Embarrassment as the aura of a complex partial seizure

Article abstract—A man with a grade II astrocytoma in the medial frontal lobe exhibited complex partial seizures, with the aura being a feeling of extreme embarrassment. This previously unreported ictus suggests that an electric discharge in the prefrontal cortex may produce the opposite effect of prefrontal lesions, in which there is a lack of insight and an absence of the capacity for embarrassment.

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We recently observed a man in whom a feeling of extreme embarrassment repeatedly occurred as the aura of complex partial seizures (CPS). The seizures were a result of a grade II astrocytoma deep within the medial aspect of the right frontal lobe. After reviewing the literature, we were unable to find another report of this emotional manifestation resulting from either spontaneous CPS or electric stimulation of limbic areas.

Case report. D.G., a 40-year-old right-handed physician, had a nocturnal grand mal seizure 2.5 years ago. Neurologic examination, EEG, and CT were normal. He was started on phenytoin sodium but changed to phenobarbital when a rash developed. Six months later, the patient had two episodes in which he was awakened from sleep by a seizure characterized by hyperextension and external rotation of the left arm. One year ago, he experienced the first of many stereotyped episodes beginning with a 15-second aura that he described as "the feeling of extreme embarrassment, as though I had made a very foolish remark." The first episode occurred during a political discussion with friends, but later the syndrome occurred at social gatherings, during consultations with patients, and while alone. The episodes did not appear to be triggered by events in the environment (e.g., a situation that might be embarrassing) and were not accompanied by autonomic changes such as facial flushing.

The aura was always followed by tonic movements of the left arm with falling toward the left and a left head and eye deviation; it ended with 15 seconds of numbness in the left arm and the sensation that the left leg was standing on a cushion. The entire episode lasted no longer than 1 minute, and there was no loss of consciousness or speech arrest. The frequency of these attacks decreased to about once per month on a regimen of primidone and carbamazepine. EEG and CT remained normal. At about this time, the patient noted occasional word-finding difficulty, both in his native English and in Hebrew, which he had learned 10 years previously. One week before hospital admission, CT was abnormal.

When questioned, the patient and family noted an increased emotionality and verbosity, with a tendency to animated digressions in conversation for 2 years. Both patient and family felt that this was an exaggeration of features of the patient's usual behavior. A general physical examination was normal. Highest integrative functions were intact, and the segmental neurologic examination was normal except for a very mild left lower facial weakness, an externally deviated left leg in the supine position, a left-sided grasp and snout reflex, and a left extensor plantar response. A CT evaluation, which included coronal sections, revealed a lesion deep within the medial aspect of the right frontal lobe, extending into the genu of the corpus callosum and frontal horn (figure). A craniotomy and gross total resection of the tumor revealed a grade II astrocytoma.

Discussion. This patient is unusual because of the aura of extreme embarrassment and the presumed location of the ictal focus in the medial region of the frontal lobe. Emotions such as fear, anxiety, sadness, happiness, or familiarity have all been described as ictal manifestations of CPS.[1] The variety of emotional experiences reported by patients with CPS corresponds closely with those which are elicited by electric stimulation of the medial temporal lobe.[2,3] However, in a search of the English-language literature on the topic, embarrassment has never been described in either CPS or extensive studies of temporal lobe stimulation.

The site of the seizure focus in our patient is most likely deep within the medial aspect of the right frontal lobe. Localization of the tumor to this region was found on CT in both the transverse and coronal planes and was confirmed with direct visualization during craniotomy. That the primary discharge arose from this area is supported by the location of the tumor and the patient's symptoms. Before the development of the ictal embarrassment, the patient had two nocturnal seizures characterized by movements of the left arm. Later, when the aura occurred, it was followed by tonic movements in the left arm, a left head and eye deviation, and numbness in the left arm. All of these manifestations are consistent with a seizure arising in the right frontal lobe.

However, the fact that the seizure focus is in the frontal lobe does not prove that the aura arose from there. A single focus may evoke spike activity in secondary sites that have strong connections with the original focus,[4,5] particularly in the limbic structures, which are easily kindled by repetitive electric stimulation.[6] Since the tumor was adjacent to frontal limbic structures, secondary foci may have developed in limbic areas of the temporal lobe.

Bilateral lesions in the prefrontal areas result

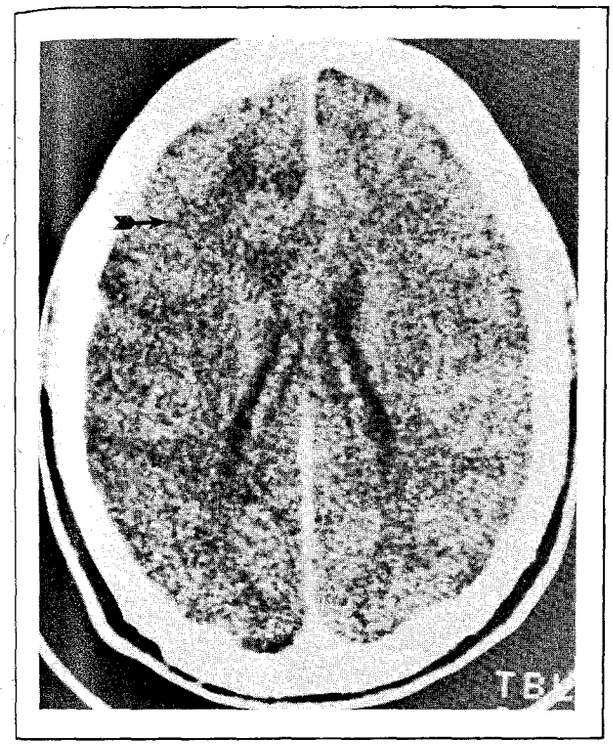

Figure. Contrast preoperation CT scan demonstrating noncontrast enhancing lesion in the right frontal lobe.

in a behavioral syndrome characterized by some combination of apathy, indifference, incontinence, irritability, impulsivity, and a failure to act appropriately in social situations.[7] This lack of social grace stands out as a prominent feature of the frontal lobe personality disorder. Actions that are normally embarrassing are performed by patients with frontal lobe disease without hesitation, as though the capacity for embarrassment were absent. Thus, although destruction of prefrontal cortex results in a lack of insight and embarrassment, an electric discharge may produce the opposite effect, manifested by the sense of extreme embarrassment.

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Vincristine-induced laryngeal nerve paralysis

Article abstract—The neurotoxicity of the Vinca alkaloids vincristine and vinblastine is well recognized. Less recognized is laryngeal nerve paralysis induced by these chemotherapeutic agents. This potentially dangerous paralysis is usually reversible when the drug is withdrawn, but other causes of hoarseness in a cancer patient must be considered. I add two cases to 19 previously documented.

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After 20 years of use in cancer chemotherapy,[1] the neurotoxicity of the Vinca alkaloids vincristine and vinblastine is recognized and usually reversible.[2-4] Less recognized is laryngeal nerve paralysis.[5-9]

Case reports. Patient 1. A 20-year-old man noted easy fatigability for 2 weeks. Splenomegaly, anemia, blast forms, and thrombocytopenia were found. A bone marrow biopsy was compatible with acute lymphoblastic leukemia. He received prednisone, doxorubicin, cyclophosphamide, and prophylactic intrathecal methotrexate, in addition to vincristine 4 mg intravenously five times in 4 weeks (20 mg total). Four days after the second