Long-term seizure and social outcome of 105 patients with occipital lobe epilepsy

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Background and Objectives: Occipital seizures are characterized by a variety of positive and/or negative visual signs along with contra-version of eyes as the initial signs. The supracalcarine-onset discharge may spread forward to the suprasylvian convexity or the mesial surface of parietal and frontal lobe. When the discharges originate from the infracalcarine area and spread to the lateral or mesial temporal lobe, they produce manifestations indistinguishable from those of temporal lobe epilepsy. The seizure outcome in relation to social status was studied in patients who were followed up for over 10 years.

Methods: The electroclinical seizure types were confirmed in 1993 to be of occipital origin in 105 patients and their seizure outcome and social consequences were examined in 2003. Their present age was 36 years (19 - 61). All the patients showed positive and/or negative visual signs and oculomotor symptoms in addition to presence of focal discharges interictally on the EEG posterior leads, T5, T6, O1 and O2. The 105 patients were divided into 3 groups based on observation over a 10-year evolutional course. Group 1: 38 patients having only visual and/or oculomotor signs all through the follow-up period. Group 2: 40 patients initially having visual and/or oculomotor signs, and subsequently developing complex partial seizures (CPSs) and/or partial-onset generalized tonic-clonic seizures (pGTCs). Group 3: 27 patients initially having signs suggestive of occipital lobe origin such as nausea/vomiting, headache, or predominantly unilateral seizures. These patients subsequently culminated in visual and/or oculomotor signs as sole seizure events. Seizure outcome was defined as complete seizure freedom for over one year at the endpoint.

Results: Presumed remote etiology was most often asphyxia and head trauma in all the 3 groups. Compared to the unfavorable seizure outcome in patients in Group 2 (seizure freedom only in 15%), those in Group 1 and Group 3 attained obviously favorable outcome, 87% and 80%, respectively. Three patients in Group 2 underwent occipital lobe resection surgery that resulted in complete remission. We lost 1 patient in Group 2 of cardiac failure as a result of status epilepticus. Seven patients out of 27 in Group 3 are considered to have benign childhood epilepsy with occipital paroxysms. In 50 out of the 105 patients, marked improvement of social adaptability was evident. Social rehabilitation was successful in Group 1 followed by Group 3, whereas in Group 2, the majority of patients still live in socially restricted status.

Discussion and Conclusion: Occipital seizures may spread to the superior convexity and mesial surface of parietal, frontal and temporal lobes, thus mimicking partial seizure symptomatology of origin in other than occipital lobe. Occipital seizures with CPSs indicate a functional alteration in the temporal lobe. Initial and chronic spread of occipital discharges toward the temporal lobe that produce CPSs are associated with treatment resistance and hampered social rehabilitation.

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