A RARE CASE OF MANIA PRESENTING IN HUNTINGTON DISEASE
KARTHIKEYAN
Department of Psychiatry, MADURAI MEDICAL COLLEGE AND HOSPITAL

Abstract:
Huntington disease is a genetically mediated neurodegenerative disease with autosomal dominant transmission. It has motor, cognitive and psychiatric manifestations. Psychiatric manifestations may predominate the motor symptoms or co-occur with the motor symptoms. The most common is affective changes, especially depression and various mood changes. Mania perse is rare in Huntington disease. Here we present a case of mania in Huntington disease.

Keyword: Huntington’s disease, mania, affective changes, psychosis

INTRODUCTION:
Chorea refers to involuntary movements of limbs, trunk, neck, or face that rapidly shift from region to region in an irregular, flowing, non-stereotyped pattern. This hyperkinetic movement disorder may be generated by a large number of causes, includes genetic, pharmacologic, metabolic, and structural. Even with extensive workup many cases are undiagnosed. Considering genetic causes of chorea the list below depicts various familial chorea's.

HUNTINGTON DISEASE:
It remains a main landmark disease because through the disease autosomal dominant transmission is studied elaborately. It is a most common genetically transmitted chorea. It is one of the triplet repeat disease (CAG), which codes for glutamine. The gene responsible for this disease present in chromosome 4p16.3. The prevalence of Huntington disease varies from region to region, generally it is 5/100000. There are pockets of high incidence in certain regions noted. The normal CAG repeats is from 6 to 26, 27-39 is unstable, and more than 40 repeats have definite risk of developing the disease. The number of repeats determines the age of onset, severity of the disease. Huntington disease has triad of motor, cognitive and psychiatric manifestations.

Motor symptoms include chorea, choreoathetosis, dystonia, tics and voluntary movement abnormalities. Chorea mostly involve limbs and trunk, but may involve other areas also. Chorea is one of the early manifestation, tend to plateau with time. Voluntary movement abnormality overtakes further; it affects fine motor skills, visual saccades, speech and gait. The cognitive deficits may occur early; they are very subtle, includes visuospatial deficits, executive dysfunction, memory disturbances and verbal deficits. Aphasia and agnosia are less prominent. Psychiatric symptoms include irritability, apathy, disinhibition, aggression, hostility, personality changes, psychosis and affective changes. 30-40% of the patient develop major depression, another 10-20% develop less severe depression. Suicide rate is 4 times that of general population. Psychotic symptoms are rare. They may develop obsessive compulsive disorder, schizophrenia, delusional disorder and prone to develop delirium. In his original description of the disease Huntington (1872) noted that ‘...in all the families, or nearly all in which the choreic taint exists, the nervous temperament greatly predominates, and ...nervous excitement in a marked degree almost invariably attends upon every disease these people may suffer from. ...The tendency to insanity, and sometimes that form of insanity which leads to suicide, is marked.’ Thus he stresses the importance of psychiatric manifestation of Huntington disease. Suicide is one of the leading cause of death in this population. The depression associated with Huntington is not explained by psychological reaction to the disease alone. Cummings (1995) pointed out that depression is common in disorders associated with caudate nucleus dysfunction, and that the ventral striatum is involved in reward and reinforcement of behaviors. Schizophrenic symptoms may occur. Delusion of persecution is prominent. Studies revealed that hypomanic and manic symptoms may occur in 10% of the patients. Hypomania predominated in that. Folstein (1989) revealed that incidence of mania and hypomania was 10%.

MITOCHONDRIAL CAUSES
Leigh’s syndrome, mitochondrial encephalopathy with lactic acidosis and stroke-like episodes (MELAS) Mendez (1994), in his review of mania in Huntington disease, he looked at 7 studies estimated an average rate of mania of 4.8%. Frank delusion of grandiosity, flight of ideas were rare. Schizophrenic symptoms are more common than the frank bipolar manic symptoms. There is no relationship found between age of onset, CAG repeat number and sex of transmitting parent and the presence of psychotic symptoms. There may be other genes which may be responsible for it.

An Initiative of The Tamil Nadu Dr. M.G.R. Medical University University Journal of Medicine and Medical Specialities
for that are researched for. Personality changes are noted in 50% of the patients. It includes irritability, apathy, paranoia, etc. Diagnosis may be confirmed by DNA analysis, in addition to typical family history and clinical presentation. The number of CAG repeats which is important. Cortical atrophy and caudate nucleus atrophy may predate the clinical manifestations by 5-10 yrs. Imaging studies revealed the prominent atrophy in the caudate and putamen. Imaging can be used to rule out other brain pathologies rather than to diagnose Huntington disease nowadays. Because of the availability of genetic tests. Currently there is no treatment for to reverse the neuro degeneration. Chorea can respond to low dose of high potency antipsychotics like haloperidol (0.5-2 mg). Clonazepam may be used if antipsychotics failed. Simple mechanic and environmental modification may be rewarding. Depression can be treated by standard antidepressants, ECT can be used. For mania divalproex sodium and carbamazepine found to be useful. Lithium is best avoided because of potential neurotoxic effect and its reduced efficacy in organic brain diseases.

