Exophthalmos: Rare Complication of A-V Fistula Used for Hemodialysis

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Dear Sir

Complications of all forms of vascular access for dialysis have been described including infection, thrombosis, steal syndrome, aneurysm, pseudoaneurysm (hematoma), venous hypertension, cardiac failure, lymphocele, skin necrosis, internal hypertrophy and dislodgement (bleeding) [1, 2].

We report here exophthalmos as an unusual vascular access complication. A 56-year-old white male with obstructive uropathy started hemodialysis through a fistula in the left elbow in June 1980. He developed severe swelling of the left arm 2 weeks after the fistula was created. Subsequently, swelling of the left side of the neck and face occurred in association with external jugular vein distention. Dialyzer natural venous pressure was markedly elevated.

A fistulogram was performed showing a long stenosed segment of the left cephalic vein with numerous shoulder collaterals. The subclavian vein had an aneurysmal dilatation immediately prior to the left jugular vein. The left jugular vein filled in a retrograde fashion. There was a complete obstruction to flow at the junction of the innominate vein with the jugular vein; the superior vena cava was patent.

One month later, a bypass was performed. The cephalic vein was brought into opposition with the brachial vein. The end of the cephalic vein was sewn to the brachial vein without difficulty. Subsequently, the patient noted decreased vision in the left eye and was found to have a 6-mm exophthalmos. CT scan of the orbit showed retro-orbital edema and dilated veins (fig. 1). The fistula in the left arm was surgically occluded and both the edema and exophthalmos decreased dramatically.

To our knowledge, this is the first report of exophthalmos and retroorbital edema secondary to the use of A-V fistula for hemodialysis.

Fig. 1. CT scan.

References

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