

IT'S ALL IN THE HISTORY.

JULIUS J. NOVOTNY D. C. *

Abstract: - This case study involves a patient who presented at a chiropractic clinic with an acute torticollis. Although preceding trauma was sincerely denied by the patient, a thorough case history with appropriate radiological investigation revealed a Jefferson fracture with an associated rupture of the osseous attachment of the transverse ligament.

Key Words: Case history, chiropractic, torticollis, Jefferson fracture, atlas, CT scan.

PRESENTATION: A twenty two year old male sales consultant presented to this clinic as a new patient in May 1989 complaining of a stiff neck. Onset was insidious over the preceding 24 hours with the patient having fallen asleep on a couch for two hours with his head forced in left lateral flexion.

The neck was described as being stiff with restricted movement to the left and an associated mild ache.

The patient was headache free and denied any vomiting, nausea, vertigo and numbness or tingling of the extremities. He sincerely denied any traumatic episodes involving the head or neck prior to the onset of the neck stiffness.

Neck movement aggravated the neck discomfort. Moist heat at home provided short term relief.

PHYSICAL EXAMINATION

Neurological examination was within normal limits. Cranial XI testing revealed mild weakness of the trapezii muscles due to aggravation of the neck pain.

Active range of motion of the cervical spine was severely restricted in left lateral flexion and left rotation to 10° of each movement.

Axial cervical compression caused severe sharp pain at the suboccipital region. Antalgic myospasm was noted in the suboccipital and posterior cervical muscles during this procedure.

* PRIVATE PRACTICE
509 PRINCES HWY, NARRE WARREN, VICTORIA, 3805 Ph. 704 6478

DISCUSSION

The physical examination was halted at this point due to the severity of the pain intensity during cervical compression.

The history was once again reviewed by the chiropractor with the patient once more denying any preceding traumatic episode.

Further persistent questioning revealed that the patient "rides a motorbike"! When asked how frequently the motorbike was ridden the patient disclosed that he was a competitive national enduro-motocross racer who rode a Honda XR 600 for a Japanese "Stars and Stripes" team and had won two Japanese national events. Apparently his initial job description as a sales consultant was a euphemism for professional enduro-motocross rider.

On further questioning the patient reluctantly admitted that he had a "bit of a spill" on a motorbike the day before his couch sleep.

This "spill" occurred when the patient attempted to jump with the motorbike from one ramp across a gap to another ramp. Unfortunately, he missed a gear selection on the take off, becoming inverted half way across while still holding the handlebars and standing on the foot pedals.

The patient and the bike were inverted (while travelling at approximately 60 k.p.h.) when the patient's helmeted head hit the ground causing his neck to hyperflex. As Isaac Newton would have predicted, his 100 kg bike hit his gluteals a split second later followed by a succession of uncontrolled tumbles before he and the bike eventually came to rest.

Apparently the patient stood up somewhat groggy and shook his head to clear it. He remounted but did not re-attempt to jump. He had changed his helmet from an open faced type to a fully enclosed one prior to the jump. A most fortuitous choice indeed!

The next morning his neck was mildly stiff but seemed to loosen after a shower and neck stretches. During the afternoon the patient fell asleep on the couch - presenting to the chiropractic clinic the following morning.

RADIOLOGICAL INVESTIGATION

The patient was immediately referred to the Dandenong Valley Hospital Radiology to exclude osseous damage.

Neutral views of the lateral cervical spine were within normal limits (fig 1.). On forward flexion the atlanto-dens interspace was enlarged with anterolisthesis of C3 on C4 (fig 2).

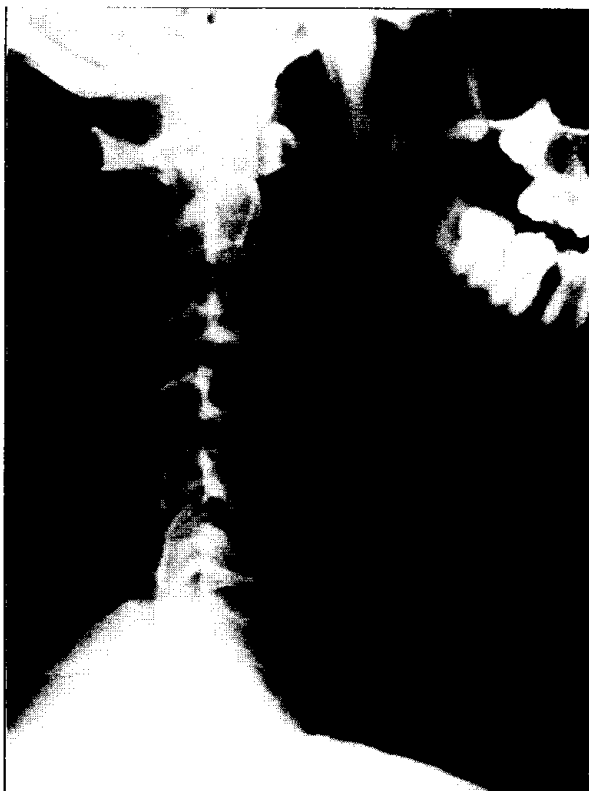


Fig. 1

The initial A-P open mouth shot showed the atlas poorly due to overlay of the teeth. A retake demonstrated a right lateral mass displacement of the atlas and the importance of clear radiological views (fig 3).

