Cerebral lipogranuloma

A penetrating traumatic brain injury

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Ten years ago, a 57-year-old man fell into a full oilcan, penetrating the straight spout suborbital into the right frontal lobe (figure, A). Two years later, he developed symptomatic epilepsy. A cranial MRI showed extensive edema formation (figure, B) and pathologic contrast enhancement (figure, C). In a neurosurgical biopsy, multiple granulomas around small oil droplets appeared. Histopathologic analysis revealed a chronic meningoencephalitis with granulomas and giant cells congruent with a foreign body reaction (figure, D–F).

Lipogranuloma is a rare inflammatory foreign body reaction to exogenous poorly resorbable lipid/oil-like substances.¹ Under immunosuppressive therapy with methylprednisolone,² seizure frequency has declined to 1 focal seizure per month.

Figure Chronic meningoencephalitis with lipogranuloma after traumatic brain injury

(A) Traumatic brain injury. (B) MRI demonstrates extensive edema formation. (C) Pathologic contrast enhancement. (D) Chronic meningoencephalitis. (E) Lymphomonocytic cells (black arrow) and single multinucleated giant cells (red arrow) in close association to a sclerotic stroma with numerous lipid vacuoles (arrowheads). (F) Hematoxylin & eosin staining of vacuolated spaces with yellowish oil depositions.

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Appendix Authors

Name	Location	Contribution
Manuel Hagen, MD	University Hospital Erlangen, Germany	Clinical care, drafting and revision of manuscript
Roland Coras, MD	University Hospital Erlangen, Germany	Clinical care, histologic analysis, revision for intellectual content

Appendix (continued)

Name	Location	Contribution
Tobias Engelhorn, MD	University Hospital Erlangen, Germany	Clinical care, MRI analysis, revision for intellectual content
Stefan Schwab, MD	University Hospital Erlangen, Germany	Clinical care, revision for intellectual content
Frank Seifert, MD	University Hospital Erlangen, Germany	Clinical care, editing and finalizing the manuscript

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