

Pelvic and Acetabular Fractures Secondary to Horse Riding: Experience From a Major Trauma Center in England

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Purpose: Horse riding is a popular sport, enjoyed by millions of people recreationally and professionally. Pelvic and acetabular (P&A) fractures sustained through the sport may be life-threatening, while the treatment and potential sequelae of these injuries may prevent patients from riding and reduce quality of life. Despite this, there is a lack of literature on P&A injuries incurred through horse riding. We aim to describe P&A injuries sustained in equestrian accidents, discuss management, and establish their outcomes.

Methods: A retrospective analysis of all P&A injuries referred to the P&A service of a major trauma center (MTC) was undertaken, covering approximately 6 million people from January 1, 2016 to December 31, 2020. Data were extracted from a prospectively collected database of P&A injuries and cross-referenced with medical records to gather additional information.

Results: 60 of the 1218 P&A referrals were from patients sustaining fractures due to a horse riding accident. The mean age was 46 years (standard deviation [SD] 16.59), with 46 females. In total, 27 patients were treated operatively at the MTC, 15 of whom were transfers from other hospitals. One case was excluded for insufficient information; the remaining (n = 59) were classified. Pelvic fractures represented 78% of the injuries (n = 46). Lateral compression injuries were the most frequent (n = 29), followed by anterior-posterior compression (n = 10), sacral (n = 4), and pubic rami fractures (n = 3). The pattern of acetabular injuries (n = 13) was varied with transverse fractures (n = 4) being most common. The remaining consisted of anterior column fractures (n = 2), associated both columns (n = 2), T-shaped (n = 2) posterior column and posterior wall (n = 1), posterior wall (n = 1), and anterior wall (n = 1). Associated injuries were common and often significant. The nonoperative group comprised 55% (n = 33) of referrals. The operative group was managed by examination under anesthesia (n = 3), open reduction and internal fixation (n = 22), or percutaneous fixation (n = 2). Mean postoperative drop in hemoglobin was 17.67 g (SD 12.59). The mean postoperative length of stay (LOS) was 9.6 days (SD 5.38). The majority (81%) of patients were non-weight-bearing postoperatively. The mean time to independent mobilization was 12.6 weeks (SD 7.09). Return to riding information was available for 8 patients, with a mean of 29.5 weeks (SD 11.55). There were 4 significant postoperative complications.

Conclusion: Horse riding can result in significant P&A injuries. Associated injuries occur less commonly than in other high-energy mechanisms, such as road traffic collisions; however, they can be significant, should be suspected, and must not be missed. Individuals should be counseled that recovery can be protracted and it may take a significant amount of time before they are able to return to horse riding, if they are able to at all.