Neurocysticercosis presenting as functional psychosis : A case report

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Introduction :

Cysticercosis is the commonest parasitic disease in the world. It is called neurocysticercosis when it affects the central nervous system. It has been reported all over the world, but important foci exist in India, Pakistan, China, Indonesia and Latin America. It produces a variable picture, although hydrocephalus, intracranial hypertension, seizures and stroke and the commonest. Psychotic episodes occur in approximately 5% of patients with neurocysticercosis. This case warrants attention because presenting symptoms were those of functional psychosis.

Case report :

An 18 year old, literate, unmarried Hindu female, an undergraduate medical student, a vegetarian, from a middle socio-economic class presented with a 4 month history of gradual change in behaviour irrelevant talking, withdrawn behaviour, suspiciousness with fearfulness, sleep and appetite disturbances. There was gradual deterioration in personal hygiene. There was history of two complex partial seizures, 3 and 5 weeks before approaching psychiatric outpatient care. No past or family history of major medical, surgical or psychiatric illness was present.

On appearance, the look was dishevelled with old stains of coffee and pickle on her unwashed clothes that she refused to change for 2 weeks. She hadn't taken a bath since the past one month and refused to do so even when help was available, leading to a stale and obnoxious odour. On mental status examination, she was well oriented to time, place and person, cooperative, communicative and responded well to questions asked. No evidence of memory impairment was found.

Delusions of persecution and reference were present. No perceptual anomaly was detected. Insight was partial, yet impaired; she accepted the illness but attributed it to black magic. She scored high on the Brief Psychiatric Rating Scale (BPRS) as well as the Positive and Negative Syndrome Scale (PANSS). A diagnosis of Schizophrenia with Seizure Disorder was given. She was started on Olanzapine 10mg HS and asked to come for follow-up in two weeks. Neurology opinion was taken for the seizures.

Examination by neurologists revealed subcutaneous nodules over both forearms and inner thighs. They were soft, mobile and nontender. Examination of cardiovascular system, respiratory and abdomen revealed no abnormality. Detailed central nervous system examination was normal. She was treated with Levetiracetam, 300 mg/day in divided doses. Investigations were asked to be done and follow-up was advised in 2 weeks.

After 2 weeks of follow up, there was no behavioural improvement. However, she did not have any seizure episodes during this period. Investigations were as follows: Leukocytosis (total leucocyte count 13,026/mm) with evidence of eosinophilia (eosinophil count 19%) was present in peripheral blood smear examination. Erythrocyte sedimentation rate was normal.

General blood picture, kidney function tests, blood sugar, urine and liver function tests were within normal limits. Stool examination was positive for Taenia solium in one of the three consecutive early morning stool samples. Examination of fundus oculi did not reveal any sign of raised intracranial tension or deposits of cysticerci. X-rays of skull, thighs and forearms did not show any calcification. An electroencephalogram (EEG) showed generalized inter-ictal discharge. Cerebrospinal fluid examination revealed abnormal increase in lymphocytes, raised protein and normal glucose level. Mild eosinophilia was seen. Cranial computerized tomography scan showed multiple, high attenuating (some less than 5 mm size, some in

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between 5-10mm size) lesions with perifocal oedema in fronto-parieto-temporal regions. A few calcified lesions were also present. Ventricle size was normal. There was no evidence of generalized oedema. A provisional diagnosis of neurocysticercosis was made; while histopathology report of subcutaneous nodules confirmed the diagnosis of cysticercosis cellulosae. The patient was admitted in the neurology ward and was treated with albendazole, at a dose of 15 mg/Kg/day in divided doses for one month. The dose of Olanzapine was also increased from 10 mg to 20 mg per day. A cranial CT scan was repeated 2 months after albendazole therapy, which showed a decrease in the number of lesions. Some calcified lesions persisted. There was no evident perifocal oedema. Subcutaneous nodules regressed in size after albendazole therapy and completely disappeared in four months. Significant improvement in psychiatric symptoms was also observed. Delusions of persecution and reference were not found on mental status examination. Insight also improved; instead of attributing the illness to black magic, the patient accepted having a physical illness, which had caused those psychiatric symptoms. Olanzapine was gradually tapered and completely stopped after six months. But, because of the presence of a few calcified lesions in the brain, Levetiracetam was continued.

Discussion :

Our patient presented mainly with a functional psychiatric illness. History of a recent seizure, one positive stool test and the presence of subcutaneous nodules were the only pointers to organic illness. Antipsychotic therapy was of no help initially but when albendazole therapy was added, significant improvement in behaviour was reported. Although the possibility of purely functional psychiatric illness (schizophrenia) cannot be ruled out, the definite evidence of neurocysticercosis, clinical response to Olanzapine only after the addition of specific albendazole therapy and previously reported psychiatric abnormalities in patients with neurocysticercosis do suggest the possibility of a symptomatic psychosis as a result of neurocysticercosis. What makes this case unique is, that it did not present with organic psychotic symptoms, hence creating a doubt of it being Schizophrenia.

Biography:

Surabhi Mitra was born in Maharashtra. She is working as a MD Psychiatry in Datta Meghe Institute of Medical Sciences Nagpur, Maharashtra, India.

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