Retropharyngeal Internal Carotid Artery: Case Report

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SUMMARY

Introduction: Variations to the course of carotid arteries may lead to abnormal pharyngeal protrusions, to which the otorhinolaryngologist should always attentive.

Objective: To report a case of abnormal pharyngeal protrusion due to vascular anomaly in the course of the internal carotid artery, with literature review.

Case Report: A 73- year-old woman complained of globus pharyngeus and intermittent dysphonia. A pulsating convexity was observed at the right part of the oropharynx, associated to laryngoscopic signals of pharyngo-laryngeal reflux. The pharyngeal computed tomography scan showed an abnormal tortuous internal carotid in the retropharyngeal space. The patient was sent to the vascular surgeon, who, after a normal blood flow finding at the Doppler, opted for an expectation conduct. The pharyngeal symptoms improved with the antireflux treatment.

Final Comments: Internal carotid vascular anomalies must always be recalled in the pharyngeal wall convexity differential diagnosis.

Keywords: internal carotid artery, pharynx, cervical.

Introduction

According to most Anatomy texts, the internal carotid artery (ICA) has a straight cervical course up to the cranial base, and does not emit branches in this course (1). In 10 to 40% of the cases there are anatomic variations in this course, and the most common are curvatures, elbowing and notches (1).

As for the ICA cervical anomalies etiology, we believe many cases are congenital, but that, specially in elders, atherosclerotic processes and fibromuscular dysplasia may be implied (1).

In most cases, such anomalies are asymptomatic (1,2). In elders, dysphagia, dysphonia and cervical bolus sensation may occur, as well as glossopharyngeal neuralgia (2).

In children, the diagnosis of these anomalies must always be predicted, specially in patients prone to adenotonsillectomy, in which incidental lesions during the surgical process may have catastrophic consequences (3,4).

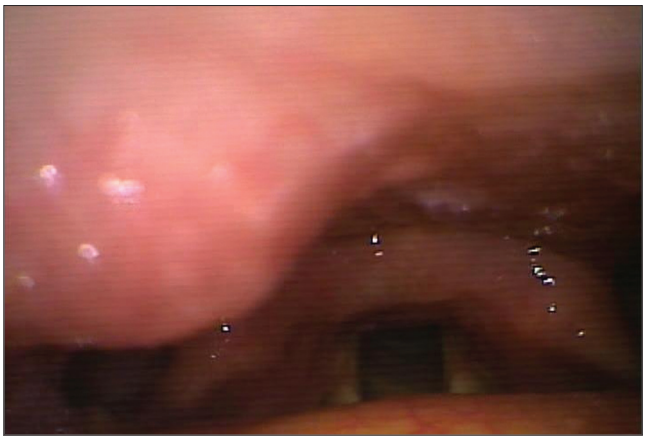
In elder people, such anomalies may often be associated with arteriosclerosis and thrombosis processes that may affect the blood flow and cause encephalic ischemic processes (1).

We will describe one case of cervical vascular anomaly in the ICA in an elder patient.

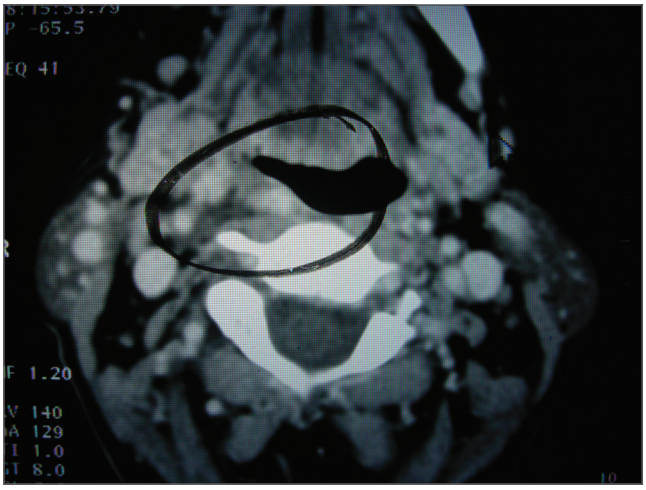
Case Report

ANM, female sex, white, 73 years old, retired teacher, initially attended on 11/9/2006 with complaints of cervical bolus sensation and intermittent dysphonia. She denied odinophagy and dysphagia and didn't present with otologic or rhinologic complaints. Having systemic arterial hypertension, using enalapril, she mentioned a recent exeresis of basal cell carcinoma in the nasal dorsum 15 days before.

