VOLUME-7, ISSUE-7, JULY-2018 • PRINT ISSN No 2277 - 8160

Original Research Paper

Psychiatry

# FRONTAL LOBE TUMOR PRESENTING PSYCHIATRICALLY

**Ankur jyoti borah*** Dept Of Psychiatry,LGBRIMH,TEZPUR,ASSAM *Corresponding Author

**Sandip das** Dept Of Psychiatry,LGBRIMH,TEZPUR,ASSAM

**Kangkana boruah** Dept Of Microbiology,LGBRIMH,TEZPUR,ASSAM

**ABSTRACT** Pathology in frontal lobe drastically changes the personality of a patient as cognition, working memory ,judgment is controlled by frontal lobe with unique connectivity to deeper structures. Primary and metastatic brain tumors, may not produce any symptoms as frontal lobe tumors are notoriously silent until they are large in size. Patients with such tumors are often referred first to psychiatrists, due to sudden change of behavior and personality .

**KEYWORDS** : frontal lobe , personality

**Introduction-**

The frontal lobe is the largest lobe in the brain and concerned with planning, strategy formation, and executive function, working memory, judgment via unique connectivity between the frontal regions and deeper brain structures. Any space occupying lesion or pathology in frontal lobe drastically changed the personality of patient. Tumors such as meningiomas that compress the frontal lobes may not produce any symptoms until they are large as frontal lobe toumours are notoriously silent(1). Patients with such tumors are often referred first to psychiatrists, due to sudden change of behavior and personality and the correct diagnosis may emerge only when the tumor has grown large and has begun to displace the brain

The dorsolateral frontal cortex is concerned with planning, strategy formation, and executive function and lesions tend to have apathy, personality changes, abulia, and lack of ability to plan tasks. These patients have poor working memory for verbal information (if the left hemisphere is predominantly affected) or spatial information (if the right hemisphere bears the lesion brunt).The orbitofrontal cortex is concerned with response inhibition and lesions here tend to have difficulty with disinhibition, emotional lability, and memory disorders(2). Patients with such acquired sociopathy, or pseudopsychopathic disorder, are said to have an orbital personality which include impulsiveness, puerility, a jocular attitude, sexual disinhibition, and complete lack of concern for others. Patients with inferior mesial lesions tend to manifest anterograde and retrograde amnesia and confabulation.[2] Unlike most animals, a human's mental state is preoccupied a great deal with what has happened in the past or what may happen in the future i,e "time travel." Indeed, good judgment requires evaluating the possible consequences of future activities . The orbitofrontal cortex is responsible for changes in behavior in response to unexpected outcomes[3]. Poor judgment and inappropriately weighting of the value of past experiences may, as a result, occur with frontal lobe dysfunction[4].

The frontal lobes are also common sites for primary and metastatic brain tumors. A classic presentation of frontal lobe dysfunction is an olfactory groove meningioma characterized by anosmia, loss of inhibition, memory impairment, headaches, and visual symptoms(2).

**Case report—**

A 41-year-old man( LGMRIMH Regd-18/12279) without any significant past psychiatric history presented by his family members at the psychiatric outpatient service at Lokopriya Gopinath Bordoloi Regional Institute Of Mental Health,Tezpur ,Assam, in june 2017 with decreased sleep,increased anger with and without provocation, irrevelent talk from 20 days. he reported to have a habbit of taking cannabis daily in a dependent pattern of 3 to4 silims per day from last 6 years. According to family members he is abstains from his work since 4 month ,most of the times of the day used to take cannabis , with history of forgetting house hold objects of the day to day activity. He had occasional history of tremor and two episode of vomiting in this periods. he studied upto class five, driver by occupation, married person with no family and past history of mental illness. There is also no history of head injury, seizure , diabetes melliteus, hypertension, loss of consciousness in past. On mental status examination ectomorphic built, well kempt, poor rapport and eye contact, perplexed affect, increased psychomotor activity, slurred speech with increased reaction time,at times not answering with a vacant look, irrevelent answers, poverty of content of thought, with poor cognition of impaired recent and remote memory, poor attention and concentration with impaired judgement. The general physical, as well as neurological examination, showed no neurological deficit. He was prescribed with tablet olanzipin 10 mg/day with a provisional diagnosis of cannabis induced psychosis and asked for follow-up with investigations.

