DEREALISATION FOLLOWING HEAD INJURY : A CASE REPORT

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ABSTRACT

Depersonalisation and derealisation which are often present together, occur in a number of functional and organic conditions. However, their occurrence in the post-concussional syndrome has been previously described in only one case. A case is presented in which derealisation was the only presentation following a minor closed head injury. The possible aetiology is discussed.

Keywords: *derealisation, depersonalisation, head injury, neurological status, personality traits*

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INTRODUCTION

While many symptoms have been associated with post-concussional syndrome[1-3], the occurrence of depersonalisation has not been noted except in a single case report of depersonalisation and derealisation in a woman following a minor closed head injury[4]. A review of the literature did not reveal any association of derealisation alone following a head injury.

CASE REPORT

CYB is a 20-year-old Chinese policeman who went cycling in a park on his day off. While cycling near a flight of stairs, he lost his balance and plunged down the stairs. He lost consciousness for an unknown period of time but could recall being carried into the ambulance. On admission to the hospital, he was conscious. Other than two broken teeth, and abrasions over his left elbow, no other injury was detected. There was no haematoma or open wound on the head. Neurological examination revealed no abnormality. Radiological investigation of the head including CT scan, was unremarkable. Within a day, however, his family members noticed that he seemed somewhat self-preoccupied and kept saying that everything seemed unreal. He also touched or grasped their arms to assure himself that they were "real". He was kept in the hospital for the next two days for further observation. The only medication prescribed was analgesia (Paracetamol). He was able to respond appropriately to their queries albeit in a rather detached manner. He ate and slept normally. There were no complaints to suggest a raised intracranial pressure. In view of the persistence of his complaints, he was referred for a psychiatric assessment upon his discharge from hospital.

During the psychiatric evaluation which took place five days after the fall, he appeared rather perplexed and looked uncertainly around him. He was relevant to questioning. His main complaint was that everything in his environment seemed rather flat and "irrelevant" with a dream-like quality. At one point of the interview he asked to touch the arm of the doctor to ascertain that he was not dreaming. His own thoughts and feelings however were real to himself. He denied any sense of estrangement from his own inner experiences. There were no delusions or hallucinations, nor were there any metamorphopsia or autoscopy. He was not depressed, but was mildly anxious about this experience which he found to be rather unpleasant. Clinical testing of his cognitive functions detected no abnormality. He was orientated to time, place and person. His memory was intact. He showed no impairment in abstract thinking. There was no visuo-spatial impairment.

CYB is the second of three children. His father is a clerk and his mother is a housewife. There is no family history of any psychiatric illness. He did not have any past history of psychiatric illness and neither did he have any past episode of depersonalisation or derealisation. His childhood was unremarkable. He joined the police force after passing his "O" levels. He has been a police constable for the past 2 years. He is contented with, and is doing well in his job. A few days before his accident, he had a quarrel with his girlfriend who had apparently wanted to end their relationship. He was described by his family to be somewhat "moody" following this quarrel. Premorbidly he was quick-tempered but sociable, friendly and energetic. He was outgoing and not prone to worry over things.

His parents did not think there was any psychiatric problems, but wanted a second neurological opinion. He was subsequently seen by a neurologist a few days later, who found no localising neurological signs. When CYB was contacted over the telephone subsequently, he had already made a full recovery and reported that the episode of derealisation had lasted approximately ten days following his fall. He has since resumed his police duties with no problems.

DISCUSSION

Depersonalisation refers to a peculiar change in the awareness of the self, in which the individual feels as if he is unreal. It is often accompanied by a similar change in the awareness of the environment, described as derealisation[5]. Depersonalisation and derealisation may occur independently of one another, but frequently both are present[5,6]. In the literature, the term depersonalisation is used more often than derealisation, even though derealisation may also be present.

Saperstein[7] in a historical review of the concept, concluded that the essential feature is the experience of a sense of strangeness or unreality to the individual of his personality, his body or the external environment. Implicit in

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this view is the assumption that depersonalisation and derealisation share the same aetiology, and this aetiology can be psychogenic or physiological[4]. As a symptom, depersonalisation can occur in anxiety disorder[8,9], depression[10], schizophrenia[11], and post traumatic stress disorder[4,12]. On the other hand, the occurrence in association with temporal lobe epilepsy[13], migraine[14], marijuana abuse[15], and tumour[16] points to a possible physiological basis.

Mayer-Gross[17] was the first to suggest that depersonalisation has an organic basis. He postulated that it was a "preformed functional response of the brain" which could be released by various factors. In his study on seven patients with recurrent episodes, Davison[11] suggested that depersonalisation could be due to a disturbance of the cerebral arousal mechanism. It has also been postulated that an alteration in consciousness could be the immediate trigger. The essential feature of depersonalisation and derealisation seems to be a split between the observing self and the experiencing self. As neo-cortical information (thoughts and perception) may be modulated and integrated with previously acquired information association and associated emotions via subcortical systems including the basal ganglia and limbic area, a disruption in any of these systems may result in depersonalisation and derealisation[18]. Penfield and Russmussen[19] were able to induce depersonalisation by electrical stimulation of the temporal lobe. In another intriguing study, Hollander et al[20] found left hemispheric frontal-temporal activation and decreased caudate perfusion in a patient with depersonalisation syndrome where there was both depersonalisation and derealisation. In the case discussed, derealisation was most likely due to the head injury and the subsequent loss of consciousness. The trauma could have caused a temporary disruption in the arousal, perceptive, and affective systems in the brain, giving rise to the emergence of derealisation which disappeared once these systems normalised.

However, a functional component may also play a part. Anxiety has been implicated in the aetiology of depersonalisation[4]. It has been considered to be an ego defence against powerful "id" drives and their associated affects which are viewed either realistically or neurotically as a threat to survival[21]. Roth[8] while proposing that depersonalisation often follow some calamitous event, also stressed "anxiety-prone" as a predisposing character trait. On the other hand, research has not shown any personality trait predisposing to depersonalisation. The occurrence of depersonalisation in a high proportion of the normal population[5,22] suggests that no particular personality type is vulnerable. In CYB's case, he was distressed over his break-up with his girlfriend which occurred just before the accident, but its contribution to the emergence of derealisation is uncertain.

There is probably a complex interaction between neurological status and personality. Although depersonalisation may have a neural basis, many factors like defensive style, cognitive sophistication and the general level of personal adjustment may influence the type or severity of symptoms experienced[4].

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