In conclusion, the present report highlights the diversity of the topography of the underlying ischaemic lesions in patients presenting with pure sensory stroke. Therefore, although its incidence is extremely low, isolated posterior midbrain infarction should be considered as an infrequent cause of pure sensory stroke.

References

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Beauty Parlor Stroke Syndrome

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A 63-year-old woman visited her beauty parlor to have her hair cut. During shampooing with her head hanging backwards into a hair washbasin she developed sudden dizziness, nausea and started vomiting. The alarmed paramedics assumed a gastrointestinal disorder, and she was initially admitted to the department of gastroenterology. As symptoms persisted for 2 days, neurological advice was sought. The neurological examination revealed nystagmus at forced lateral view bilaterally, slight left-sided ataxia of both limbs and she was prone to fall to the left side in the Romberg test. The vascular risk factors were sufficiently treated diabetes type II and arterial hypertension. In our routine stroke workup which is based on the EUSI guidelines [1], no further pathological findings were detected, in particular no signs of cardioembolism. MRI of the brain showed an ischemic infarction in the territory of the left posterior inferior cerebellar artery (fig. 1a). MR angiography (fig. 1b) showed a smaller lumen of the left vertebral artery compared to the right but without signs of arterial dissection or major arteriosclerosis.

In our patient we diagnosed beauty parlor stroke syndrome, a term proposed by Weintraub in 1993 [2]. Pathophysiologically, acute arterial dissection is considered to be a major cause [3, 4]. In these cases, patients often reported about pain in the neck and a
predisposing intimal-medial weakness has been assumed [5]. Other predisposing vascular factors discussed for this stroke entity are atherosclerosis, impaired collateral blood flow and presence of congenital vascular hypoplasia. However, also speed, applied force and duration of the hair washing definitely contribute [5, 6]. In our case dissection could confidently be excluded by MR angiography and conventional MR sequences. An arterio-arterial embolism, occurring by shearing of an atherosclerotic plaque of the vertebral arteries during hyperextension, seems unlikely due to missing signs of pronounced arteriosclerosis in MR angiography and additional neurosonological examinations. Cardiac embolism was unlikely due to normal ECG and transesophageal echocardiography.

Therefore, we assume a disturbed end organ perfusion mechanism affecting the territory of the left posterior inferior cerebellar artery as the pathophysiological cause, for which the slight left-sided vertebral artery hypoplasia may have been predisposing. The interruption of the blood flow is thought to be caused by mechanical compression of the vertebral artery between the occiput and the vertebral arc of the atlas during the prolonged hyperextension (fig. 2).

This concept is supported by cerebral blood flow studies in symptomatic individuals which demonstrated abnormal findings during hyperextension and rotation of the neck and head and unsuspected hypoplastic vertebral artery in 13% [7]. Thus, it can be speculated that hypoplasia may play a predisposing role, in particular if the vertebral artery with the larger calibre is compromised by the tilting of the neck during barbering.

Taken together, hyperextension combined with hanging the head backwards in a hair washbasin can be seen as a risk factor for posterior circulation ischemia. It probably occurs more often than assumed [8] and a number of patients may report about previous dizziness episodes under the same conditions when asked specifically [9]. It can be prevented by changing the shampoo routine from the hanging head position to a flexed or neutral position [5]. Age can be regarded as a potentially predisposing factor, as our patient and nearly all the patients whose cases were reported in the literature are 50 years and older [2, 8].

References

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