EAS Journal of Radiology and Imaging Technology
Abbreviated Key Title: EAS J Radiol Imaging Technol
ISSN 2663-1008 (Print) & ISSN: 2663-7340 (Online)
Published By East African Scholars Publisher, Kenya

OPEN ACCESS

Volume-1 | Issue-2 | Mar-Apr-2019 |

Case Report

Cervical Internal Carotid Artery Aneurysm: A Case Report.

Farzana Rahim.[1], Dr Palwasha Gul.[2], Dr Pari Gul.[2], Dr Tanzila Parveen[3]

[1]PGR Diagnostic Radiology, Bolan Medical Complex Hospital (BMCH), Quetta, Pakistan
[2]Senior Registrar, Radiology department, BMCH, Quetta, Pakistan
[3]Assistant professor ,Radiology department, BMCH, Pakistan
[4]Resident, Combined military hospital (CMH), Pakistan

*Corresponding Author
Dr Palwasha Gul

Abstract: Aneurysms involving the cervical portion of internal carotid artery (ICA) are rare lesions. True aneurysm can be due to atherosclerotic, dysplastic, infectious, post traumatic or iatrogenic causes Symptoms may vary according to the location and size of the aneurysm, the lesion may or may not be pulsatile or tender. Timely diagnosis and management of these lesions are of utmost importance, as rupture of the aneurysm can result in catastrophic consequences. We present a case of a 50 years old female patient with gradually increasing pulsatile swelling on right side of neck, near the angle of mandible. CT scan both with and without intravenous contrast and Doppler ultrasound correlation revealed a right sided internal carotid artery aneurysm. Patient was referred to a vascular surgeon for further management.

Keywords: cervical, internal carotid artery, aneurysm, location.

INTRODUCTION

Extra cranial ICA aneurysms are extremely uncommon arterial lesions, with the estimated incidence of less than 1% of all arterial aneurysms and 0.2% to 5% of all carotid artery surgeries. It can involve any segment of the carotid artery (common, external, internal) however the internal carotid artery is most commonly affected. Internal carotid artery aneurysms can be divided into true and false/ pseudo-aneurysm. True aneurysms could be as a result of various aetiologies' including atherosclerosis, dysplasia, infective lesions, post radiotherapy, trauma or maybe iatrogenic. It may present as a simple neck swelling (which may or may not be tender or pulsatile) or with neurological signs and symptoms. It can also be detected incidentally in an asymptomatic patient. Serious consequences may result if these aneurysms are left unrecognized and untreated, ranging from haemorrhage due to rupture, stroke and even death.

Case

A 50 years old female patient was referred to us from surgery department with the complaints of gradually increasing lump in the right side of neck, close to the angle of mandible. No other associated symptoms were reported, mass was none tender, but pulsatile on inspection and was approximately measuring 4 x 4 cm. No other associated neurological symptoms appreciated, no cervical lymphadenopathy noted. However patient complained of mild discomfort in breathing and swallowing. Laboratory investigations showed haemoglobin 11.2 gram/dl, leucocytes 6.3x109, neutrophils 60%, esinophils 1%, lymphocytes21%. Blood pressure was 110/70 mmhg. Blood sugar (random) 120 mg/dl. No other associated co-morbid. Patient gave no history of previous trauma or sepsis. She was advised a CE CT scan neck by the surgeon which showed a well defined hypo dense lesion measuring 3.6 x 3.0 cm in the right carotid space with peripheral specks of calcification (fig 1) extending anteromedially and laterally. Post contrast images showed intense central enhancement with a non enhancing thrombus at the periphery (fig2 and 3).Findings were in favour of an aneurysm involving the cervical portion of internal carotid artery. Doppler ultrasound correlation was also performed which confirmed the presence of an aneurysm of the right internal carotid artery. Left sided vasculature was normal. No lymphadenopathy seen. Patient was referred to a vascular surgeon for further management, but unfortunately patient was lost to follow.

Quick Response Code

Journal homepage:
http://www.easpublisher.com/easjrit/

Article History
Received: 01.03.2019
Accepted: 15.03.2019
Published: 27.03.2019

Copyright © 2019 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution **4.0 International License (CC BY-NC 4.0)** which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

DOI: 10.36349/easjrit.2019.v01i02.001

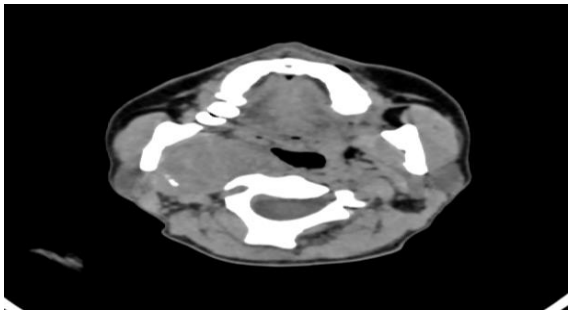

Fig.1: plain CT Axial view show a hypo-dense lesion in right carotid space with peripheral specks of calcification

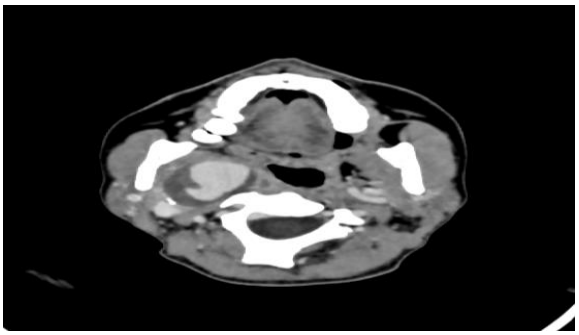

Fig. 2: CE CT axial view show intense central enhancement with peripheral non-enhancing thrombus