CASE SUMMARY:
A 37 yr old married male brought to Dept of psychiatry for excessive boastful talk, quarrelsome behavior, sleep disturbance, not going to work for the past 6 months, this is the first episode of illness. He said that he owns 3000 crores, he owns the city and many hospitals, his only job is to collect the rent from that. He asks rent from neighbours, which created problem and they asked to vacate the rented house. He added that he owned transport corporation, Cinema Production Company, acted in films and many film actors used to visit his house. Then he said that he was in love with a female sub inspector of police in the nearby police station. That also created problem to the family members. He hears voices both male and female ask him to collect the rent and his properties. He said that his wife and relatives try to snatch the property from him. He has involuntary movements which involve trunk, limbs and face for the past 3 yrs, he has cervical movement restriction for the past 3 yrs. He has family history of similar movement disorder in mother (died), mother’s younger sister (have personality change) and brother (died in a fall from height, Suicide) and his younger sister. He had dependence level of cannabis and tobacco use, abused alcohol for the past 20 yrs. But he stopped taking cannabis and alcohol for the past 1 yr. The pedigree chart clearly depicts the affected individuals.

PEDIGREE CHART

In central nervous system examination he has choreoathetoid movements involving the trunk, limb and face. Dystonia in the lower back. He was having gait ataxia and ocular apraxia. He is having dysarthric speech. In mental status examination he is having mood congruent delusion of grandiosity, delusion of love and delusion persecution. He is having mood congruent 2nd person auditory hallucinations and expansive mood, at times irritable. He has grade I insight. His attention, concentration, registration and recall were impaired. In MMSE he scored 28/30. In young mania scale he scored 27. His blood glucose, urea, creatinine, total and differential count, hemoglobin were within normal limits. His cereloplasmin level was 28 mg%, is within normal limit. Peripheral smear shows mild eosinophilia. HIV ELISA found to be negative. VDRL found to be negative. In slit lamp examination KF ring was absent. X ray cervical spine shows anterior longitudinal ligament calcification which is a incidental finding. Hence it was impossible to keep patient head in MRI gantry in proper position. Instead CT scan was taken. CT scan shows widened sulci, enlarged ventricles, dilated frontal horn of the lateral ventricle, calcification of pineal gland and generalised atrophic changes.

In DNA analysis, number of CAG repeats were 54, which is positive for Huntington disease. These features favour the diagnosis of Huntington disease and mania with psychotic features with polysubstance abuse (cannabis, alcohol and tobacco) currently abstinence.

DISCUSSION:
In this patient he developed Huntington symptoms at the age of 30, the disease was transmitted maternally. The younger age of onset and maternal transmission itself is unusual. The mania in this patient is a rare entity. Because depression and psychotic symptoms are common in Huntington disease. The finding in this paper supported by various studies by healthfield (1967), Bolt (1970), Soegaard and Odegard (1986) and Dewhurst et al (1970). They found that only 5-10% of the study population has manic symptoms, that too hypomanic. Typical manic symptoms are rare in Huntington disease. Folstein et al. (1987) said that frank manic symptoms are uncommon in Huntington disease. Literature review says that personality disturbance like irritability, mild elation, transient mood changes and disinhibition should not be confused with the classical features of mania. This patient has persistent symptoms for the past 6 months which is of acute onset. The delusions and hallucinations of the patient were mood congruent. He didn't have any family history of primary psychotic or mood disorder. Patient stopped smoking cannabis and taking alcohol 1yr ago. It rules out the possibility of these substances influence the clinical picture. These features points out that manic picture is classic in this patient and probably due to brain pathology in Huntington disease. Since basal ganglia abnormalities especially caudate nucleus atrophy is a classical feature of Huntington disease. The circuits involved in caudate nucleus and frontal lobes may be involved in this patient which caused clinical mania. This case may points to the importance of caudate frontal circuits in the pathophysiology of bipolar disorder. But systematic research is needed to elucidate the relationship between mania and Huntington disease. With the current understanding syndrome resembles classical bipolar mania is rare but schizophrenia like symptoms do occur in increased frequency in Huntington disease.

REFERENCES:
3. David Craufurd and Julie Snowden, Neuropsychological and neuropsychiatric aspects of Huntington’s Disease, doi=10.1.1.116.6386(www.huntingtondisease. org/neuropsychological.pdf)