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SECONDARY MANIA FOLLOWING TRAUMATIC BRAIN INJURY- A CASE REPORT

Psychiatry

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ABSTRACT

Traumatic brain injury (TBI) may lead to secondary mood disorders through neurobiological and psychosocial mechanisms. Although depressive disorders are more common after TBI, secondary mania is relatively rare but clinically significant. We report a 54-year-old male who developed manic symptoms including grandiosity, irritability, pressured speech, decreased need for sleep and agitation approximately two weeks following a traumatic brain injury involving right temporal lobe hemorrhagic contusions. Cognitive impairment and manic symptoms were documented using MMSE and YMRS scores. The patient showed significant clinical improvement following treatment with risperidone, levetiracetam, promethazine and memantine. This case highlights the association between right hemispheric lesions and secondary mania and emphasizes the importance of early Psychiatric evaluation and management in post-TBI patients.

KEYWORDS

Traumatic Brain Injury, Secondary Mania, Right Hemispheric Lesion, Neuropsychiatry

INTRODUCTION

Traumatic brain injury (TBI) can lead to secondary mood disorders through an interplay of injury-related factors, pre-injury vulnerabilities and post-injury influences. Among these, depressive disorders are most common, while manic syndromes are relatively rare but clinically significant. Secondary mania typically presents early after TBI and is directly attributable to neurotrauma rather than primary bipolar illness.[1]

Mania following TBI is strongly associated with lesions in the right cerebral hemisphere, highlighting the role of right-sided circuits in mood regulation.[1] Clinically, it manifests as elevated or irritable mood, increased activity and other manic features lasting ≥4 days (hypomania) or ≥1 week (mania). DSM-5 classifies this condition as "bipolar and related disorder due to another medical condition," emphasizing its organic etiology and the importance of neuroanatomical localization in diagnosis.[2]

OBJECTIVE

To highlight Secondary Mania as a rare but significant neuropsychiatric complication following traumatic brain injury.

CASE DETAILS

A 54-year-old married male, with no known co-morbidities and a well-adjusted introverted premorbid personality, with no past or family history of psychiatric illness, was admitted for traumatic brain injury following a road traffic accident under the influence of alcohol. Neuroimaging revealed right temporal lobe haemorrhagic contusions with adjacent extradural haemorrhage causing mass effect, along with minimal subarachnoid haemorrhage and associated skeletal and thoracic injuries.(Figure 1)

Around two weeks post-trauma, the patient developed behavioural and mood symptoms characterized by grandiosity, overtalkativeness, irritability, agitation, and reduced need for sleep, prompting Psychiatric referral. Mental status examination revealed pressured and occasionally uninterruptible speech, with impaired attention, concentration, memory, judgment and insight. Initial cognitive assessment using MMSE revealed a score of 26 and affective assessment using YMRS revealed a score of 22, indicative of moderate mania.

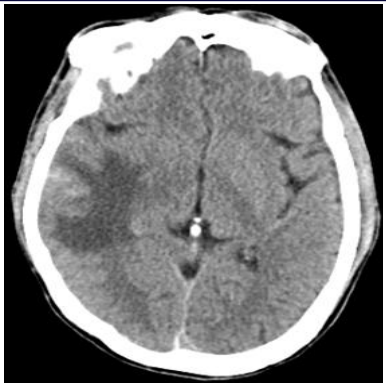

Figure 1: CT Brain showing right temporal lobe haemorrhagic contusions.

MANAGEMENT

He was managed with Risperidone (1 mg/day), levetiracetam (1000 mg/day), promethazine (25 mg/day) and memantine (10 mg/day) were continued for behavioral control, seizure prophylaxis, sleep regulation and cognitive support respectively.

After one week, there was marked reduction in prolixity and agitation with improvement in sleep. Cognitive and affective measures improved, with MMSE increasing to 28 and YMRS decreasing to 7.

DISCUSSION

Mood disorders linked to traumatic brain injury (TBI) encompasses a huge part in spectrum of Psychiatric disorders. Instances of secondary mania and hypomania have been documented in various medical conditions.[3] The clinical findings observed in our patient are comparable to those reported in previous studies. Starkstein et al. (1990) observed mania following focal brain injury in a 2-year prospective study; the 8 patients had right hemispheric lesions and they proposed right cerebral hemisphere damage as the basis for post-injury mania, attributed to asymmetric neurotransmitter distribution and differential hemispheric responses.[4] Mustafa B et al. reported manic symptoms in the form of overtalkativeness, increased psychomotor activity and decreased sleep following TBI in a 35-years-old woman; imaging showed right temporal parenchymal hematoma with left temporoparietal hemorrhagic lesions.[3] Sinanan K et al. reported manic symptoms in the form of talkativeness, overactivity, religiosity, overspending after RTA in a 23-year-old woman, with no pre-injury

Psychiatric symptoms.[5] Khanna & Srinath et al. described mania (grandiosity, irritability, increased psychomotor activity and flight of ideas) after minor head trauma in a 13-year-old girl, with no past or family Psychiatric history.[6]The available research findings suggest that no single factor explains post-TBI Psychiatric outcomes. Interaction of neurological, environmental, premorbid and post-injury factors best accounts for clinical variability.[7]

CONCLUSION

Secondary Mania is an uncommon but important neuropsychiatric complication following traumatic brain injury. The temporal association between right temporal lobe injury and the onset of manic symptoms supports the role of right hemispheric dysfunction in mood regulation. Early Psychiatric assessment, careful neurobehavioral evaluation and timely multidisciplinary management contributed to significant clinical improvement in our patient. Recognition of post-TBI manic symptoms is essential to ensure prompt intervention, reduce functional impairment and improve overall prognosis and quality of life in affected individuals.

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