

Midline Sacral Fracture in an Anterior-Posterior Compression Pelvic Injury: a Rare Case

Konstantinos Giatroudakis, MD, MSc¹; Emmanouil Skotidis, MD, MSc¹; Nikolaos Patsiogiannis, MD, MSc¹; Leon Oikonomou, MD¹
1st Orthopaedic Department, Athens General Hospital "G. Gennimatas"

INTRODUCTION

Anterior-posterior compression (APC) pelvic injuries is the result of high-energy blunt trauma and can lead to unfavorable outcomes. Widening of the pubic symphysis frequently leads to subsequent disruption of posterior pelvic ligamentous structures. Associated sacral fractures may increase the incidence of neurologic injury and pelvic ring instability. An avulsion fracture of the sacral ala is the most frequent sacral fracture in this injury. An exceptionally rare variation of sacral injuries in association with pelvic trauma is midline sacral fractures. There aren't many of these instances in English literature.

PURPOSE

To present a case report of a midline sacral fracture combined with an APC pelvic injury.

CASE PRESENTATION

A 38-year-old male presented with an APC pelvic ring injury as a result of a motor vehicle accident. Radiographs and CT scan revealed pubic symphysis widening of 2.48 cm. A pelvic binder was placed as a temporary measure to minimize intrapelvic hemorrhage. CT imaging revealed a midline sagittal sacral fracture with extension to the right lower anterior sacral foramina. An iliac crest external fixation was placed to reduce the symphysis widening. This was the patient's definitive treatment. During his hospital admission, the patient required exploratory scrotal surgery for sustained extensive scrotal hematoma and difference in blood flow between the upper and lower left testicle pole, without permanent testicle injury. Our patient to date has achieved sacral fracture union, minimal residual pubic diastasis, and has no evidence of neurologic injury. He has returned to work and his previous activities 5 months postoperatively.

CONCLUSION

It is crucial to always examine the posterior pelvis and sacrum when examining APC injuries. Even though stabilization of the anterior structures is often sufficient for a stable outcome, surgical fixation techniques of sacral fractures or sacroiliac joint injuries may not be avoidable.

CONTACT

Konstantinos Giatroudakis, MD, MSc
1st Orthopaedic Department, Athens
General Hospital "G. Gennimatas",
Athens, Greece

Email: kostasgiatrou@hotmail.com
Phone: 6984246676
Website: <https://www.linkedin.com/in/1st-orthopaedic-dpt-general-hospital-of-athens-g-gennimatas-44417a285/>



Figure 1. X-ray of the APC pelvic injury with a rare combination of a pubic symphysis widening and a midline sagittal sacral fracture.



Figure 2. CT of the APC pelvic injury revealing a pubic symphysis widening of 2.48cm and a midline sagittal sacral fracture with extension to the right lower anterior sacral foramina.



Figure 3. Immediate postoperative X-ray of the pelvis after satisfactory reduction and fixation of the pelvic fracture using an iliac crest external fixator.

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