

CHOREA DUE TO HYDROCEPHALUS*

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Summary: In this report, we present a patient with chorea. In our knowledge, this patient is the first reported case of chorea with hydrocephalus. Possible mechanisms of chorea due to hydrocephalus is discussed.

Key Words: Chorea, hydrocephalus.

The term chorea still lacks adequate definition, but modern usage has restricted its application to types of involuntary movement which agitate some portion or all of the body in an irregular fashion, with constant variability and which superimpose an irregularity on voluntary movement (3).

Among numerous etiologies of chorea, infectious diseases, trauma, senility, diffuse cerebral disease, systemic lupus eritematosus, cerebral infarction, subdural hematoma, carbon monoxide intoxication have been described (1-8). We now report a case of chorea due to hydrocephalus that in our knowledge has not been reported previously.

Case Report

A 26-year-old woman was admitted with involuntary choreiform movements on the right upper and lower extremities on August 1987. Involuntary movements had been present for one year and at the same time similar movements were observed in her tongue. She did not get benefit from chlordiazepoxide 20 mg/kg which was given to prevent involuntary movements.

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On examination, choreiform movements were more intense and continuous proximally on the right extremities and orofacial dyskinesia was present. Deep tendon reflexes were normal and there was no weakness. Mental functions were normal. the following laboratory tests were normal: Complete blood count, sedimentation rate, LE test, glucose, calcium, magnesium, ceruloplasmin, potassium, sodium, chloride, liver function tests, renal function tests, T₃, T₄. The ASO titer was 250 Todd unit (normal 333), CRP and Latex fixation tests were negative. Electroencephalogram, direct craniography were normal. Computerized tomography (CT) revealed dilated third and lateral ventricles pointing out to communicating hydrocephalus, Evans ratio being 33 % (normal 15-18 %) Figure 1.

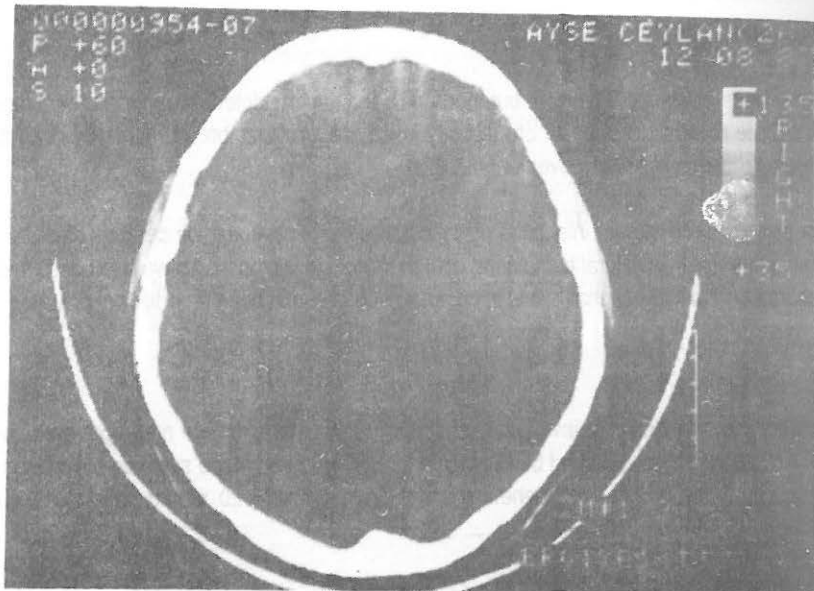


Figure1. CT scan showing dilated lateral ventricles

The etiology of hydrocephalus was not established but ventriculoperitoneal shunting (VPS) was placed. Following VPS shunting patient's choreiform movements decreased and then totally disappeared. 3 weeks after the shunting procedure the patient admitted again with the complaints of headache, vomiting and choreiform movements. The examination of shunt reservoir suggested VPS dysfunction. Control CT showed that the tip of the shunt being placed in the neural paranchima(Figure 2). VPS was revised. The patient's choreiform movements again disappeared and she was discharged on the 10th hospital day.

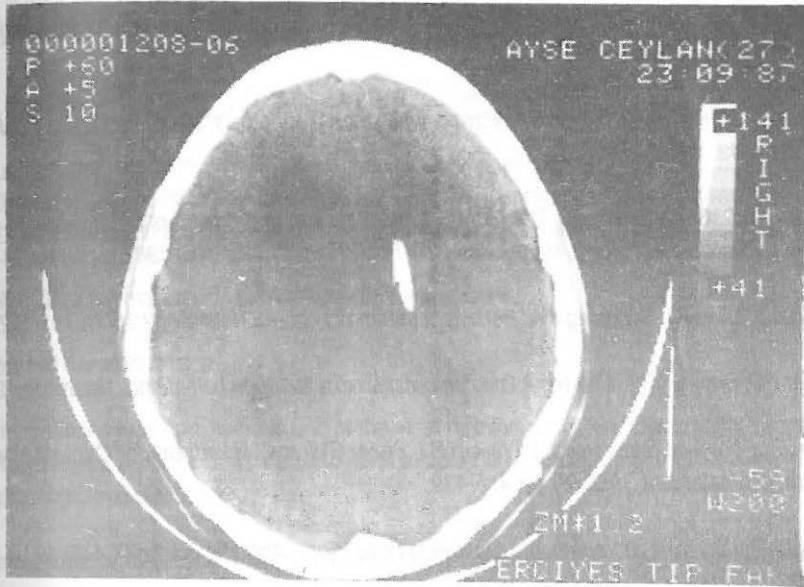


Figure 2. CT scan three weeks after ventriculo peritoneal shunting

Discussion

To our knowledge this is the first case description of chorea due to hydrocephalus. Attempts to localize the area of neurologic involvement in chorea have concluded that chorea does not occur with a single lesion, but only with a combination of lesions (3,6).

What is the connection between hydrocephalus and chorea in this case? presumably pressure to basal ganglia due to edema and ventricular dilatation has the main effect. As in this case, disappearance of choreiform movements after VPS, and its reappearance in VPS dysfunction and again disappearance after revision of VPS suggest that CSF pressure and ventricular dilatation is responsible in the etiology of choreiform movements. Although the control CT (Figure II) after VPS compared with the first one revealed no change of ventricular size, quite possibly ventricular size reduction had occurred after VPS but it was not recognized since CT scanning had not been performed at that time. This leads to the conclusion that pathophysiologic mechanism underlying the choreiform movements is most likely ventricular dilatation and elevation of CSF pressure.

This observation suggests that, hydrocephalus must be considered as an etiological factor in the assesment of chorea.

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