KSN 2021
FULLY VIRTUAL MEETING
September 02 (Thu) - 05 (Sun)

Abstract Submission No. : 2041

A case of sustained arm edema due to the jailing out of the basilic flow by the bare-metal stent of the cephalic arch

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Case Study: Introduction
Cephalic arch stenosis is common and recurs frequently, especially in patients with vascular access of brachiocephalic arteriovenous fistula (AVF). In particular, metal stents are often deployed to maintain patency when the patency interval is maintained for less than 3 months. However, the advantage of increasing patency of the bare metal stent itself is not clear.
Case
A 83-year-old male patient with unknown origin ESRD who has undergone Lt brachiocephalic AVF surgery. The patient inserted metal stents in the cephalic arch area and outflow vein at other intervention centers due to repeated stenosis. The patient was transferred to the author's hospital, and the symptoms of arm swelling continued during dialysis [Fig.1]. Balloon angioplasty was performed as more than 80% of cephalic arch stenosis was observed on fistulography (8 * 40mm, Boston Scientific, Natick, MA, USA) [Fig.2,3]. Afterwards, the stenosis of the cephalic arch disappeared, but the edema did not disappear at all. In particular, the swelling of the hand and wrist was severe, so the basilic vein and axillary vein were observed. Venography showed that the blood flow of the axillary vein interfered with the flow due to the cephalic arch stent and the blood flow was delayed [Fig.4]. After passing a 0.035 inch wire in the direction of the axillary vein through the stent cell, ballooning of 8 * 40mm was performed inside the stent cell [Fig.5]. On follow-up venography, both axillary vein and cephalic vein blood flow were observed to flow normally and not be delayed [Fig.6]. The hand swelling completely disappeared after 2 days.
Conclusion
Cephalic arch is a pitfall in patients with brachiocephlic AVF. However, the bare metal stent on the cephalic arch is not helpful in maintaining patency and may block blood flow in the axillary vein and cause complications such as edema.

Fig.1-3

Fig.1 Arm edema

Fig.2 Cephalic arch 80% stenosis

Fig.3 8*40 mm balloon angioplasty

Fig. 4-6

Fig.4 Axillary vein flow: delayed

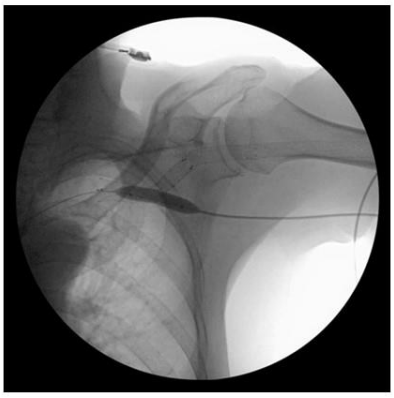

Fig.5 8*40 mm balloon angioplasty

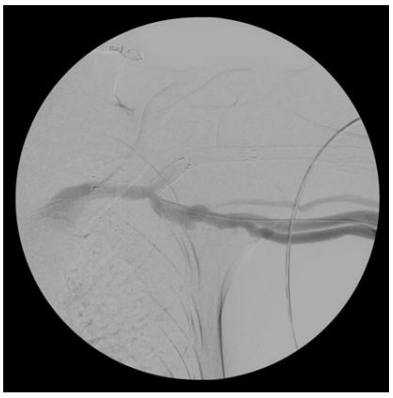

Fig.6 Axillary vein flow: normal