion in Public Hospitals in Peru

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Background

Approximately 20,000 patients require dialysis in Peru. However, treatment is available for only 15,000 patients. Roughly 50% of those are catheter-dependent and may suffer complications such as infection and central vein stenosis (CVS). Catheter-related CVS has an incidence of 9.4%-24%. It may be asymptomatic due to collateral circulation, however, post arteriovenous fistula creation, venous hypertension and even SVC syndrome will develop in patients causing severe arm and neck edema. Physicians at public hospitals may not be adequately prepared to treat these complications because of insufficient endovascular training and supplies. This study describes our experience and success in the treatment of dialysis patients with central vein stenosis in government hospitals in Peru from 2016-2022.

Methods:

Procedures were performed by a vascular surgeon from the US with the assistance of cardiothoracic surgeons, interventional cardiologists, and cardiothoracic residents from the institution. A hybrid Angiosuite with hospital staff nurses and technicians was available for the procedures. Anesthesia consisted of local anesthesia and sedation and monitoring provided by a staff anesthesiologist. Cases were selected by local nephrologists and surgeons. 2018 onwards, the visiting surgeon would review all the diagnostic venograms prior to the trip. Endovascular supplies for the procedures were brought to Peru by the visiting surgeon.

Con

Results:

36 dialysis patients underwent venograms for access dysfunction. 17 patients had CVS with 14 complete occlusions. Successful treatment was possible in 14 patients except for 3 patients with complete occlusion. 3 patients underwent angioplasty and 7 stentings. 3 inside-out procedures (1 unsuccessful) and 6 sharp recanalization procedures (2 unsuccessful) were performed. 1 procedure was aborted due to transient hypotension and another patient developed post-procedure mental status changes that subsequently resolved.

Conclusion:

High prevalence of catheter dependency in dialysis patients is a significant cause of CVS in Peru. Treatment of this condition is complicated due to the lack of endovascular training and supplies. This study revealed how adequate treatment, including complex EV procedures, provided by an outside surgeon with suitable supplies using existing Angio suite facilities at public hospitals in Peru can be used as a model to train physicians in endovascular treatments in under-resourced countries.

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