

## INJURY TO A RIGID SPINE: A TALE OF THREE SPINES

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**Introduction:** A rigid spine is particularly susceptible to fracture.<sup>1</sup> Trivial mechanism of injury is often the cause of a spine fracture in a patient with a rigid spine. Common causes of increase spinal rigidity include ankylosing spondylosis (AS), disseminated idiopathic skeletal hyperostosis (DISH) and ossification of the posterior longitudinal ligament (OPLL). These conditions are grouped and sometimes referred to as spinal ankylosing disorder (SAD).

**Discussion:** The cervical vertebrae are the most common sites of fractures in rigid spines.<sup>2</sup> Hyperextension is the predominant mechanism of the cervical fractures. 67% of the AS patients and 40% of the DISH patients who presented with spine fractures also sustained neurological deficits during the initial assessment.<sup>3</sup> However, the development of secondary spinal cord injuries is common due to delay in diagnosing unstable fractures. 7%-23% of spine fractures in SAD patients are associated with epidural hematoma.<sup>2</sup> It is important to be aware that epidural hematoma can occur in isolation without any spine fracture as described below in Case 1. Surgical decompression of the spinal cord is the mainstay of treatment in patients with neurological deficits due to extradural hematoma. Immobilization of an unstable spine is crucial to prevent secondary spinal cord injuries. However, identification of spine fractures in a rigid spine is difficult due to atypical presentation, trivial mechanism of injury and x-ray changes due to underlying disease.

**Conclusion:** A high index of suspicion is the key to identify spinal injury among patients with spinal ankylosing disorders.