

Ruptured aneurysm of the inferior thyroid artery, which treatment?

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Aneurysms of the inferior thyroid artery or its branches are rare but correct management is necessary to avoid a dis-astrous outcome. Asymptomatic aneurysms can be treated by mini-invasive techniques (embolization) [1,2]. In case of rupture, either endovascular or surgical management can be proposed [1-4]. We report herein the case of a patient who presented with a ruptured inferior thyroid artery treated with both of the aforementioned procedures.

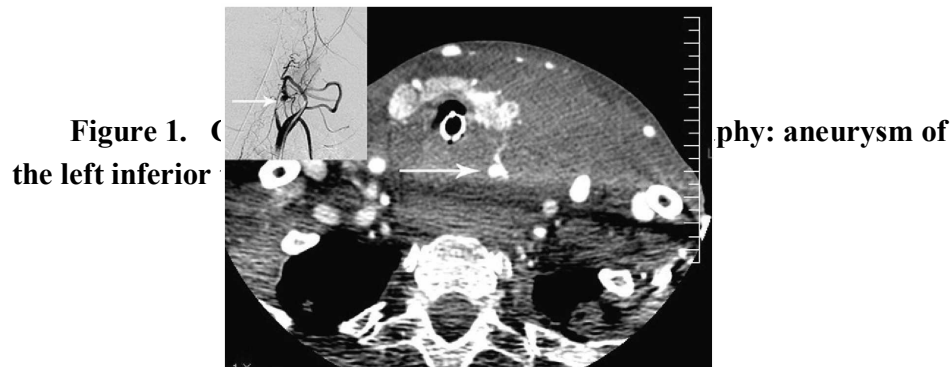
A 78-year-old woman, whose history was otherwise unremarkable, was admitted to the hospital for sudden onset of a left cervical mass associated with dyspnea and dysphagia. She was hemodynamically stable. Edema was found on the left

side of her neck. Her blood tests were normal except for anemia (hemoglobin: 8.7g/dL). Endotracheal intubation became rapidly necessary because of progressively severe dyspnea. Cervicothoracic CT scan showed a cervical hematoma descending into the posterior mediastinum and compressing the trachea. The origin of bleeding was an aneurysm of the inferior thyroid artery (Fig. 1). The thyroid itself was heterogeneous. After consultation between intensive care physicians, surgeons and radiologists, embolization of the inferior thyroid artery was decided before surgical evacuation of the hematoma.

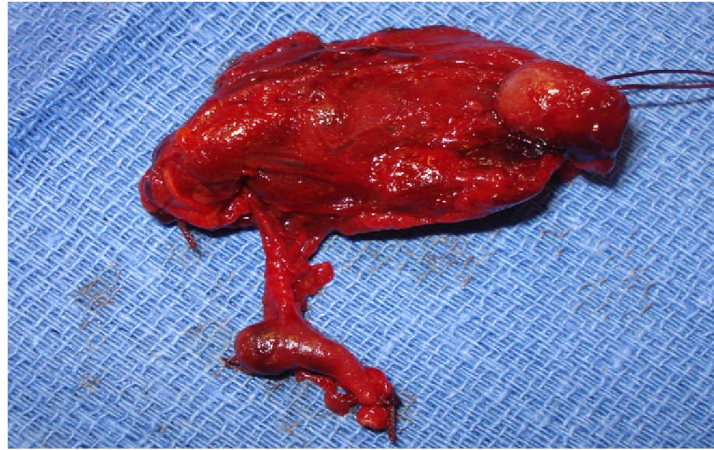
Angiography confirmed the ruptured aneurysm and embolization was successful. A cervicotomy was performed 1 hour later: no active bleeding was found. As the left thyroid lobe was nodular, the surgeon performed a left isthmolobectomy associated with ablation of the aneurysm and evacuation of the hematoma (Fig. 2). Pathology revealed atheroma in the arterial wall and a 0.6cm medullary carcinoma was found in the thyroid specimen. The postoperative course was uneventful and the patient was extubated on day 1. The patient had neither recurrent paralysis nor hypocalcemia but died on day 7 because of heart failure with dysrhythmia.

We found 23 reports of inferior thyroid artery aneurysms in the literature throughout the past 40 years. Excluding asymptomatic or post-traumatic aneurysm, 13 spontaneous ruptures [1-12] were analyzed. Symptoms are related to the

presence of the cervicomedastinal hematoma that can compress the trachea and lead to respiratory failure necessitating endotracheal intubation [5,6]. Contrast enhanced CTscan is the key to diagnosis in this rare entity. Angiography allows embolization of the lesion and stopping the bleeding. However, embolization alone is associated with disadvantages. Protracted intubation may be necessary because of persistent compressive hematoma for which complete resorption may take as long as several months [1]. As well, evacuation of pleural hematoma may be necessary either by drainage or clot removal by thoracotomy [1,7,8]. Late aneurysm repermeabilization has been reported [1,3]. However, while surgery is best suited for



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aneurysm.

evacuation of the hematoma, operation can also cause complications including surgical site infection, inadvertent division of the recurrent or even the phrenic nerve. In our setting, surgery was combined with embolization. The discovery of medullary carcinoma was fortuitous and without any relation to the thyroid artery aneurysm. In conclusion, spontaneous rupture of the inferior thyroid artery is rare and potentially lethal if left untreated. Associated endovascular and surgical treatment should be proposed in this disease.

Disclosure of interest

The authors declare that they have no conflicts of interest concerning this article.

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