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Lipoma of the corpus callosum presenting with an epileptic seizure in an adult

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A 24-year-old previously healthy man presented after a first generalized epileptic seizure. The patient had amnesia and didn't remember any aura nor focal symptoms before he lost consciousness. Clinical examination was normal except for a short fourth finger on the right hand (Fig. 1). EEG was unremarkable. Brain CT and MRI revealed a large lipoma above and around the corpus callosum (Figs. 2-3) with a slight dysmorphia of the corpus callosum. Treatment with Levetiracetam (500 mg q12h) was started and he remained seizure-free (during 2 months of follow-up until now).

Lipomas of the corpus callosum are very rare congenital malformations. Less than 0.1% of all intracranial tumours are lipomas of which only 17% are located in the periphery of the corpus callosum (Davutoglu, Yesil *et al*., 2008; Yildiz, Hakyemez *et al*., 2006). Patients with a callosal lipoma may be either asymptomatic or manifest most commonly complex partial seizures, headache and mental disorders (Kchouk, Gouider *et al*., 1993). CT shows very low attenuation and on MRI the lesion is hyperintense on T1 images (Yildiz, Hakyemez *et al*., 2006). The pathophysiological mechanism explaining the epileptic seizures is not completely clarified. The classic theory of Zettner and Netsky in 1960 proposed that seizures depend upon an infiltration of the cingulate gyri by fibrous tissue growing out from the capsule of the lipoma. In 1980 Gastaut *et al.*, based on their own cases and evidence from literature about callosal agenesis and the Marchiafava-Bignami syndrome, conclude that the epilepsy that accompanies lipomas of the corpus callosum results

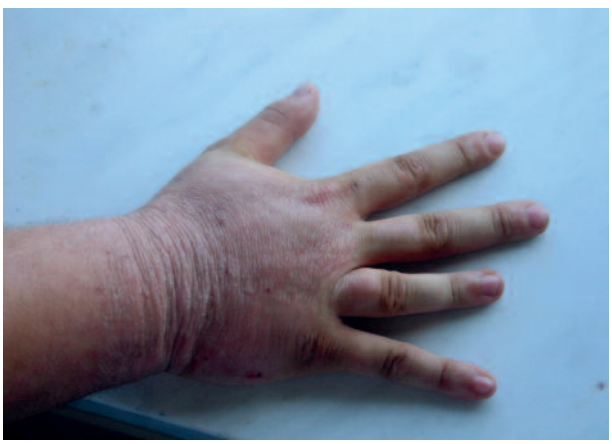

Fig. 1. — The patient had a very short fourth finger on the right hand.

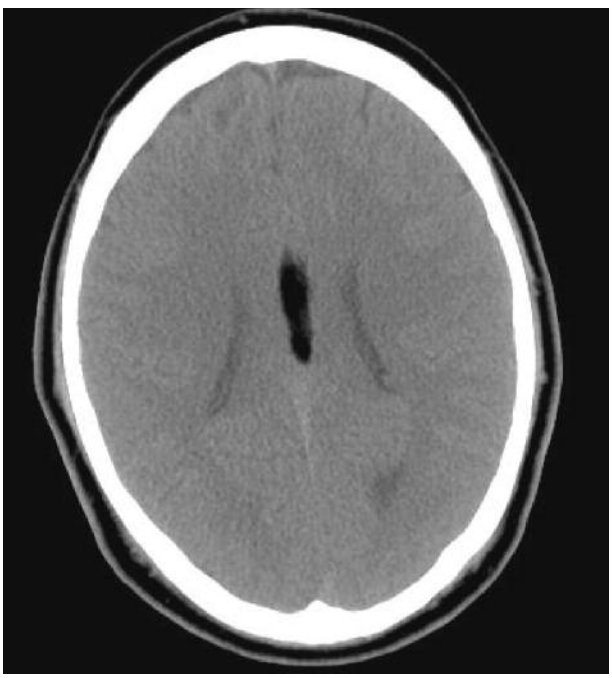

Fig. 2. — Axial brain CT shows the lipoma as a hypodense lesion above the corpus callosum at the midline.

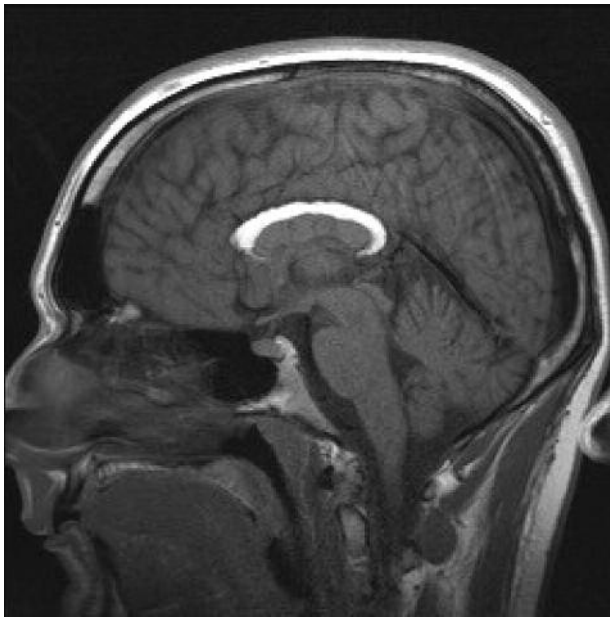

FIG. 3. — Sagittal T1 brain MRI shows the lipoma as a large hyperintense lesion.

at least in part from the interhemispheric disconnection. Such a disconnection would be responsible for the tendency for each hemisphere to develop epileptic discharges when affected by any sort of lesion (Gastaut, Regis *et al*., 1980). Unlike in most descriptions, our patient only got his first epileptic seizure at the adult age of 24 years (Gastaut, Regis *et al*., 1980). This patient also had a short fourth finger on the right hand. We did not find a known association of callosal lipoma with brachydactyly, especially not of one finger. This could be an incidental unrelated finding. This patient did not have facial dysmorphia nor mental retardation.

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