This a prospective cross-sectional follow-up study of the alternative approaches for placement of cuffed hemodialysis catheters in end-stage renal disease patients with bilateral internal jugular vein occlusion from the interventional nephrology point of view” Gouda et al (2018).

**Abstract:**

**INTRODUCTION:** Internal jugular vein occlusion often makes necessary the use of less desirable routes as external jugular, subclavian, and femoral vein approaches in addition to inferior vena cava approaches. This a prospective cross-sectional follow-up study of the alternative approaches for placement of cuffed hemodialysis catheters in end-stage renal disease patients with bilateral internal jugular vein occlusion from the interventional nephrology point of view.

**METHOD:** The study was conducted on 134 end-stage renal disease patients who were referred for insertion of a challenging hemodialysis catheter due to bilateral internal jugular vein occlusion. Ultrasound Doppler guided catheter insertion was used as a routine practice in addition to fluoroscopy or post insertion X-ray to localize catheter tip position and exclude complications. Follow-up of patients was conducted until the end of the study or catheter removal.

**FINDINGS:** The most highly prevalent alternative approach is the trans-external iliac vein inferior vena cava approach (43.28%) followed by external jugular vein approach (14.93%), innominate vein approach (10.18%), internal jugular vein collaterals by interventional radiology (7.46%), femoral vein approach (7.46%), transhepatic approach (5.97%), subclavian vein approach (5.22%), and finally the retrograde femoral vein approach (1.49%).

**DISCUSSION:** End-stage renal disease patients maintained on regular hemodialysis who have bilateral internal jugular vein obstruction and non-functioning arteriovenous fistula/graft is a daily scenario in nephrology practice. Our study showed that there is a variety of approaches for the insertion of cuffed hemodialysis catheters other than occluded internal jugular veins. Interventional nephrologists have a major role in solving the problem of poor hemodialysis vascular access. These alternative approaches can conserve the anatomically limited number of percutaneous access sites in each patient.

**Reference:**