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# A case report and review of available literature in the utility of a trans-hepatic hemodialysis access in end stage renal disease

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**Case Study :** The increasing prevalence of patients with end-stage renal disease necessitating renal replacement therapy have led to higher recognition of vascular access–related complications. At the same time, access-related complications have led to innovative approaches in establishing methods for hemodialysis access to ensure a continuous provision of renal replacement therapy in patients who have exhausted their peripheral venous accesses. In this paper, we report a case of a patient undergoing continuous ambulatory peritoneal dialysis (CAPD) eventually developing absolute contraindications for peritoneal dialysis wherein multiple attempts to insert a central access via the conventional routes were precluded by multiple thrombosis and poor venous vein caliber. Ensuing uremia has necessitated innovative approaches for RRT access hence transhepatic central venous access insertion was done with initial catheter time in-situ of 64 days with one time replacement of catheter due to catheter migration related occlusion. A second transhepatic chronic HD catheter split stream was used for a total of 249 days with central line infection ensuing on the 62nd day. An AV graft was used to enable removal of the above catheter necessary for infection control. However AV graft failure after 63 days, necessitated a 3rd transhepatic vein cannulation and same chronic HD catheter was placed successfully and patient has since then resumed dialysis with no reported complications up to the present time. In patients wherein conventional venous accesses are exhausted, transhepatic access may be considered as a safe and functional route.

Figure 1. Hepatic vein permanent catheter placement under fluoroscopic guidance.png

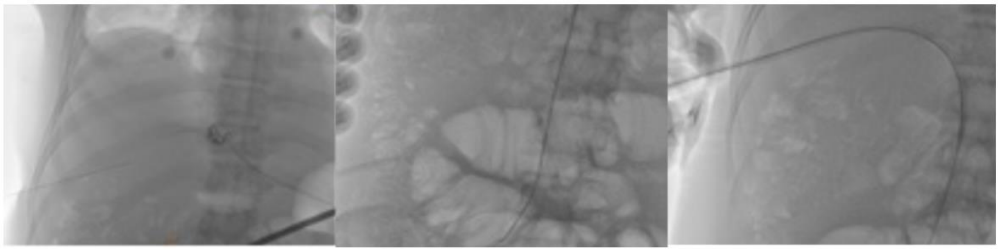

Figure 1. Hepatic vein permanent catheter placement under fluoroscopic guidance.png

| Access Type | Access specifics | Total days of event-free interval | Access related complication | Total days of utility |
|---|---|---|---|---|
| Continuous Ambulatory Peritoneal Dialysis Catheter | Covidien Argyle Peritoneal Dialysis cathter, curl catheter, 2 cuff, 62 | 112 | PD Catheter related bacterial peritonitis | 112 |
| Continuous Ambulatory Peritoneal Dialysis Catheter | Covidien Argyle Peritoneal Dialysis cathter, curl catheter, 2 cuff, 62 | 254 | PD Catheter related bacterial peritonitis and bowel obstruction secondary to intraperitoneal adhesions | 254 |
| Trans-hepatic central venous catheter | Mahurkar Acute Dual Lumen Catheter Fr 13.5 x 24 cm | 64 | Positioning related occlussion | 64 |
| Trans-hepatic central venous catheter | Chronic HD catheter split stream 36cm - EC Zurich Biotherapies | 62 | Central-line associated blood stream infection | 249 |
| AV graft | 4- 6mm straight carbon lined ePTFE vascular graft | 63 | Thrombosis | 63 |
| Trans-hepatic central venous catheter | Chronic HD catheter split stream 36cm - EC Zurich Biotherapies | 103 (Currently functional from June 26, 2023) | Not applicable | 103 days to present |