After transferral to Dandenong X-Ray Centre for an immediate CT scan, the unilateral Jefferson fracture was clearly identified (fig 4). Fracture of the osseous attachment of the transverse ligament (presumably without ligamentous rupture) was also demonstrated. A midline fracture of C4 was shown on further CT slices (fig 5).



Fig. 2

TREATMENT AND PROGNOSIS

The patient was immediately placed in hospital and immobilised in a chest to chin neck collar following the radiological investigations. He remained in hospital one week and was released from care on his own recognisance. Apparently the patient did not choose to recognise the seriousness of his injuries stating "that since the bones were only broken they would heal normally in 6 - 8 weeks".

Obviously the enormity of the potential neurological damage that he had avoided had not struck him nearly as hard as his bike had!!

A Jefferson fracture is a burst injury which occurs after axial compression forces traumatise the head eg. diving accident.(1) In this case, the patient's head and neck were hyperflexed while forces of many vectors traumatised the region. Usually, serious neurological damage such as quadriplegia could be expected following his type of fall.

Instead, the patient resumed his professional racing - competing during August 1989 some 3 months later where he fell from his motorbike but completed the race and won.

COMSIG REVIEW

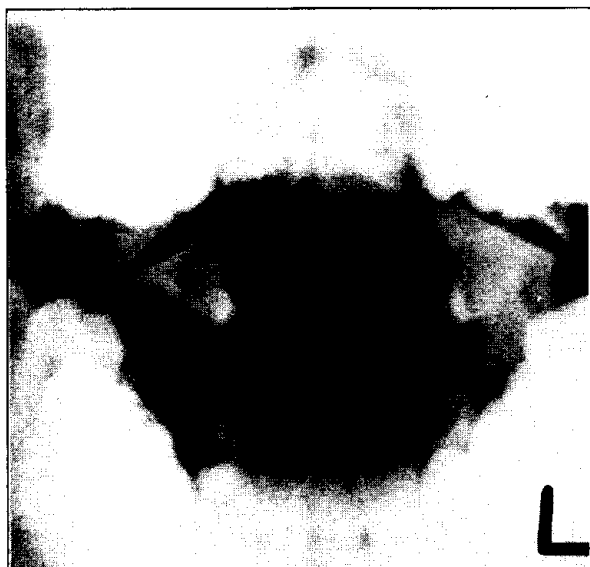


Fig. 3

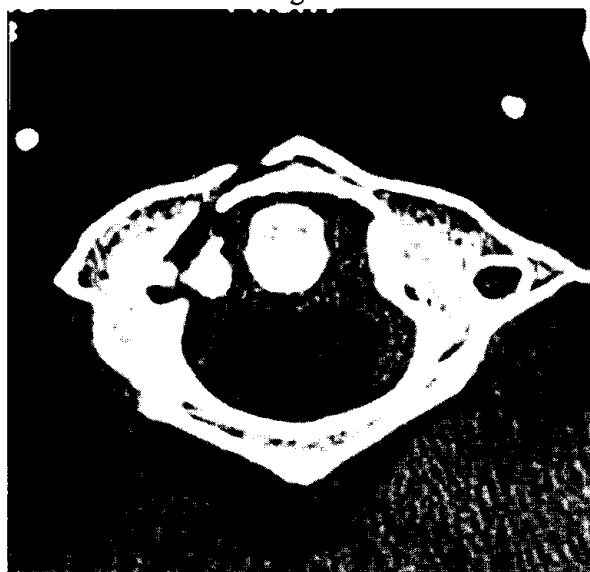


Fig. 4

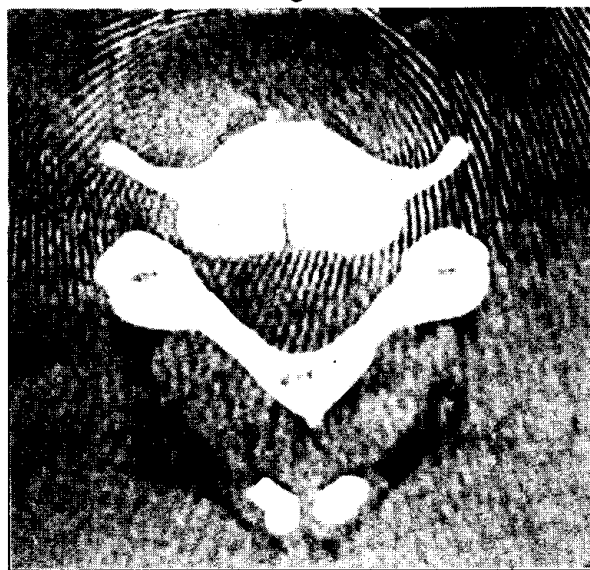


Fig. 5

CONCLUSION

There simply is no substitute for a detailed history.

REFERENCES

1. Yochum, T., Rowe, L. 'Essentials of Skeletal Radiology': Williams and Wilkins, USA, 1987. Vol. 1. pp. 430-431.

