

Recurrent Laryngeal Nerve Palsy Due to Pseudotumor of Left Common Carotid Artery

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A 22-year-old man presented to us with hoarseness of voice of 1-month duration. He had no history of any difficulty in chewing, swallowing, or nasal regurgitation. There was no fluctuation in the symptoms. There was no history of fever, neck pain, or weight loss. There was no other significant past or family history of any disease. The examination was unremarkable except for hoarse voice. Palatal movements were normal while indirect laryngoscopic examination showed left vocal cord palsy. MRI neck showed a circumferential and longitudinal thickening of the left common carotid wall with an intact lumen (Figure 1: A, a, B, b). The thickened carotid wall was hypointense on T2-weighted image (Figure 2). Serum IgG4 levels were elevated (3.00 g/L (0.3–2.0)). A provisional diagnosis of inflammatory pseudotumor (IPT) of the carotid sheath, secondary to IgG4 disease causing left recurrent laryngeal nerve palsy, was made. The patient was treated with IV methylprednisolone 1 g/day for 5 days followed by oral steroids 60 mg/day. At 2 weeks follow-up, his voice had improved. At 2 months follow-up, patient has significantly

improved, and a repeat MRI neck showed definite reduction in the thickness of carotid wall from 9 mm baseline to 2.5 mm (Figure 1: a1, b1). We have started tapering the dose of steroids and planning to repeat another MRI scan after 2 months.

IPT of the carotid sheath was first described by Brunn in 1939.¹ The most common areas of IPT are the orbits, head, and neck. IPT of the carotid artery is a rare entity and diagnosis is usually reached after biopsy of the thickened carotid sheath. The important differential diagnosis for carotid sheath thickening are carotid body tumor, fibro-muscular dysplasia, Wegener's granulomatosis, extramedullary plasmacytoma, and carotid artery pseudoaneurysm.² A high index of suspicion, presence of hypointense carotid wall on T2 W image and getting the serum IgG4 levels done, will help to make an early and accurate diagnosis. Treatment with corticosteroids along with close clinical and radiological follow-up for resolution of the symptoms and documenting the reduction in the size of carotid wall thickness may obviate the need for biopsy.

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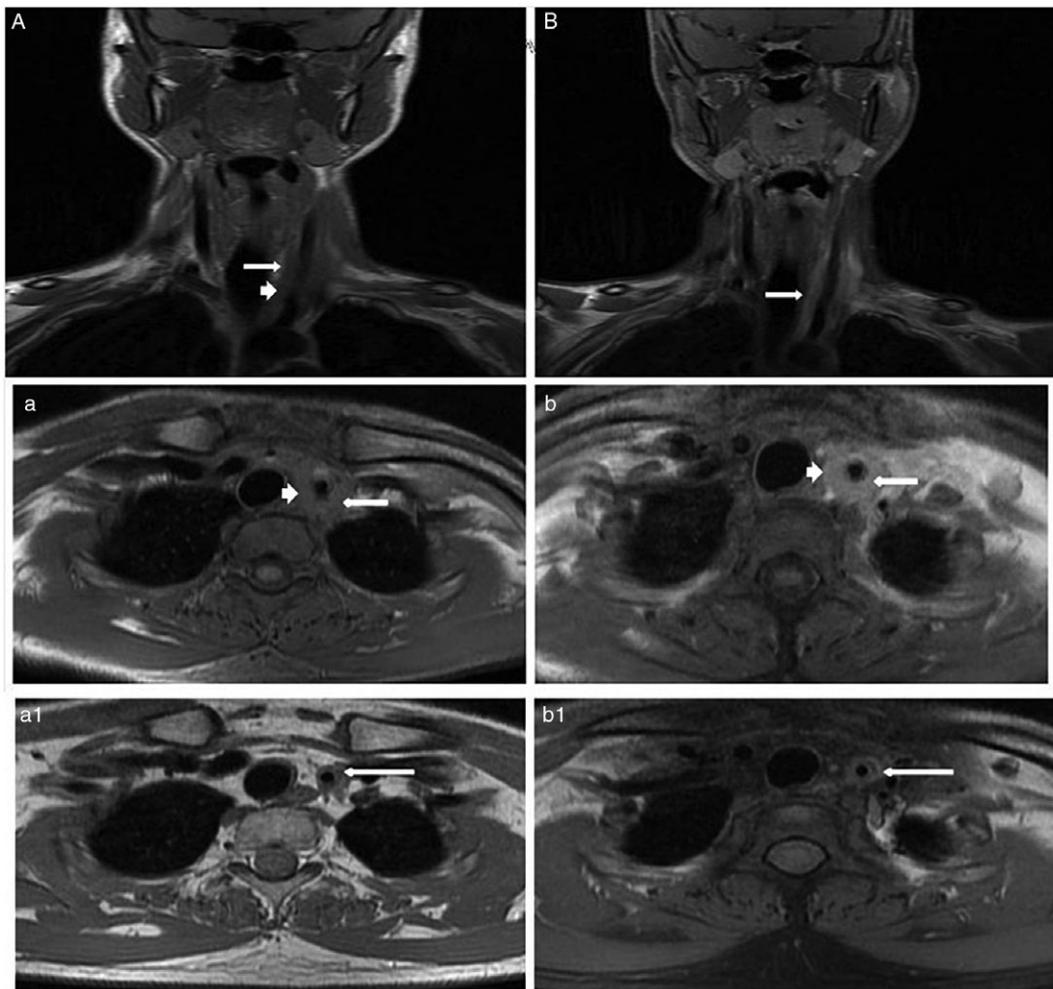


