

## SHORT REPORT

## Blanching of the Tongue as a Transient Ischaemic Attack

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## Introduction

The tongue is a highly vascularised organ receiving its blood supply from the lingual artery. Although a few cases of tongue ischaemia have been linked to carotid disease, this is the first report to document blanching of the tongue as a transient ischaemic attack (TIA).

## Report

A 70-year-old woman awoke with aching in her tongue. Noticing it was white in the mirror, she attempted to scrape off a perceived coating, realising instead her pale tongue was drained of blood. She noted the veins running parallel to the frenulum clearly against the white background. The pallor resolved after fifteen minutes followed by a few hours of copious salivation.

This was her third neurovascular event, following two previous TIAs affecting the left hand and leg. Arterial duplex showed high-grade stenoses in both carotid bifurcations, with 80–99% stenosis in the right internal carotid artery (Fig. 1). Both external carotid arteries showed extensive stenosis localised to origin.

The patient underwent right carotid endarterectomy. During recovery, she experienced one spontaneously resolving episode of left arm weakness lasting 5 min. She remains asymptomatic at six months.

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## Discussion

Ischaemic blanching or necrosis of the tongue is extremely rare, even in cases where both external carotid arteries have been surgically ligated.<sup>1</sup> Vasculitides such as temporal arteritis appear to be the most frequent cause of vascular events involving the tongue, causing ulceration or even necrosis. Lingual ischaemia may also follow significant adverse drug reactions to arterial chemotherapy, ergotamine and nicorandil.

Isolated cases in the literature link ischaemic events of the tongue with carotid disease Goodman *et al.*<sup>2</sup> reported paralysis of the tongue from hypoglossal nerve dysfunction associated with transient ischaemia resulting from compression or enlargement of the

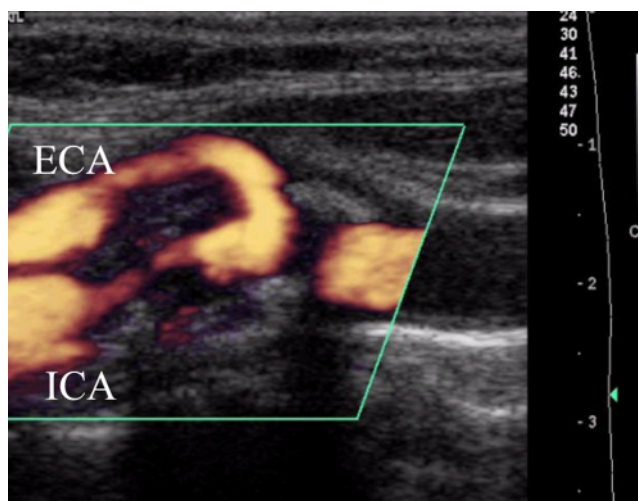


Fig. 1. Power Doppler image of the right carotid artery bifurcation.

carotid artery undergoing spontaneous dissection. Orita *et al.*<sup>3</sup> reported necrosis of the tongue after TIA; angiography revealed occlusion of the right external carotid artery at the bifurcation of the common carotid artery. Our case is the first to document reversible lingual blanching as a TIA in a patient with bilateral high-grade external carotid stenoses. We suspect this patient may already have extensive lingual arteriosclerosis, thereby predisposing the tongue to ischaemia.

In canine experimental studies, Holmberg *et al.*<sup>4</sup> showed that occlusion of the carotid artery causes a significant drop in pressure in the ipsilateral lingual artery. Furthermore, bilateral carotid artery occlusion resulted in a further significant fall in lingual arterial pressures. Ohuchi *et al.*<sup>5</sup> showed that in almost all of 119 histological tongue autopsies, the lingual arteries showed microscopic rupture and multi-lamellation of the lamina elastica interna with proliferation of intimal elastic fibre. Furthermore, there is progressive reduction in the luminal diameter of the lingual arteries with age. Thus, arteriosclerosis of the lingual arteries is characterised by intimal thickening, lipid

deposition and increasing incidence with age. During carotid artery surgery or neck dissection, surgeons should be aware that the arterial supply to the tongue is particularly tenuous in older patients, especially in those with a history of temporal arteritis, previous radio- or chemotherapy, or vascular malformation.

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