

NORMAL PRESSURE HYDROCEPHALUS PRESENTING AS PSYCHOTIC DEPRESSION: MODERATELY SUCCESSFUL TREATMENT WITH A COURSE OF ECT & PHARMACOTHERAPY: A CASE REPORT

V.K.CHOPRA, V.K.SINHA & SUBASH DAS

ABSTRACT

The characteristic symptoms of normal pressure hydrocephalus are dementia, urinary-incontinence and gait disturbance. Psychiatric symptoms make their appearance usually after the characteristic symptoms. In some cases, however, prominent psychiatric symptoms are the presenting picture even before the cognitive decline is evident. A case of NPH is discussed which presented with psychotic depression along with urinary incontinence. CT scan showed dilated supratentorial ventricular system and normal fourth ventricle. There was slight widening of cortical sulci. The cognitive impairment set in later during the course of illness. The psychiatric symptoms responded fairly well to a course of ECT and antidepressant drugs.

Key words: Normal-pressure-hydrocephalus, dementia, gait-disturbance, urinary-incontinence, dilated-ventricles, depression, electro-convulsive therapy, antidepressants

Normal pressure hydrocephalus (NPH) is characterized by the classical symptoms of 'dementia', 'disturbances of gait' and urinary incontinence. Adams (1965) described it as a 'treatable syndrome' with normal cerebrospinal fluid pressure and symptomatic occult hydrocephalus. In the original paper, Adams observed the presence of psychiatric symptoms in the form of depression, hallucinations and apathy in the patients of NPH. Subsequently, Rice & Gendelman (1973) reported cases of NPH with early cognitive impairment and psychiatric symptoms in the form of psychotic depression and self destructive behaviour. Trevor et al. (1977) described depression associated with psychomotor retardation and fluctuating cognitive impairment in NPH. Lyng Tunell (1979) described

a case of NPH presenting with a periodic psychosis lasting for about 18 years. He was treated with many ECT sessions and showed a prolonged remission after surgery. However, By and large, Psychiatric symptomatology in NPH is under reported (Pujol et al., 1989). Greenberg et al. (1977), Katzman (1978) and Sandyk (1984) emphasized on the dementia aspect and made little reference to the presence of psychiatric symptoms in a series of cases. In 1989, Pujol et al. reported 5 cases of NPH presenting with major depression and variable cognitive impairment. More recently, Schneider et al. (1996) described a case of NPH with a psychiatric presentation of bipolar disorder.

To our knowledge, no case of normal pressure hydrocephalus presenting predominantly

with psychiatric symptoms has been reported among the Indian population. We report a case of NPH presenting with symptoms of major depressive illness responding fairly well to a course of ECT and antidepressant & antipsychotic drugs.

CASE REPORT

Sh.K.M., a seventy year old married Hindu male from rural background of Bihar was brought to OPD of Central Institute of Psychiatry with complaints of markedly reduced sleep and appetite, deterioration in personal care and frequent spells of crying for the last one month. He expressed death wishes and claimed that police is searching for him because he has allegedly murdered his nephew. Over the last 2 weeks, the patient had developed occasional incontinence of urine and his oral intake was markedly reduced in the last 5 days.

There was no history of fever, headache, nausea-vomiting, seizures or substance abuse. There was no past or family history of psychiatric illness. The patient had history of deafness in both ears for the last 15 years for which no treatment was ever sought. About 20 years back, the patient had developed an infected wound on the right leg after an accidental injury for which below knee amputation was done & the patient used to walk with the help of crutches.

General physical examination revealed that the patient was moderately built. He had pallor, signs of moderate dehydration and generalized emaciation. The pulse was 110 per minute, regular & blood pressure was 170/100 mm of Hg. The right leg was amputated below the knee & generalized wasting of thigh muscles was evident. The respiratory system, cardiovascular system and abdomen showed no other abnormality. The examination of CNS revealed that the patient was fully conscious, alert & oriented to time, place & person. Bilateral sensory neural deafness was present and all other cranial nerves were normal. There were no signs of papilloedema. Apart from generalized wasting of right thigh muscles, bulk and power was grade V & deep tendon jerks were normally elicited in the other 3 limbs and the

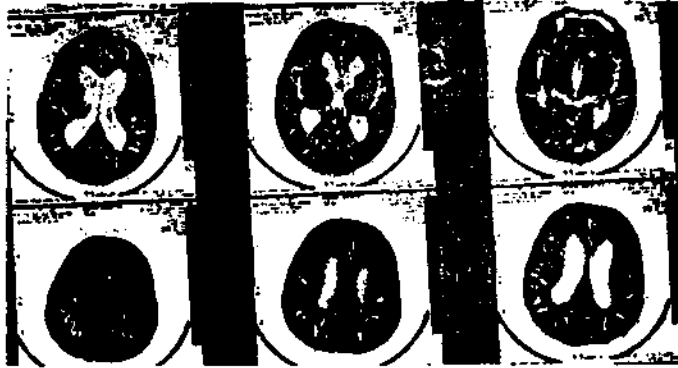
planter was flexor on the left side. The superficial reflexes were normally elicitable and the sensory system revealed no abnormality. No signs of meningeal irritation were present. The patient could walk very slowly with the help of crutches.

On mental status examination, the patient was alert, fully oriented and had normal touch with surroundings. Higher cognitive functions including memory, intelligence & judgement were grossly within normal limits. The patient spoke very less & cried many times. He had ideas of worthlessness, hopelessness & guilt feelings for the alleged murder of his nephew and frequently expressed death wishes during the interview. The affect was depressed and communicable. No perceptual abnormalities were present. The patient had no insight into his illness.

