satisfy the criteria for a diagnosis of PTSD. Some survivors, however, may have had a fluctuating state of consciousness and therefore may have had some experience of the event.

Some symptoms of a concussive head injury and of PTSD overlap, and where there is amnesia for the event associated with a head injury, it is important to determine, from ambulance and casualty records, the level of consciousness and whether or not this fluctuated. In the ambulance officer's and casualty reports of two such cases I have recently seen (one eighteen months and one three-and-ahalf years following very serious road traffic accidents) there was evidence of patchy awareness of their circumstances, both at the scene of the accident and in the casualty department. In both cases there was, initially, total amnesia for the accident and a significant period of amnesia in relation to their subsequent admission to hospital. Both had shown post-concussional symptoms for some months and both were referred for psychiatric assessment in relation to an exacerbation of their physical symptoms. Since there was total amnesia for the accident, there was no 're-experiencing of the event' but otherwise both had symptoms satisfying the other criteria of a PTSD. It appeared that evidence of re-experiencing the event was limited to re-experiencing specific pain and other physical symptoms. This would have come as no surprise to Pierre Janet 100 years ago (van der Kolk et al, 1989) who argued that when such traumatic experience is not properly digested it can return as "fragmentary reliving of the trauma, as emotional conditions, somatic states, visual images or behavioural re-enactments" (p. 366).

Clearly such patients need a very careful evaluation. Interviewed under intravenous sodium amytal, both the patients referred to above regained some patchy memories of the experience and some of the affect experienced at the time and during their admission to hospital. In both cases there remained, on neuropsychological assessment, evidence of significant but not incapacitating cognitive deficits.

Dr Medley et al's current investigation of the survivors of the airliner crash may indeed help to clarify some of the many interesting issues raised by the diagnosis of PTSD.

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Reference

VAN DER KOLK, B., BROWN, P. & VAN DER HART, O. (1989) Pierre Janet on post traumatic stress. Journal of Traumatic Stress, 2, 365-378

SIR: Medley et al (Journal, January 1990, 156, 134) raise the question of whether survivors who have amnesia for a traumatic event can develop PTSD. Our experience is that such survivors indeed can develop PTSD, although the presentation may be slightly altered.

Case report: A 22-year-old male soldier was travelling in a coach which was blown up. Eight other passengers were killed. He suffered a fractured mandible and a significant closed head-injury. He was unconscious for 36 hours and subsequently had a post-traumatic amnesia of 72 hours and a retrograde amnesia of eight hours. He made a full recovery physically from his injuries, but developed PTSD as defined by DSM-III-R within three weeks of the incident. In particular he experienced intense psychological distress and physiological reactivity on seeing a coach, with marked phobic avoidance. However, intrusive recollections did not occur and although he awoke with bad dreams he was unable to remember the content. He was treated using a cognitive-behavioural approach including in-vivo exposure to coaches. His symptoms improved considerably over a six month period and at the end of treatment he was able to travel by coach with only moderate anxiety.

Despite a total amnesia for the traumatic event this patient developed a significant PTSD. The lack of intrusive recollections, flashbacks or dreams is presumably related to the absence of any accessible memory. Psychogenic amnesia is a recognised feature of PTSD which could be a source of confusion, although the consistency and pattern of amnesia in this case is highly suggestive of an organic cause. It is uncertain whether the symptoms relating to coaches were as a result of being told afterwards of the event or because of a memory of it which he was not able to retrieve consciously. This man knew what had happened to him because there was much media attention and other survivors to talk to. It would be interesting to speculate how the presentation might differ in cases where such information were not available to survivors with amnesia.

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