CASE REPORT

HELMETS AND HAEMATOMAS

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SUMMARY

This report discusses two cases referred on the same day to the Mersey Regional Neurosurgical Unit. Both patients bore positions of responsibility and each developed an extradural haematoma as a result of neglecting to wear the appropriate safety helmet for their respective sports. The two survived, without detectable morbidity, to learn the relevant lesson.

CASE REPORTS

Case 1

A 41 year old man was coaching a group of Sea Scouts in abseiling techniques during a climbing outing near Snowdonia. He was the only member of the party not to be wearing a helmet and had been pulled forward, whilst steadying a rope, striking his head on a ledge. He lost consciousness for a few seconds but rapidly regained full responsiveness (Glasgow Coma Scale). His responsive level deteriorated over the next 30 minutes. He was admitted to the nearest District General Hospital where he showed no eye opening or speech and flexed to painful stimuli. He was transferred to the Mersey Regional Department of Neurosurgery six hours after the injury. Examination on admission to the Unit revealed his responsive level to be unchanged. The pupils were equal and reacting and his right limbs were hyper-tonic and hyper-reflexic. General examination revealed no other injuries.

A linear left parietal fracture was found on skull radiographs. Computerised tomographic scans showed a large left sided extradural haematoma (Fig. 1). Without delay a left temporoparietal craniotomy was performed and the haematoma, originating from a ruptured middle meningeal artery, was evacuated.

Fig. 1: A CT scan performed on admission shows a large left sided temporoparietal extradural haematoma causing significant midline shift as demonstrated by the position of the lateral ventricles to the right of the falx.

Post operatively he recovered full consciousness rapidly and was sufficiently well to be discharged seven days later without any residual neurological deficit.

Case 2

The same day a 23 year old off-duty policeman had been teaching his girlfriend to ride a motorcycle. He had, most chivalrously, loaned his only helmet to her. Whilst demonstrating some finer point of technique he drove into a wall at 30 mph and struck his head.

He was admitted to the local teaching hospital where his responsive level was found to be satisfactory and no localising signs were detected. A left frontoparietal compound fracture and cerebro spinal fluid rhinorrhoea were noted. He was prescribed prophylactic antibiotics and

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observed. His conscious level deteriorated over the subsequent 5 hour period and he was transferred to the Mersey Regional Neurosurgical Unit.

Examination of the parameters of the Glasgow Coma Scale on admission revealed no speech but eye opening and flexion to pain and no focal neurological signs. The fracture and cerebrospinal fluid rhinorrhoea were confirmed. There were no other injuries. Skull radiographs demonstrated an extensive linear frontal fracture on the right. Computerised tomographic scans revealed soft tissue swelling with an extensive surface collection of blood in the right frontotemporal region, extending towards the parietal region, with a significant collection of intracranial air (Fig. 2).

Fig. 2: A CT scan demonstrating the right sided fronto-parietal surface collection with associated soft tissue swelling and midline shift with contralateral ventricular dilatation.

An extensive craniotomy was performed and an acute extradural haematoma arising from the superior longitudinal sinus was evacuated. The frontal air sinus was obliterated on the right side.

He regained full consciousness rapidly in the post-operative period. His cerebrospinal fluid leak stopped within four days and he was transferred back to the referring hospital on the seventh postoperative day, without neurological deficit.

DISCUSSION

In addition to their obvious similarities, the two cases are ironically linked by a further remarkable coincidence. For the duration of their stay in the Mersey Regional Department of Neurosurgery they were both accommodated on Cairns ward, named in memory of Sir Hugh Cairns who was instrumental in making protective helmets compulsory for army motorcyclists during the Second World War (Potter, 1964). In spite of the acknowledged value of this, some ten years passed before civilian motorcyclists voluntarily gave themselves such protection. It was not until 1969 that it became compulsory (HMSO, 1976). The voluntary status for such protection still applies to climbing and related sports.

Protective helmets of some description have been in use for some 3,000 years (Potter, 1967). Successful evacuation of extradural haematoma has been available for only about 200 years, since the days of Percival Pott in the late 18th Century.

Both patients freely admit that, especially in view of their respective positions in society, they should have known better and each has a craniotomy scar and a significant risk of late development of traumatic epilepsy (Pennybacker, 1951) to remind them of their omission.

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REFERENCES

- HMSO, 1976 "Crash helmets and motorcyclists". Government Publications p. 116.
- Pennybacker, J., 1951. Brit. Encyclopaedia of Medical Practice. 2nd Edition. Vol. 6. p. 225.
- Potter, J. M., 1964 "The organisation of head injury services in Great Britain". Excerpta Medica International Congress Series, No. 93. p. 42.
- Potter, J. M., 1967 "Head injuries today". Postgrad. Med. J. September. p. 574.