The frontal eye field

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Figure Anatomical location of the frontal eye field (FEF)

Brain MRI shows the classic “popcorn” appearance of cavernoma. (A) T2* axial slice. (B) T1 sagittal slice. (C) Fluid-attenuated inversion recovery axial slice. MFG = middle frontal gyrus; PCG = precentral gyrus.

An 11-year-old right-handed girl without any medical history developed epilepsy (5–10 seizures per day). During seizures, she presented a conscious tonic eye deviation to the left. EEG found a focal discharge in F4 (video) and brain MRI a cavernoma in the right frontal eye field (FEF; figure). Surgery was performed after phase 1 investigation. Pathology confirmed diagnosis; the patient is now seizure-free without neurologic impairment.

The FEF corresponds to Brodmann area 8 at the intersection of the precentral gyrus with the middle frontal gyrus (figure).¹ Contralateral eye deviation is uncommonly isolated during seizures but has a high localizing value.²

Author contributions

P. Bourdillon: acquisition of data, study concept and design, study supervision, analysis and interpretation. M. Guénot: study concept and design. P.A. Beuriat: revision of the manuscript. K. Ostrowsky-Coste: acquisition of data, study concept and design, critical revision of the manuscript for important intellectual content, analysis and interpretation.

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Disclosure

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