Medial claviculectomy is an effective treatment of recalcitrant central venous stenosis of the thoracic outlet” Auyang et al 92019).

Abstract:

OBJECTIVE: Outflow tract stenosis is the leading cause of hemodialysis access loss. Many lesions are highly resistant to endovascular treatment, necessitating open surgical intervention. We present our experience using medial claviculectomy for treatment of recalcitrant lesions at the thoracic outlet.

METHODS: We retrospectively reviewed patients who underwent medial claviculectomy for dialysis-associated venous thoracic outlet syndrome at our institution between February 2013 and February 2018. Data collection included demographics, past medical history, access history, subsequent procedures, preoperative and postoperative brachial volume flows, and access use.

RESULTS: We performed 25 medial claviculectomies in 25 patients with central venous stenosis. Four patients underwent concomitant central venous bypass and were excluded from this study. Twelve accesses were created at our institution; of these, the average access age was 41.6 months (±26.7 months). All patients previously underwent multiple angioplasty attempts to treat outflow stenosis and continued to have residual symptoms and poor fistula function. Medial claviculectomy with venolysis and angioplasty were performed to treat residual outflow stenosis at the level of the subclavian vein. Twenty-one patients had residual stenosis requiring angioplasty. Six patients had subclavian rupture requiring stent graft placement. All patients reported symptom improvement and immediate use of the fistula after medial claviculectomy. Nineteen (76%) patients reported complete resolution of symptoms after the procedure. Ultimately, eight (32%) ipsilateral arteriovenous accesses were lost, and six (24%) patients died in follow-up with patent, functional fistulas. Median length of follow-up was 17 months (interquartile range, 5-28 months). The 18-month primary patency and secondary patency with regard to subclavian vein interventions were 28% (95% confidence interval, 13.8%-56.1%) and 84% (95% confidence interval, 69.7%-100%), respectively. One patient required ligation for high-output cardiac failure. One patient had contralateral brachiocephalic jailing, which was corrected with kissing brachiocephalic stents.

CONCLUSIONS: Medial claviculectomy is an effective treatment of recalcitrant central
venous stenosis of the thoracic outlet. Balloon angioplasty or stent or stent graft placement is often necessary after extrinsic compression is alleviated and demonstrates acceptable secondary patency rates.

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