Corpus Callosum: Examination showed diffuse axonal damage.

Left Internal Capsule: Examination showed extensive diffuse axonal damage.

Hypothalamus: Examination showed no evidence of haemorrhagic necrosis. There was however axonal damage in the hypothalamic region.

Midbrain: Examination showed diffuse axonal damage. There was no secondary brainstem haemorrhage. The substantia nigra showed no evidence of degenerative change.

Pons: Examination showed the features of severe diffuse axonal damage.

Cerebellum: Examination showed no evidence of cortical necrosis. The Purkinje cells were preserved. A small gliotic scar was present in the white matter.

Immunohistochemistry for neurofilament protein and for the myelin stain LFB/H & E confirmed the distribution and severity of the diffuse axonal damage.

REPORT OF BACTERIOLOGY LABORATORY:

Culture of a lung swab isolated staphylococcus and a few coliforms.

Culture of a sample of cerebrospinal fluid isolated Pseudomonas and Enterococcus

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COMMENTARY:

This young man died in hospital eleven days after he had been assaulted.

Death was as a result of the head injuries which he had sustained. Externally his injuries appeared trivial; there was a small area of abrasion on the left side of the forehead, a bruise on the upper eyelid of the left eye and a small spot of abrasion close to the left nostril. Even internally the injuries did not seem particularly severe with only two areas of bruising on each side of the undersurface of the scalp and a small almost hairline fracture in the front part of the skull running into the roof of the left eye socket. Detailed examination of the brain however and in particular its microscopic examination revealed widespread damage within its substance of a type known as diffuse axonal injury. This condition, most frequently encountered in acceleration/deceleration injury as a result of road traffic accidents is also well recognised as occurring as the result of repeated blows to the head such as by punching or kicking and this would seem the most likely mechanism of injury in this case. It was ultimately the effects of the brain injury which were eventually responsible for his death in hospital.

He had also sustained some other injuries although none of these were serious enough to have played any part in his death. There was a fading bruise on the front of the abdomen and some further bruising in the muscles of the abdominal wall which could have been due to blows during the assault. There were numerous bruises on the left upper limb, particularly on the forearm and hand which could have been sustained if the arm was struck whilst raised in a defensive gesture. A few further bruises were located on the right upper limb but some of these were probably related to injections given whilst in hospital. A fairly large area of bruising overlying the right side of the pelvis was due to blunt force and might have been caused by a kick.