Post concussional syndrome: all in the minds eye!

Rodger L Wood

Patients' perceptions of their illness early after head injury may play a part in the persistence of post concussional syndrome

Minor head injury (concussion) is one of the most common neurological conditions seen in accident and emergency departments. Post concussional symptoms usually resolve within 3 months but in approximately 15% of cases, symptoms persist and evolve into a post concussional syndrome (PCS). PCS is a condition that can exist for many years, involve a range of social and health care professionals, representing both an emotional burden on relatives as well as a major socioeconomic burden.

The often sterile debate, polarising around the psychological versus organic aetiology of PCS, is being replaced by a multifactorial perspective, integrating biological, social, cognitive, affective and behavioural factors.¹ An important theme running through this research is that what people know or believe about illness or injury will influence how they interpret bodily sensations. How a person attributes symptoms can determine how they will react to them. The paper by Whittaker and colleagues,² in this issue, develops this line of research using an Illness Perceptions Model to determine both symptom attribution and the risk that persisting symptoms will develop into PCS (see p 644). They found that certain illness perceptions in their cohort successfully predicted 80% of those developing PCS. Their findings build on previous research³ which has shown that patients who attribute benign emotional,

physiological and cognitive changes to their head injury, because they are not aware of the normal prevalence of these characteristics in the general population, are more likely to develop PCS.

The role played by anxiety sensitivity⁴ may be another line of research that will improve our understanding of the range of individual differences in reaction to minor head injury. This personality trait of anxiety proneness is specific to one's own bodily sensations and, when linked to other cognitive factors (such as expectation and interpretation), could explain why some individuals are more prone to develop PCS than others. Perception of responsibility for injury is another factor that could determine longevity of symptoms. In a study of patients with back injury⁵ it was found that those who attributed their pain and suffering to the negligence of others developed a pattern of perceptions, attitudes and expectations that exacerbated their response to pain and undermined motivation for treatment.

It is therefore clear that how we interpret symptoms can determine how we cope with them. Individuals who are able to utilise a problem focused coping style develop strategies to ameliorate the stress imposed by persisting symptoms. In contrast, other individuals develop a more passive, emotionally focused style, and avoid thinking about a stressor or anything that could bring them into contact with it. An avoidant coping style

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has proved to be a significant precursor of acute stress disorder following minor head injury,⁶ potentially increasing vulnerability to PCS.

Maladaptive cognitions not only contribute to the development of PCS, they also offer an effective route to treatment if symptoms are addressed at an early stage post injury. Early psychological intervention following minor head injury is based on a cognitive-behavioural approach that gives information about the nature of symptoms, in addition to advice that symptoms should attenuate and gradually remit over the course of a few weeks. Such interventions have significantly reduced the number of symptomatic cases after 3 months of follow up, compared with control subjects. Single, brief early interventions have been shown to be as effective as longer term multiple treatment sessions.¹ Therefore, a cognitive-behavioural approach may prove far more useful in explaining the aetiology and maintenance of post concussional symptoms as well as providing an effective method of treatment.

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REFERENCES

- 1 Wood RL. Understanding the 'miserable minority': a diathesis-stress paradigm for post concussional syndrome. *Brain Injury* 2004;**18**:1135-53.
- 2 Whittaker R, Kemp S, House A. Illness perceptions and outcome in mild head injury: a longitudinal study. *J Neurol Neurosurg Psychiatry* 2007;**78**:644-6.
- 3 Mittenberg W, Digiulio DV, Perrin S, et al. Symptoms following mild head injury: expectations aetiology. *J Neurol Neurosurg Psychiatry* 1992;**55**:200-4.
- 4 Taylor S. Anxiety sensitivity: theoretical perspectives and recent findings. *Behav Res Ther* 1995;**33**:243-58.
- 5 Bigos SJ, Battie MC. Acute care to prevent back disability. *Clinical Orthop* 1987;**221**:212-30.
- 6 Harvey AG, Bryant RA. Predictors of acute stress following mild traumatic brain injury. *Brain Inj* 1998;**12**:147-54.