On next OPD follow up about 1 week after, informant complaints about the violent behavior of the person though he was previously a meek and gentle person . He used to roaming here and there aimlessly without wearing cloths, sexually disinhibited behavior towards wife and in laws, both verbally and physically abusive towards wife and their children, used to urinate in rooms, not recognizing family members ,as a whole a complete different person. On routine blood examination, his blood sugar, serum electrolytes, kidney and liver function test within normal limit, with non reactive VDRL, hepatitis antigen and retrovirus. He is planned for CT Scan Brain and on brain scan it revels a isodense heterogeneous mass involving bilateral frontal regions in parasagittal locations and genu of corpus callosum associated foci of calcification within the mass,surrounding odema-.possibilities are falcine meningioma/ anaplastic astrocytoma. The case was referred to Department of Neurosurgery, Guwahati Medical College Hospital for further management.

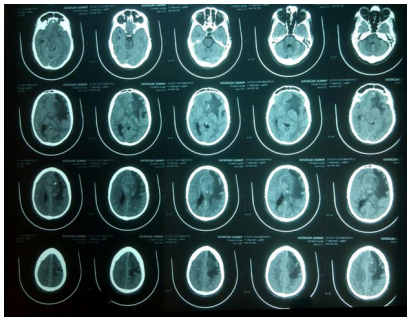

**Figure1- CT Brain revels a heterogeneous mass involving bilateral frontal regions in parasagittal locations and genu of corpus callosum with surrounding odema.**

**Discussion-**

Intracranial tumors, frontal meningiomas, may present with psychological symptoms resembling anxiety,mood disorders and schizophrenia[5] . These symptoms may be the only initial manifestations of meningiomas of the brain in a significant number of cases (21%) occurring in the fifth decade of life[6] . Focal neurological signs, headache and signs of increased intracranial tension may develop only when the tumor has reached an advanced stage[5]. Hunter et al. have reported cases of excitement and hallucinosis seen in association with a basal frontal lesion, and psychotic syndromes like hypomania and schizophrenia with tumor encroaching on the third ventricle and adjacent structures[7] . Depression mainly present in frontal convexity meningioma while Basifrontal and sphenoid wing meningiomas present predominantly with mania or depression; and suprasellar lesions and temporal convexity toumours mostly present with delusional disorders[8] . The association between slow growing frontal lobe tumors, anosmia, and personality change is one of the most celebrated in behavioral neurology[9] .In this case the behavior change associated with cannabis dependence from last 6 years, may also colors the symptomology in the direction of proper diagnosis.

Contrast Enhanced CT of the brain is mandatory when a brain tumor is under consideration. Further referral to neurosurgery is obligatory, as surgery has a promising role in reverting the psychiatric manifestations . The site of the lesion and the nature and period of the psychiatric problems significantly affect the postoperative outcome. Frontal convexity meningioma presenting with the depressive illness have the best prognosis, and the symptoms usually decrease by the 3rd month postoperative period[8] . Early diagnosis is very important, although meningioma is usually benign and often curable. A delay in diagnosis may lead to prolonged disappointment for the patient's family as his or her personality changes worsen[10]..

**Source of support:** nil
**Declaration of interest:** None

**Reference**

1. Yakhmi S, Sidhu B S, KaurJ, and Kaur A ; Diagnosis of frontal meningioma presenting with psychiatric symptoms; indian J Psychiatry. 2015 Jan-Mar; 57(1): 91–93; doi: 10.4103/0019-5545.148534
2. https://emedicine.medscape.com/frontal lobe syndrome/1135866
3. Mesulam MM. The Human Frontal Lobes: Transcending the Default Mode through Continent Encoding. DT Stuss and RT Knight. Principles of Frontal Lobe Function. Oxford: 2002. 8-30.
4. Bonelli RM, Cummings JL. Frontal-subcortical circuitry and behavior. Dialogues Clin Neurosci. 2007. 9(2):141-51.
5 Maurice-Williams RS, Dunwoody G. Late diagnosis of frontal meningiomas presenting with psychiatric symptoms. Br Med J (Clin Res Ed) 1988;296:1785–6.
6. Gupta RK, Kumar R. Benign brain tumours and psychiatric morbidity: A 5-years retrospective data analysis. Aust N Z J Psychiatry. 2004;38:316–9.
7. Hunter R, Blackwood W, Bull J. Three cases of frontal meningiomas presenting psychiatrically. Br Med J. 1968;3:9–16.
8 Bommakanti K, Gaddamanugu P, Alladi S, Purohit AK, Chadalawadi SK, Mekala S, et al. Pre-operative and post-operative psychiatric manifestations in patients with supratentorial meningiomas. Clin Neurol Neurosurg. 2016;147:24–9.
9. Butler C, Zeman AZ. Neurological syndromes which can be mistaken for psychiatric conditions. J Neurol Neurosurg Psychiatry. 2005;76(Suppl 1):i31–8.
10. Maurice-Williams RS, Dunwoody G. Late diagnosis of frontal meningiomas presenting with psychiatric symptoms. Br Med J (Clin Res Ed) 1988;296:1785–6.