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Abstract

The Incidence of Cutaneous Vascular Marks in Patients Treated with Stereotactic Radiosurgery for Cerebral Arteriovenous Malformations

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Abstract

Objectives: Little is known about the frequency of symptoms potentially associated with genetic predisposition to vascular abnormalities, like RASA1 mutation, in patients treated for cerebral AVMs. The aim of the study was to screen the population of patients treated with stereotactic radiosurgery for cerebral AVMs for the presence of cutaneous capillary malformations and other vascular abnormalities and cutaneous marks suggestive of genetic background.

Methods: A group of 103 patients treated with stereotactic radiosurgery for cerebral AVMs was interrogated to identify familial occurrence of strokes and vascular abnormalities. The subjects were also examined to find cutaneous vascular abnormalities and marks suggestive of genetic background. The presence of cutaneous angiomas and port wine stains were recorded. Additionally, the skin was examined for the presence of discolorations, teleangiectasiae, varicose veins and other vascular abnormalities.

Results: In nine (8.7%) of index patients port wine stains were identified, 11% had spots of café au lait appearance. The number of port wine stains varied from one to multiple but in most cases (6/9) it was a single lesion, often of irregular shape. 13.6% had varicose veins, in 12.6% skin was hypersensitive to temperature with reticulated vascular pattern, and in 4% Raynaud phenomenon was diagnosed. In 3% of patients pale patches of lighter color than the rest of the skin were found. In 22 patients (21.3%) a capillary malformation in the nuchal region ("stork bite") was found, in the subgroup with port wine stains and café au lait macules, the proportion of patients with a stork bite was twice as high (45%). Four percent of family members had port wine stains, 3% had café au lait spots. In 27 families episodes of strokes and in 4 port-wine stains were identified. Eight patients had both skin marks and familial history of strokes or skin lesions.

Conclusions: Due to selection of patients the results should be confronted with similar evaluation in patients treated with other methods. Nevertheless, an evaluation of patients with AVMs referred to stereotactic radiosurgery and their families appears reasonable and can help with identification of patients and their relatives with familial risk of vascular malformations

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