Figure 1: MRI neck T1 W pre (A coronal and a axial – baseline, a1 axial – post-treatment and post-contrast (B coronal and b axial – baseline, b1 axial – post-treatment) showing reduction in carotid wall thickening post-treatment (white arrows). The expected location of the recurrent laryngeal nerve is shown by short and thicker arrows.

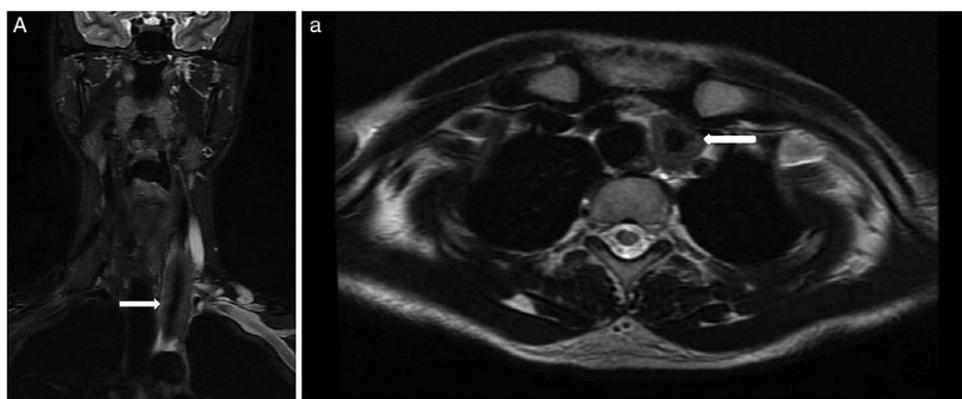


Figure 2: MRI neck coronal (2 A) and axial (2a) T2 W images showing hypo to iso-intense wall thickening of the left common carotid artery (white arrows).

CLINICAL IMPLICATIONS

IPT of the left carotid artery may present as left recurrent laryngeal nerve palsy.

Physicians and radiologists when evaluating lower cranial palsy should closely and carefully look for the thickening of the carotid sheath.

Checking IgG4 levels in these patients may help to avoid invasive procedures like carotid sheath biopsy.

CONFLICT OF INTEREST

There are no conflicts of interest to declare for this manuscript.

STATEMENT OF AUTHORSHIP

TM - Leading role in conception, design, organization, execution, review and critique. SKJ - Supporting role in conception, writing of the first draft. SK - Supporting role in conception, review and editing. SKD - Supporting role in conception, review and editing.

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