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Case Report

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Kissing Stents for Superior Vena Cava Syndrome Due to Small-Cell Lung Cancer

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Abstract

A 67-year-old male patient with central small-cell lung cancer was admitted to the emergency department with distended collateral neck veins, upper limb swelling, plethora of the face and dyspnea. The diagnosis of superior vena cava syndrome related to tumor progression was established.

Keywords

Superior vena cava syndrome, Kissing stents, Interventional radiology, Lung cancer

Case

Superior vena cava syndrome (SVCS) is the result of obstruction to the venous flow through the superior vena cava (SVC). First described in 1757, superior vena cava syndrome (SVCS) is caused by malignancy in 80% to 90% of cases [1]. The lung neoplasia is a cause most prevalent in currently. Endovascular stent-based revascularization is used as a therapeutic measure in patients with SVC obstructions. Besides, stenting in the superior vena cava syndrome can improve the quality of life with good patency, mainly in patients with neoplasia [2]. The endovascular approach consists on treating venous obstructions while preserving the vena cava function using bilateral stenting and became an established treatment [3].

A 67-year-old male patient with central small-cell lung cancer was admitted to the emergency department with distended collateral neck veins, upper limb swelling, plethora of the face and dyspnea. Computed tomographic (CT) chest venography evidenced central tumor growth with the obstruction of the SVC and the encirclement of both brachiocephalic veins (BCVs) without endoluminal component. The diagnosis of SVC syndrome related to tumor progression was established. Therefore, endovascular management was decided to provide relief of venous congestion and reduce the morbidity.

Performed bilateral puncture of jugular veins for an initial phlebography for endovascular treatment planning. Venograms showed bilateral brachiocephalic veins and SVC occlusion (Figure 1). Performed transposition of lesions with hydrophilic guidewire 0.035" and then released smart control stents (Boston) 14 x 100 mm kissing stent. Control phlebography demonstrates adequate treatment of the lesions (Figure 2). Our team prefers to maintain permanent or chronic anticoagulation with Warfarin or Direct Oral Anticoagulants (DOAC's) since it is a potentially thrombogenic patient, due to pulmonary neoplasia. Follow up of the patient showed significant improvement of the collateral circulation, facial plethora and dyspnea in 48 h.

Figure 1: Phlebography: Bilateral brachiocephalic veins and SVC occlusion.

Figure 2: Control phlebography demonstrates adequate treatment of the lesions.

After an outpatient follow-up, the patient remains asymptomatic after six months, with an absence of plethora, face edema, hoarseness, and collateral circulation, demonstrating that angioplasty, a minimally invasive treatment with stents can be effective, safe and with good clinical response [4].

Informed Consent

A written consent was obtained from the patient.

Learning Points/Take Home Messages

1. Endovascular treatment of SVCS is a safe procedure with excellent results.

2. Lung cancer is the most common cause for SVCS.

3. Good symptom control can be achieved via stent implantation for symptomatic therapy.

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