

Traumatic Pid C4-C5 With Neurological Deficit In Parachute Injury: A Case Report

Ahmad Faidhi MZ, Zafri Helmi Z
Kompeni Perubatan Para, Kem Terendak, 76200 Melaka

INTRODUCTION:

We report a case of a military parachutist with traumatic PID C4-C5 associated with neurological deficit that occur during parachute landing and analyzed mechanism of the trauma.

CASE DESCRIPTION:

A 25 year old parachutist alleged fall on his back and hit his neck over hard surface. He was being drag backwards by open parachute due to strong wind during parachute landing. He complained of pain over posterior neck, weakness and numbness over all four limbs thus unable to stand still.

Examination of bilateral upper limbs revealed diminished muscle power of 3/5 over level C6 and 0/5 over C7 to T1, but normal tone. While examination of bilateral lower limbs shown hypertonia, muscle power of 0/5 at all levels L2 until S1 with hyperreflexia. However, perianal sensation and anal tone were intact with present bulbocavernosus reflex.

RESULTS:

Subject was diagnosed to have prolapsed intervertebral disc (PID) of 4th and 5th cervical vertebrae with spinal cord edema through magnetic resonance imaging (MRI). Prompt management with intravenous Methylprednisolone 24 hour after admission has benefited the subject as the neurological deficit improved prior to discharge. By 6 months, the subject reported complete sensory and motor recovery.



Figure 1

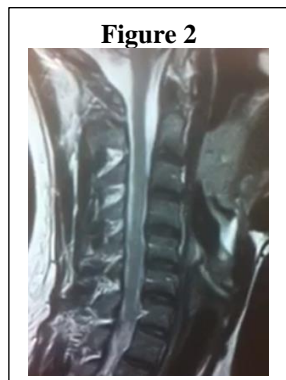


Figure 2

Figure 1: MRI Cervical shows patchy increased signal changes within cervical spinal cord from C4 till C6 level which indicates spinal cord edema.

Figure 2: MRI Cervical shows diffuse disc bulge at C4/C5 indenting on anterior thecal sac with mild narrowing of spinal canal.

DISCUSSION:

The landing phase is the most dangerous phase during parachuting which account up to 83.8% of the parachute injuries due to various hazardous factors such as increased wind velocity, improper body position and major ground obstacle (Ellitsgard, 1987). Spinal injuries are rare in parachuting since majority of injuries involve weight bearing lower limbs. Both Ellitsgard and Dhar (2007) reported spinal injury occurred only 10% and 8% respectively out of all parachute injuries.

However this case is unique because the injury was sustained as the result of unexpected non-collapsed parachute in high wind velocity which lead to backward traction after landing then subsequently caused cervical spine injury. Richman M. in 1948 had described similar mechanism of injury and attributed the injury to vertebral or head component in parachute activity is mainly caused by backward landing. Other factors that contribute to increasing risk of injury in this paratrooper are additional equipment weights from military gears, non-experience jumper, false landing position, rough landing surface and multiple jumpers (Bricknell, 1999).

As for any the cervical and spinal cord trauma, the treatment protocol was determined based on early diagnosis by clinical and radiological assessment.

CONCLUSION:

Although neck trauma or neurological injury is extremely rare in parachute activity, it may occur due to external contributing factors that can result in such injuries. This will pose challenge to medical responder on the ground to diagnose quickly and anticipate the best course of action to prevent mortality or permanent morbidity. The parachutist should have necessary knowledge and techniques to overcome unexpected equipment failure while landing to minimize such risk of potentially life threatening injury.

REFERENCE:

1. D Dhar., Retrospective Studies of Injuries in Military Parachuting, Medical Journal