Central vein stenosis masquerading as venous thrombosis

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DESCRIPTION

We present a 50-year-old man, a known case of chronic kidney disease stage 5 on maintenance haemodialysis (HD), who presented with acute onset swelling, redness, tenderness of the right arm and venous distension of the right side of the neck. The patient had a history of right internal jugular venous dialysis catheter insertions for HD and his symptoms started 1 month after starting dialysis with right brachiocephalic fistula access. In view of

the acute onset of symptoms, a possibility of deep vein thrombosis of the right upper limb or central venous stenosis (CVS) was considered. CVS in patients on HD, although rare, is a known entity. In all patients with acute symptoms, a possibility of thrombosis has to be ruled out as it requires immediate anticoagulation. CT venography coronal views showed tight stenosis of the right internal jugular vein and right subclavian vein at the confluence with normal contrast opacification in the right

Figure 1 CT venography showing tight stenosis of the right subclavian and right internal jugular veins at confluence.

Figure 3 Angioplasty balloon in situ.

Figure 2 Venous angiography showing discrete tubular stenosis of the right subclavian and right internal jugular veins at confluence.

Figure 4 Subclavian vein stent in situ.

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Figure 5 Post stent insertion showing good flow across the stent.

brachiocephalic vein and superior vena cava (SVC) (figure 1), further confirmed by venous angiography (figure 2). We postulate that the patient might have had stenosis previously, which was asymptomatic but became symptomatic after arteriovenous fistula (AVF) formation because of the high flow.¹ Injury to the endothelium of the vascular wall adjacent to the catheter appears to be the most plausible mechanism for CVS,² which further gets exacerbated with high-flow resultant from AVF.¹ Balloon dilation (figure 3) and stenting (figure 4) with post dilation of the right subclavian vein was performed by vascular access through the fistulised right cephalic vein. Good flow was achieved post stenting (figure 5). Post stent placement, the patient's symptoms improved and the swelling subsided. Balloon

dilation with endovascular stenting provides temporary relief but usually requires multiple procedures in the long term.³

Learning points

- ▶ Central venous stenosis (CVS), although rare, is a known complication in patients requiring maintenance haemodialysis but symptomatic CVS requiring intervention is not common.¹
- ▶ Symptomatic CVS has to be treated with balloon dilation and percutaneous angioplasty to restore flow and further continuation of arteriovenous fistula (AVF) access. Further studies are required to evaluate the efficacy of stents to provide a symptom-free period.
- ▶ Venous mapping and creation of AVF have to be considered in patients with chronic kidney disease requiring maintenance haemodialysis as the occurrence of CVS precludes AVF formation.

Contributors TD and HK performed the balloon dilation and stenting procedure. NM and NV wrote the manuscript and reviewed it before submission.

Competing interests None.

Patient consent Obtained.

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