Upon oroscopy, we observed pulsating convexity in the right part of the oropharynx (Picture 1). Remaining ORL exam without alterations, except for a small scar in the nasal dorsum. The video-laryngoscopy carried out with rigid fiber Scott 70 degrees confirmed the pulsating convexity, in addition to laryngeal signals compatible with the pharyngo-laryngeal reflux (posterior glottis hyperemia and laryngeal face of the epiglottis; interarytenoid pachydermia).



Picture 1. Pulsatile mass in the right part of the oropharynx.



Picture 2. Pharynx CT showing convexity in the right part retropharyngeal space.

Pharynx contrasted computed tomography was then requested, and it showed tortuous ICA, located incorrectly in the right retropharyngeal space (Picture 2). We started the treatment for pharyngo-laryngeal reflux, with proton pump inhibitor, associated to dietary and postural measures. She was also sent to the Vascular Surgeon for evaluation.

She returned after 40 days with pharyngeal symptomatology improvement and the Vascular Surgeon formulated expectation procedure as for the ICA anomaly, since the carotid Doppler didn't reveal a significant reduction of the carotid blood flow, with partial obstruction though (in about 35% of the light), per arteriosclerotic process.

Discussion

In our case, we may consider the carotid anomaly asymptomatic, since the pharyngeal symptoms improved

with the antireflux treatment. Such observations are according to the literature (1,2). The association with arteriosclerotic process suggests the anomaly is not congenital, but acquired, and derives from arteriosclerosis (1).

The main diseases to be considered in the differential diagnosis are: carotid aneurisms, lymph-node-megaly.

The expectation procedure, formulated by the Vascular Surgery, is due to the fact the anomaly is asymptomatic, without consequences to the cerebral blood flow. We remark the need for special attention as for these anomalies in the pre-operative evaluation of children susceptible to adenotonsillectomy for the potential risk of severe intra and postoperative hemorrhage, since the anomalous ICA may be incidentally injured during the adenoids excision, dissection of the palatine tonsils and hemostatic procedures (1,3,4). Although such procedures are less usual in elders, special attention should be given in case of endoscopic procedures (including upper digestive endoscopy), larynx microsurgery and excision of foreign bodies from pharynx, larynx and esophagus.

Final Comments

The vascular anomalies in the ICA cervical course are not rare, and they are asymptomatic in most cases. Congenital alterations, arteriosclerosis and fibromuscular dysplasia are the main causes. They should always be considered in the differential diagnosis of pharyngeal convexities. Hemorrhages in surgical pharyngeal procedures in children and ischemic encephalic lesions in elders are the main risks associated to such anomalies.

Bibliographical References

1. Paulsen F, Tillman B, Christofides C, Richter W, Koebke J. Curving and looping of the internal carotid artery in relation to the pharynx: frequency, embriology and clinical implications. J. Anat. 2000, 197:373-81.

2. Iwasaki S, Fujishiro Y, Abbey K. Glossopharyngeal neuralgia associated with aberrant internal carotid artery in the oropharynx. Ann Otol Rhinol Laryngol. 2002, 111(2):193-5.

3. Wasserman JM, Sclafani SJA, Goldstein NA. Intraoperative evaluation of a pulsatile oropharyngeal mass during adenotonsillectomy. Int J Pediatr Otorhinolaryngol. 2006, 70:371-75.

4. Kay MD, Mehta V, Goldsmith AJ. Perioperative adenotonsillectomy management in children: current practices. Laryngoscope. 2003, 113:592-98.

5. Almeida FS, Gomes OJ, Silva A, Pialarissi PR. Paraganglioma do corpo carotídeo: relato de caso. Arq Int Otorrinolaringol. 2007, 11(2):427-8