Hemihyperhidrosis in cerebral infarction

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Abstract

Increased sweating on the hemiparetic side in cerebral infarcts is not a common clinical finding. The onset, severity and duration of symptoms can vary. The structural lesion responsible for this is a subject of conjecture. We present the case of a 66-year-old man who developed hemihyperhidrosis secondary to a cerebral infarct.

Keywords: hemihyperhidrosis, cerebral infarct, CVA, stroke, hyperhidrosis, elderly

Case report

A 66-year-old male smoker on treatment for essential hypertension and dyslipidaemia presented with a sudden onset of left-sided weakness affecting his face, arm and leg associated with difficulty in swallowing. There was no evidence of any autonomic dysfunction. A diagnosis of partial anterior circulation stroke was made. His CT brain scan revealed a large hypodense area in the right fronto-parietal region extending into the temporal lobe, which confirmed the clinical diagnosis of a right middle cerebral artery territory infarct.
On day 14 he was noted to have profuse left-sided sweating particularly affecting the left face and upper torso. This was clinically overt and beads of sweat were seen to be rolling down the left side of his face. The profuse sweating decreased over the next 2–3 days and had resolved by day 28 and did not recur.

Discussion

Sweating is a sudomotor function, which is controlled by the sympathetic nervous system. Disturbances in sweating in the form of hypohidrosis or anhidrosis as a component of Horner’s syndrome are well known to occur in laterotegmental brain stem or medullary strokes. However clinically obvious increased sweating on one side, or hemihyperhidrosis, in patients with anterior or posterior circulation stroke is uncommon.

Hemihyperhidrosis has, however, been reported in lesions of the cerebral cortex [1, 2], the brain stem [3, 4], pons [5], medulla [2], hypothalamus [6, 7] and the spinal cord [8]. In a series of 633 consecutive seen strokes, hemihyperhidrosis was observed in six [1] and in another series of 350 consecutive strokes it was seen in five [2] giving an incidence of around 1–2%. It can occur with localised infarctions of the opercular cortex [1] as well as with large infarcts [1, 2].

The sweating can be mild to profuse. The onset is usually early, occurring with the onset of stroke or a few days later [2, 4, 6, 7] and can last from 2 days to 2 months [1, 2]. Delayed onset 6–8 months after stroke [9] as well as prolonged persistence of sweating has also been described [6, 7]. The sweating is usually spontaneous although precipitation by exercise or minor infection is also known to occur [6]. Although the sweating involves the whole of one side it is usually more prominent on the face and arm, as was seen in our case. Associated features of autonomic dysfunction usually do not occur [1, 2].

Studies involving quantitative hydrotic estimation of sweating in patients with cerebral infarcts have been done but have reported conflicting results. One study showed increased sweating on the contralateral side of the infarct [10] and another showed increased sweating on the ipsilateral side [3]. These studies are not routinely warranted.

The site of the anatomical lesion is not very clear and is a subject of conjecture. Hemihyperhidrosis is thought to occur due to disruption of the putative inhibitory neural pathway that controls sweating on the contralateral side of the face and body. It has been suggested that this pathway may originate in the cortex, possibly the operculum, project to the hypothalamus, descend to the brain stem, cross in the medulla and make terminal connections with the contralateral thoracic spine [2].

There is variable relationship to prognosis, with reports suggesting poor prognosis [1, 10] as well as no correlation with prognosis [2]. Many treatment modalities have been described for primary hyperhidrosis, which may be used in these cases also, but treatment is usually not required.

In conclusion, contralateral hemihyperhidrosis in cerebral infarct is an uncommon clinical sign. The significance of this is still not clear.

Key points

- Hemihyperhidrosis is a rare association of cerebral infarction.
- Associated autonomic dysfunction does not occur.
- Usually self-limited.

References


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