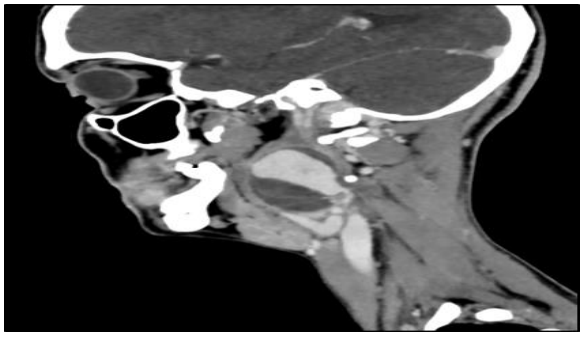

Fig.3: CECT sagital reconstructed view showing extracranial aneurysm of right internal carotid artery.

Discussion

Extra-cranial internal carotid artery aneurysm are rare and most commonly due to atherosclerosis (Chang, K.H. *et al.,* 2015). The diagnosis may be suspected clinically, but radiological investigations are necessary for diagnosis and assessment of risk of complications resulting from surgical intervention (Smith, M., & Johnson, P. 2013). True aneurysms of the cervical carotid artery are rare with the majority in common carotid bifurcation with approximately one third confined to internal carotid artery .Because of the rare occurrence of these lesions, the diagnosis can often be missed or delayed specially in the absence of neurological symptoms (Valentine, R. J. 2003), which may result in potentially fatal consequences. These lesions can also be misdiagnosed as chemodectomas, peritonsillar abscess or neoplasm and attempted biopsy of such lesions can also have serious consequences. A study shows 70% mortality rate and 50% risk of stroke in non-operated patients with carotid artery aneurysm (Chang, K.H. *et al.,* 2015; Valentine, R. J. 2003).

Patients most commonly present with a pulsatile neck mass with associated thrombo-embolic phenomenon, cerebral ischemia and neurological symptoms due to cranial nerves compression (Brzost, J. *et al.,* 2015) or symptoms due to compression of upper aero-digestive tract (Smith, M., & Johnson, P. 2013).

The condition was mostly seen in adult patients in their 5th or 6th decade, our patient was also a 50 years old adult, however few cases were also reported in younger age groups, which usually developed after trauma or secondary to infection involving the para-pharyngeal space which extend to the vessel wall (Wilding, L. J. *et al.,* 2004).

Kah hoong chang reported a case of a 28 years old female who presented with a short history of sore throat, right sided neck pain and right pharyngeal swelling for 5 days. Initially it was assumed to be an abscess and aspiration was attempted but abandoned due to patients strong gag reflux. Further imaging showed it to be a saccular aneurysm of the internal carotid artery which was successfully operated (Smith, M., & Johnson, P. 2013).

Conventional digital subtraction angiogram is considered the gold standard for diagnosis of carotid artery aneurysms, but has been largely replaced by ct angiogram (Chang, K.H. *et al.,* 2015). Doppler scan can also be used which has the advantage of being cost effective, non-invasive, provides real time imaging and no risk of ionising radiation to patient.

The first successful treatment of carotid artery aneurysm was done in 1808, by sir ashley cooper at guy's hospital, London (Menezes, J.D. *et al.,* 2007).

Repair of the aneurysm is recommended by most experts, even in the absence of symptoms (Valentine, R. J. 2003) and open surgery of the aneurysm remains the gold standard treatment (Smith, M., & Johnson, P. 2013; Biasi, L. *et al.,* 2008), although use of a shunts is also an option however it remains controversial (Valentine, R. J. 2003) and conservative treatment is usually reserved for patients who are incompatible for surgery or endovascular intervention (Chang, K.H. *et al.,* 2015).

REFERENCES

1. Chang, K.H., Cotter, J., & McGreal, G.T. (2015). Case Report: Massive carotid artery aneurysm presenting as an oropharyngeal swelling in a young woman. *BMJ Case Reports.*
2. Smith, M., & Johnson, P. (2013,sep). Spontaneous extracranial internal carotid artery aneurysm: a case report. West Indian Medical Journal, 62(7), 667-71.

3. Valentine, R. J. (2003). Asymptomatic internal carotid artery aneurysm. *Journal of vascular surgery*, *37*(1), 210.
4. Biasi, L., Azzarone, M., De Troia, A., & Salcuni, P. (2008). Extracranial Internal Carotid Artery Aneurysm: case report of a saccular wide-necked aneurysm and review of the literature. Acta Bio Medica Atenei Parmensis, 79(3), 217-22.
5. Brzost, J., Cyran, A.M., Waniewska, M., Szczepanski, M.J. (2015). Internal carotid artery aneurysm mimicking peritonsillar abscess. Case Reports in Otolaryngology.
6. Wilding, L. J., Howlett, D. C., Anderson, H. J., Sangle, P. D., Violaris, N., & Evans, G. H. (2004). Extracranial internal carotid artery aneurysm presenting as symptomatic hypoglossal and glossopharyngeal nerve paralysis. *The Journal of Laryngology & Otology*, *118*(2), 150-152.
7. Menezes, J.D., Barbas, M.J., & Goulao, J. (2007). Aneurysms of the Extracranial Carotid Arteries. in Vascular surgery Springer,Berlin, Heidelberg 173-179.