How does a trivial head injury result in enduring symptoms?
A prospective investigation of postconcussional syndrome after mild traumatic brain injury

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BACKGROUND

• Traumatic brain injury is one of the most common neurological conditions. Each year in the UK at least 1 million cases present to hospital, of which 90% are actually mild traumatic brain injury (MTBI).

• Because of the delay in seeking medical attention and difficulty in detecting early invisible symptoms, MTBI remains a major, unrecognized public health issue and has been called a “silent epidemic” [1-4].

• A significant proportion (15-30%) of MTBI patients are at risk of developing Post Concussional Syndrome (PCS) [5,6], which is a symptom cluster including a mixture of physical, cognitive, emotional and behavioural symptoms. PCS prevents optimal recovery and has the potential to impose a lifetime of functional disability [7,8].

• To contribute to the further understanding of the aetiology of PCS and to provide theoretical guidance for our experimental design, we developed a cognitive behavioural model for PCS, which subsumes the biological, cognitive, emotional, behavioural and social factors in an integrated manner.

• Factors involved in the development of PCS are characterized into predisposing, precipitating and perpetuating factors in this proposed model (illustrated in Figure 1).

AIMS

To investigate the contribution of cognitive, emotional, behavioural, and social factors to the development of PCS after MTBI.

PARTICIPANTS & MEASURES

Table 1 Comparison of PCS cases and non-cases at 3 and 6 months after MTBI on relevant demographic and risk factors

CONCLUSIONS

1. We believe this is the first prospective study to investigate the impact of early cognitive, emotional and behavioural risk factors considered together on the development of PCS based on a proposed model.

2. The results from this prospective study provide good support for the proposed cognitive behavioural model. Cognitive, emotional and behavioural factors were associated with the development of PCS. 

3. Patients’ all-or-nothing behavioural pattern shortly after MTBI was a significant predictor for the onset of PCS at 3 months after MTBI; Patients’ early negative injury perceptions predicted the onset of PCS at 6 months.

4. The findings provide research evidence for the role of illness perception and coping behaviour shortly after MTBI in the development of PCS and indicate that they may be important early intervention targets.

REFERENCES


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No Conflict of interest

No head injury is too trivial to ignore

Hippocrates, 460-377 BC