Because of poor oral intake & dehydration, the patient was put on I/V fluids & an indwelling catheter was introduced to monitor output. The biochemical profile and haemogram were ordered which showed no abnormality. E.C.G. showed mild left ventricular hypertrophy. The patient showed sundowning symptoms on the first two days of admission. He became excited, started shouting and tried to remove his I/V line during the late evening hours. These symptoms improved with parenteral trifluoperazine (1mg I/V twice a day) with good response. The CT scan was done on the third day which showed moderately dilated supratentorial ventricular system with periventricular CSF ooze. Fourth ventricle was normal. Cortical sulci and sylvian fissure were slightly widened. There was no midline shift and brain parenchyma of the supratentorial compartment was normal in density but compressed laterally. A neurological consultation was sought. The neurologist confirmed the diagnosis of normal pressure hydrocephalus and advocated symptomatic psychiatric treatment before evaluating the patient for surgical intervention.

Because of very poor oral intake, poor general condition and emaciation, it was decided to put the patient on electro convulsive therapy (ECT) so as to obtain a faster response. The consent was obtained and he was put on bilateral

NPH PRESENTING AS PSYCHOTIC DEPRESSION: A CASE REPORT



CT Scan showing dilated supratentorial ventricular system, normal 4th ventricle and slightly widened cortical sulci. Periventricular CSF oozes are also visible.

ECT on twice weekly regime. After two ECTs, he started showing improvement. His sleep and appetite became better. He started accepting orally and was put on oral trifluoperazine 5 mg at bed time along with 50 mg of sertraline per day. After a course of six ECTs, there was marked improvement. He no longer expressed any death wishes or guilt feelings & appeared cheerful. He spoke normally and wanted to go back to his home. But the urinary incontinence continued.

The patient was again referred to the neurologist but he and his family members refused any further evaluation for any immediate surgical intervention because of his old age. They felt that there was good improvement and occasional incontinence did not bother them. He was discharged on 5 mg of trifluoperazine and 50 mg of sertraline daily orally. Till the last follow up, which was six months after the initial presentation, the patient was maintaining improvement in psychiatric symptoms. But he had developed forgetfulness and there was evidence of memory impairment on clinical examination. No other deficits in higher cognitive functions were found. The incontinence of urine continued. But the patient and family members were still not keen for any neuro surgical intervention.

DISCUSSION

Majority of the patients of NPH present with the classical triad of 'dementia', 'urinary incontinence' and 'gait-disturbance'. In many patients, the psychiatric symptoms usually

develop only after the appearance of classical symptoms (Pujol & De-Azpiazu, 1993). However, in some cases, cognitive impairment may not be obvious at the time of initial presentation or may be fluctuating (Trevor et al., 1977). Two out of five cases of Pujol et al. (1989) had no cognitive impairment and they suggested that the diagnosis of dementia in case of NPH must be made with caution and only when all the criteria are fulfilled. In some cases of NPH, dementia may be slow to develop and the psychiatric, particularly the affective symptoms may be the presenting picture. The development of psychiatric symptoms may be related to disturbed CSF circulation and ventricular enlargement (Pujol et al., 1989) which is similar to the presence of ventricular enlargement and psychotic symptoms of schizophrenic patients as suggested by Nyback et al. (1982). Theinhaus & Khosia (1984) reported a case of secondary NPH due to cryptococcal infection presenting with manic symptoms where improvement occurred following the treatment of cryptococcal infection. In the case series of Pujol et al. (1989) all the five patients presented with major depressive illness with or without psychotic features (one with recurrent depression). Our case had no cognitive impairment at the time of initial presentation and the predominant symptoms were suggested of depression with psychotic features. There was urinary incontinence but the gait disturbance was probably not obvious because the patient was walking with the help of crutches because of the amputated limb.

The definite treatment of NPH is surgical.

intervention. But many patients may not be the suitable candidates for surgery because of old age & related problems (Pujol & De Azpiazu - 1993). Moreover, the affective disorders associated with NPH may not be influenced by the shunting operations (Adler et al., 1992). Therefore, the affective symptoms in NPH cases need to be treated with medication and electroconvulsive therapy. All the cases of Pujol et al. (1989) showed moderate improvement with antidepressants and a course of ECT. Wheeler & Young (1994) reported the successful use of methylphenidate in a case of mild, inoperative idiopathic normal pressure hydrocephalus.

In our case, the surgical intervention could not be considered because of refusal by the patient. But the careful use of antidepressant and antipsychotic drugs along with a course of electroconvulsive therapy led to a substantial improvement in the psychiatric symptoms. The improvement was maintained till the patient was last seen about six months after the initial presentation. Although, we are not very sure about the long term follow-up, but at least over a short term, the psychopharmacological intervention and ECT may be of considerable benefit in cases of NPH with prominent psychiatric symptoms where surgical intervention is not feasible because of various factors.

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NPH PRESENTING AS PSYCHOTIC DEPRESSION: A CASE REPORT

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V.K.CHOPRA *, D.P.M., M.D., Senior Resident, V.K.SINHA, D.P.M., M.D, Associate Professor of Psychiatry, SUBASH DAS, D.P.M., Junior Resident, Central Institute of Psychiatry, Kanke, Ranchi-6

* Correspondence