Tortuous internal carotid artery: an important differential of the pulsatile oropharyngeal mass

Michelle Pipe 1, Emma Watts 2, Peter George Deutsch 3, Giridharan Wijayasingam 4

DESCRIPTION
A 69-year-old woman presented to her local head and neck clinic with a 6-month history of right-sided sore throat and intermittent dysphagia, with a normal voice. On examination, a longitudinal, pulsatile lesion in the right posterolateral pharyngeal wall commenced at the junction of the oropharynx and nasopharynx, and progressed to the vallecular. Flexible nasendoscopy was otherwise normal. Her medical history included asthma, gastro-oesophageal reflux, hypertension and tonsillectomy. She is a non-smoker and occasionally drinks alcohol. She is a retired intensive care senior sister.

CT angiogram showed a tortuous right internal carotid artery (ICA) which looped medially at the level of the oropharynx, bulging into the right pharyngeal wall before returning laterally to enter the carotid canal in its normal anatomical position (figures 1 and 2). Imaging revealed normal aortic arch, no further aneurysm of vascular anomaly and the left carotid artery was completely normal.

An aberrant cervical ICA with relation to the pharyngeal wall1 2 is thought to affect between 0.2% and 2% of the population. The majority are asymptomatic;3 this patient unusually presented with intermittent dysphagia and sore throat. It is thought that this patient’s symptom of dysphagia is secondary to a globus sensation within the oropharynx, given the sensitivity of the anatomical region. Other cases report symptoms of pulsatile mass, hoarseness, pain, obstructive throat sensation2 4 and less commonly dysphagia5 6; mild cough, globus sensation and aspiration5 may also occur. Rarely, patients may present with temporary blindness, objective tinnitus6 7 pharyngitis8 or neck mass.8

A tortuous ICA is an important differential diagnosis in suspected peritonsillar abscess and parapharyngeal neoplasm due to the necessity for fine needle aspiration or biopsy and the associated risk of major haemorrhage. While uncommon, awareness of this anatomical abnormality is essential in preventing morbidity and mortality. Some cases report alterations in the ICA found during surgical procedures and careful adaptations which have subsequently been made during the surgery.6 In one case, an ICA was detected 1 cm to the left of the tonsils during tonsillectomy; this highlights the tangible risks to these patients.6 Further, research shows tortuosity of the ICA as a risk factor for cerebral ischaemic stroke.9

Risks of carotid tortuosity should be considered prior to neurosurgery, as detailed by Brachlow et al.,10 following the death of a 30-year-old man who

1University Hospitals Birmingham NHS Foundation Trust, Birmingham, UK
2ENT, University Hospitals Birmingham NHS Foundation Trust, Birmingham, UK
3Otolaryngology, Sandwell and West Birmingham Hospitals NHS Trust, Birmingham, UK
4ENT, Russells Hall Hospital, Dudley, UK

Correspondence to
Dr Michelle Pipe;
michelle.41@hotmail.co.uk

Accepted 3 September 2020

The vascular multidisciplinary team concluded this case was a normal variant, which required no further vascular investigation or intervention.

Contributors GW conceived of the study and was the responsible consultant. PGD and EW were involved in patient management and review of the manuscript. EW collated the evidence. MP produced the manuscript.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Obtained.