

58. **PERCUTANEOUS TRANSLUMINAL ANGIOPLASTY (PTA) AND STENT IMPLANTATION IN HEMODIALYSIS PATIENTS WITH CENTRAL VENOUS STENOSIS: A STUDY OF OUTCOMES**

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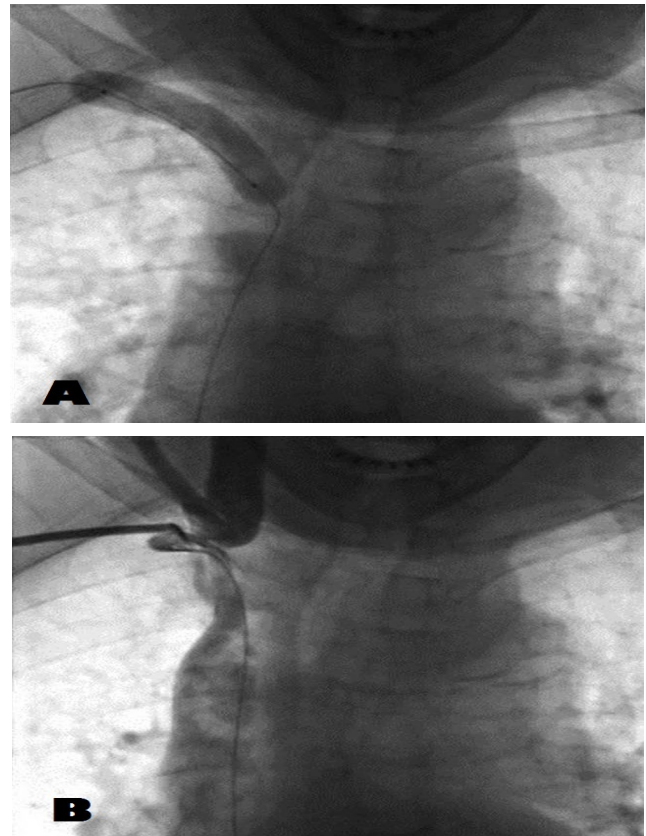
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BACKGROUND: Central venous stenosis and occlusion are serious complications that can arise from central venous catheterization in hemodialysis patients, leading to significant difficulties in the dialysis process. Common clinical manifestations include swelling in the arm or neck on the affected side and compromised hemodialysis access. To address this issue, percutaneous balloon angioplasty and stent implantation have emerged as potential solutions to maintain vein patency. However, there is a need to evaluate the efficacy of these interventions over an extended period to determine their long-term benefits. This study aimed to monitor the patency status periodically, starting at 1st Month, followed by assessments at 3rd Month, 6th Month, and finally, the 12th Month. **METHODS:** This single-center observational study focused on endovascular interventions performed on hemodialysis patients with central venous stenosis or occlusion. Participants included end-stage renal failure patients undergoing hemodialysis who exhibited clinical signs of central venous stenosis or occlusion. Data were collected from 60 patients, consisting of 42 males (70%) and 18 females (30%), with an average age of 46.19 ± 13.21 years. The affected sites of central vein stenosis or occlusion were distributed as follows: 13 cases in the innominate veins, 25 cases in the superior vena cava, 18 cases in the brachiocephalic vein, and 10 cases in the subclavian vein. Some patients had multiple site occlusions, while others experienced occlusion of AV fistula. **RESULTS:** Of the 60 endovascular procedures performed, only one case did not achieve technical success, resulting in an overall success rate of 96.4%. Stent implantation was carried out in only four patients. No significant procedure-related complications were encountered, and all patients were able to undergo hemodialysis after the initial intervention. The primary patency rates for PTA at 1, 3, 6, and 12 months were 96%, 92%, 88%, and 86%, respectively. As for stent implantation, the primary patency rates at 1, 3, 6, and 12 months were 100%, 98%, 98%, and 98%, respectively. Assisted primary patency rates for PTA at 1, 3, 6, and 12 months were 2%, 6%, 11%, and 14%, respectively. During the 12-month follow-up, 10 reinterventions were performed, with three patients requiring more than two reinterventions. **CONCLUSION:** The study's findings demonstrate that endovascular interventions, such as percutaneous balloon angioplasty and stent implantation, are highly effective in managing central venous stenosis or occlusion in hemodialysis patients. These interventions showed a remarkable success rate and a minimal occurrence of procedure-related complications. Particularly, stent implantation consistently exhibited 100% primary patency at all evaluated time points. While the assisted primary patency rates for PTA were relatively lower, the overall need for reinterventions remained low, emphasizing the long-term benefits of these procedures. Based on these promising results, endovascular interventions can be considered as a viable and efficient option for the management of central venous stenosis or occlusion in

hemodialysis patients, offering improved hemodialysis access and ensuring enhanced patient outcomes.

Figure. A- The lesion was successfully crossed anterogradely using a guide wire, followed by performing percutaneous transluminal angioplasty (PTA); B- After the PTA procedure, a post-PTA venogram revealed normal filling of the right subclavian vein. During the 12-month follow-up period, there was no recurrence of the lesion in the patient.



Key words: Angioplasty; Percutaneous Transluminal; Stents; Dialyses (Source: MeSH-NLM).