Prevention of More Complications in Patients with Head Trauma

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Case Report

ABSTRACT

Head trauma and brain injuries are common causes of emergency admission and usually predispose multiple psychiatric complications. In turn, the traumas often occur after some psychiatric disorders. Therefore, the complicated interaction of these factors often causes difficulties in diagnosis and management of the patients. The side-effects of surgical and medical treatments may also complicate these processes more, as well. In this study, we present a case of a young patient with these complex factors and discuss the diagnosis and management.

Keywords: Comorbidity, delirium, mania, substance, trauma

INTRODUCTION

Head trauma and brain injuries are common causes of emergency admissions, which not only neurosurgeons, but many other clinicians, especially psychiatrists, visit and treat their sufferings, for a long time.[1] Car and motor cycle accidents are main causes of head traumas.[2] Delirium is an important early aftermath of head traumas, which complicate the manifestations and management.[3] Other psychiatric features like mania[4] may also occur after head trauma.[1,5]

On the other hand, substance use is an important predisposing factor for causing accidents and head trauma.[6] Moreover, substance abuse and dependency itself is predisposed by many etiologic factors and causes some other complications, as well. These altogether entangle the treatment. Although it is not rare to find one or two of these conditions in a patient, a collection of all these factors in a patient make the diagnosis and treatment so difficult that one cannot hope to manage patient without awareness of previous experiences. Therefore, in this study, we present a history of a patient with a collection of these multiple factors.

CASE REPORTS

A 31 year-old (y/o) married laborer was brought to psychiatric emergency service (PES) with his family, because of aggression. The verbal and physical aggression appeared since 12 days ago, while he aroused after a 5 days coma, due to head trauma of a motor accident in neurosurgery ward, he was often sedated by morphine and he didn't have any food and was disoriented. Two

days before attendance to PES, he was discharged from neurosurgery ward. At PES admit, he showed restlessness, insomnia, time, place and person disorientation and severe irritability. His symptoms were exaggerated in the evening. He had hyper hydroids, urinary and fecal incontinency and was non-cooperative because of severe agitation. On physical examination, the vital signs were normal, but there was a sutured lesion on the front parietal area of scalp. His left foot was fixed because of the fracture. There were not any other abnormal findings on physical examination.

Patient was a motor rider who was hospitalized in a neurosurgery ward in 17 days before attendance to PES, because of multiple traumas due to the motor accident. There, the Glasgow Coma Scale was 8, but there were not otorrhea, rhinorrhea, Battle sign or any other abnormal neurological findings. The brain computed tomography scan showed a subdural hematoma at frontoparietal area, occipital bone fracture and occipital soft tissue edema. The hematoma had been evacuated, but he had been re-operated at the next day. He was transferred to intensive care unit because of the cerebrospinal fluid leakage. His left second metatarsals were fixed because of fracture.

Before accident

He was irritable and mildly verbal aggressive, for a long while, but there were not any other psychotic manifestations. His social relationship was nearly normal and was working as a laborer. He started cigarette smoking since about 8 years old and was using opium from 8 years ago; but discontinued it during 1.5 years ago. And then, he restarted using it from 1.5 months before the accident. During 7 years old, he was drinking alcohol for 5-6 months. No psychiatric history was reported in his family.

Patient was admitted in the PES and was managed according to the diagnoses: Bipolar disorder NOS, delirium due to multiple etiologies and opium and nicotine dependency.

At the 1st day of admission, sodium valproate 600 mg/d was started and at the 2nd day, haloperidol 2 mg/d added to it. He was alert and his attention improved. At the 4th day, the orientation remitted to some extent, but it was fluctuating yet and was aggravating in the evening. Because of patient guard attitude, irritability and aggression, the interview and physical exam was difficult. Haloperidol dosage was escalated to 2.5 mg/d and then to 3 mg/d at the 5th day. Then he gained control over daily urinary and fecal elimination, but he was incontinent for nocturnal ones, yet. At the 8 day, the patient orientation remitted, but he was continued to irritability and aggression. Therefore, oral olanzapine added and haloperidol discontinued. At the 10th day, the patient emotion and vegetative functions remitted while his regimen was: Sodium valproate 1000 mg/d and olanzapine 7.5 mg/d.

DISCUSSION

The patient became more aggressive 5 days after motor accident. Then he has been sedated by morphine, but his aggression, insomnia and restlessness became exaggerated after he has been discharged from neurosurgery ward and morphine discontinued. Aggressive behavior after the head trauma may be a manifestation of mania, delirium, psychosis or onset of the personality change. However, patient was mildly aggressive before the accident. On the other hand, considering opium use before accident, opium withdrawal may also be a cause of aggression, especially, when the hyperhidrosis and restlessness were added to aggression. Impaired attention, disorientation, fluctuation of symptoms and exacerbation in the evening are good cues for delirium diagnosis. Previous studies have reported delirium after head trauma, but opium withdrawal after accident added another precipitating factor to it. The literature is not sufficient about the correlation between the severity of accident, location of cerebral lesion, patient's previous history and the manifestations.[3,7] For management of the patient, low dosage of haloperidol and supportive care was effective in remission of patient's orientation. On the other hand, insomnia, restlessness, irritability and aggression after the head trauma may somehow guide us to a diagnosis of mania, considering mild irritability before accident.

Previous studies have reported different psychiatric disorders after head trauma.[1,4] Although there are relatively fewer studies that have reported mania in this period.[8] However the authors has visited many cases of it after head trauma. Some of these manic syndromes appear

after an irritable mood or hypomanic background and some others because of frontotemporal or orbitofrontal lesions,[9] subdural hemorrhage,[10] or right hemisphere lesions[11] (secondary mania). Our patient had some similarities to each of above mentioned ones.

Urinary and fecal incontinency in this patient is other symptoms, which have less congruency with the above mentioned diagnoses. Considering patient's disorientation, can we consider them as symptoms of dementia? Surely this is not sufficient, but if we remember that the symptom formation is gradual and dynamic, we can suggest a cognitive disorder onset, which remitted with alleviation of cognitive dysfunctions before complete promotion to dementia.

There are insufficient comprehensive data about the management of these complicated patients.[12] But I think a conservative approach such as using low dosage and safer psychotropics is a prudent, less problematic and more efficacious choice in these groups of patients.

CONCLUSIONS

Briefly, in cases with comorbidity of psychiatric manifestations after head trauma and substance abuse, focusing meticulously on all signs and symptoms and considering all differential diagnoses is necessary for correct diagnosis.[2,5] Management of these patients needs attention to some notions: First, the most priority in management must be with the most threatening diagnosis; second, avoidance of prescription of benzodiazepines (especially long acting and high dosages) and other central nervous system depressant agents in head traumatic patients, and, Third, based on "parsimony principle" in pharmacotherapy, avoidance of poly pharmacy without enough reasoning and caution.[11]

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