

An Unreported Fracture Pattern Of The Sacrum – A Coronal Split Fracture Of The Sacrum

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INTRODUCTION:

Sacrum fractures are not uncommon. However, the diagnosis is frequently delayed due to the absence of gross neurological signs, attention drawn by other fractures or lack of index of suspicion (1). It is usually associated with fracture of the pelvis and other life threatening injuries. Partly due to the mechanism of injury which involves high energy impact, for instance: motor vehicle accident or falling from height on lower extremities, in Roy Camille series, it is called as “Jumper’s fracture” due to the same mechanism of injury in 84% of his study subjects (2). In this case report, the author is excitingly presenting a fracture pattern which to the best knowledge of the author it has never been describe before by previous literatures.

CASE REPORT:

This 21-year-old gentleman alleged in a motor vehicle accident. He was the front passenger of a lorry which is cruising at a moderate velocity. The lorry hits on another stationary lorry while trying to avoid an in-coming trailer. The mechanism is somehow bizarre as the patient’s bilateral hip joints were “split”, one at the extreme flexion and the other at extreme extension. Post-trauma, patient sustained multiple long bone fractures and intra-abdominal injury. An initial AP view x-ray of the pelvis showed right superior and inferior pubic rami fracture, the sacrum fracture was not obvious partly due to the bowel shadow and poor quality of x-ray film. However, a right transverse process of L5 fracture initiates suspicion on a more serious hidden injury. CT-scan of the pelvis showed a rare fracture pattern of the sacrum, a coronal split fracture of the sacrum [Fig.1.1]. Patient underwent staged surgery for his sacral fracture. Definitive fixation of the sacrum, open reduction and transiliac reconstruction plating of the sacrum was performed in a later date. Intra-operatively, noted coronal split fracture of the sacrum extending from S1-S5 involving bilateral sacral foramina [Fig. 1.2], no obvious nerve roots section was seen. 2 transiliac

reconstruction plating was inserted posteriorly to buttress the fracture.

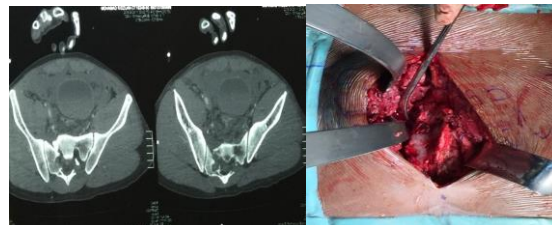


Fig.1.1. CT scan showed coronal fracture of sacrum

Fig. 1.2. Coronal split fracture of sacrum with fracture gap of >5mm

DISCUSSIONS:

Sacral fractures have historically considered of secondary importance when they occur in conjunction with pelvic injuries (3). However, fractures of sacrum have since become recognized as an important element in trauma, in part due to their association with neurological deficits, which encompasses from mild neurological deficit on motor, sensory or sexual dysfunction to more severe cauda equine syndrome. Over the years, increasing number of cases of sacral fractures were reported, various fracture patterns were described, including the so called H-, U- or Y-fracture. Interestingly, coronal fracture of sacrum has never been reported. Other literature reviews mentioned that sacral fractures usually happened at the proximal segment, S1-S2. In contrast, the fracture which we described involves S1 to S5. In the author’s point of view, there are still many undiscovered fracture patterns of sacrum which need to be given importance. Various imaging modalities can be used when the conventional x-ray did not give much valuable findings. This is especially important when there is presence of clues to other more serious injury, for example fracture of transverse process of lower lumbar spine.

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