Vertebral artery in giant cell arteritis

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Figure 1  MR brain scan.
A 75-year-old woman was admitted with headache, diplopia and vertigo. On examination she had left-sided hemiataxia and thickened, tender temporal arteries. Erythrocyte sedimentation rate was 60 mm/h and temporal artery biopsy confirmed giant cell arteritis.

MR brain scan (DWI image shown in Fig. 1) revealed multiple, subacute cerebellar infarcts most likely caused by vertebral artery involvement in giant cell arteritis.

Colour-coded duplex sonography (Fig. 2) showed a halo sign (hypoechoic ring due to mural thickening around the flowing blood shown in colour) in the cervical segment of the (a) left and (b) right vertebral arteries due to nonatherosclerotic vessel wall thickening. V indicates a vertebra. The arrows indicate the original vessel diameter and the remaining lumen. On Duplex sonography there was no evidence for atherosclerosis in any of the extracranial arteries, and nor did the patient have any vascular risk factors.

In the temporal arteries, the halo sign is a well-known and reasonably specific feature for the diagnosis of giant cell arteritis (Karatss et al. 2005). It is very uncommon in the vertebral arteries. Although the halo sign can be due to neoplastic and infectious processes, in the context of this case with a high pretest probability of giant cell arteritis (later confirmed by biopsy), it must represent inflammation of the vessel wall.

On corticosteroid therapy the patient's headache and temporal artery tenderness improved and her ESR fell to normal. The sonographic findings remained unchanged after two months.

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REFERENCES


Figure 2 Colour-coded duplex sonography.