

Tortuous Internal Carotid Artery Mimicking an Oropharyngeal Mass

Case Report

Orofaringeal Kitleyi Taklit eden Tortiöz Internal Karotid Arter

Olgu Sunumu

Fuldem Yildirim Donmez, MD

*Baskent University,
Department of Radiology*

Fuat Buyuklu, MD

*Baskent University,
Department of Otorhinolaryngology and
Head and Neck Surgery*

Feride Kural Emiroglu, MD

*Baskent University,
Department of Radiology*

Mehmet Coskun, MD

*Professor,
Baskent University, Department of Radiology*

Corresponding Author

Fuldem Yildirim Donmez, MD

*Baskent University,
Department of Radiology
Bahcelievler/ Ankara/ Turkey
e-mail:fuldemyildirim@yahoo.com*

ABSTRACT

Tortuosity of the internal carotid artery is rarely seen in otolaryngologic practice. It can be presented with abnormal sensation or may be asymptomatic. Diagnosis is important especially if a surgical procedure is planned and CT can be preferred as the diagnostic modality. In this case, we present a tortuous internal carotid artery, causing an oropharyngeal bulging, mimicking a mass lesion, diagnosed by computed tomography.

Key Words: *Tortuosity, Internal carotid artery, CT*

ÖZET

Otolaringoloji muayenelerinde tortiöz internal karotid arter nadiren görülmektedir. Boğazda anormal gelen bir his ile prezente olabileceği gibi asemptomatik de olabilir. Özellikle cerrahi girişim düşünülmesi durumunda tanı önemli olup, BT tercih edilebilecek bir tanı yöntemidir. Bu olguda şişliğe neden olarak orofaringeal kitleyi taklit eden ve BT ile tanısı konulan tortiöz internal karotid artere ait bulgular sunulmaktadır.

Anahtar Kelimeler: *Tortiöz, İnternal Karotid Arter, CT*

INTRODUCTION

Tortuosity of the carotid artery is a common anatomical abnormality, with an incidence of 3-12%, shown by angiography (1). Due to the recent advances in radiological studies, carotid artery anomalies are more commonly encountered incidentally (2). These anomalies are mostly clinically silent; however, being unaware of them may cause serious complications during surgical procedures.

In this case we present an incidental oropharyngeal bulging, mimicking a mass lesion, which turned out to be the tortuous right internal carotid artery on computed tomography (CT).

CASE REPORT

A 79-year-old female patient was admitted to the ENT clinic with complaint of bilateral decreased hearing for 1 year. She had no significant history of a specific disease, but was a heavy-smoker for 50 years. She had coughs especially in the morning, but no symptom of a systemic disease such as weight loss or sweating was described.

At her routine physical examination, there was a bulging at the right posterior pharyngeal wall. She had neither abnormal sensation, nor pain. Given the fact that she was a heavy smoker, a computed tomography (CT) was requested to exclude any incidental malignancy. A CT was performed with and without contrast media, revealing the tortuous right internal carotid artery traversing medially causing the appearance of bulging on the posterior pharyngeal wall on the right, better depicted on contrast enhanced images (Figure 1). The MIP images showed the tortuosity of the artery perfectly (Figure 2). The patient was informed about this situation and no further investigation or treatment was proceeded.



Figure 1. Postcontrast axial CT image shows that the bulging at the right oropharynx is caused by right internal carotid artery (arrows).

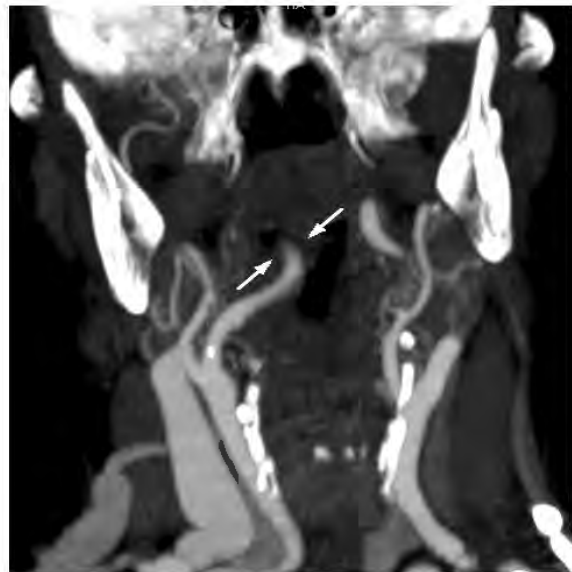


Figure 2. Coronal MIP reformat image shows the entire route of the internal carotid artery, indenting the airway at the level of the oropharynx on the right side (arrows). Left internal carotid artery has a normal course.

DISCUSSION

Tortuous internal carotid artery is not very rare; however, there are relatively few reports probably because it is clinically silent and is rarely seen in otolaryngologic practice (2,3). It is mostly presented as abnormal or foreign body sensation (3,4). The main causes are atherosclerosis, hypertension, congenital deformities and granulomatous diseases forming fibrous bands and adhesions, displacing the vessels (5). There is no need for a specific treatment; however awareness of such a situation is important to prevent serious complications during pharyngeal and laryngeal surgical procedures (2,3).

Radiologically, both CT and magnetic resonance imaging (MRI) having the advantage of noninvasiveness, may be performed. As CT is more readily available and cost-effective, it can be preferred in the first place. Okami et al reported three cases diagnosed by magnetic resonance angiography (MRA), however, only MRA lacks the advantage of assessing the soft tissues surrounding the airways, thus the need of an additional conventional neck MRI may arise. Thin-slice images obtained by multislice CT gives the opportunity of creating coronal MIP images, with high resolution comparable to MRI and axial images are well enough to follow the route and the relationship of the artery to the structures around, on this route. Therefore, we suggest CT as the modality of choice to image any internal carotid artery tortuosity or kinking.

REFERENCES

- 1)Weibel J, Fields WS. Tortuosity, coiling, and kinking of the internal carotid artery. I. Etiology and radiographic anatomy. *Neurology* 1965;15:7-18.
- 2)Aydin E, Akkuzu G, Akkuzu B, Ozluoglu LN. Tortuous internal carotid artery indenting the piriform sinus: a case report. *Eur Arch Otorhinolaryngol.* 2005; 262:351-2.
- 3)Ozcan KM, Ozcan I, Selcuk A, Pasaoglu L, Hatipoglu HG, Dere H. Tortuous internal carotid artery narrowing pyriform sinus: two cases. *Clin Imaging* 2008; 32:220-2.
- 4)Okami K, Onuki J, Ishida K, Kido T, Takahashi M. Tortuosity of the internal carotid artery--report of three cases and MR-angiography imaging. *Auris Nasus Larynx* 2001; 28:373-6.
- 5)Leipzig TJ, Dohmann GJ. The tortuous or kinked carotid artery: pathogenesis and clinical considerations. A historical review. *Surg Neurol.* 1986; 25:478-86.