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Case Report

Harnessing Lateral Support Over Perianal Posts "Exploring the Efficacy of Lateral Support in Femur Fracture Internal Fixation: A Case Report Investigating Findings, Outcomes, and Complications"

Muath Mohammed Almuqhim[1]*, Sultan Salem Batayyib[2], Ibrahim Abdullah Alsinan[3], Rayan Ahmed Alghamdi[4] and Yaser Ahmad Alshabi[5]

[1]Department of Orthopedic Surgery, King Salman Hospital, Riyadh, Saudi Arabia

[2]Orthopedic Trauma Consultant, Department of Orthopedic Surgery, King Salman Hospital, Riyadh, Saudi Arabia

[3]Department of Orthopedic Surgery, Imam Abdulrahman bin Faisal Hospital, Dammam, Saudi Arabia

[4]Medical Student, College of Medicine, Imam Mohammad bin Saud Islamic University, Riyadh, Saudi Arabia

[5]Orthopedic Trauma Fellow, Department of Orthopedic Surgery, King Abdulaziz Medical City, Riyadh, Saudi Arabia

***Corresponding Author:** Muath Mohammed Almuqhim, Department of Orthopedic Surgery, King Salman Hospital, Riyadh, Saudi Arabia.

Received: December 08, 2023; **Published:** December 19, 2023

Abstract

Femoral shaft fractures are commonly observed injuries that often occur in conjunction with polytrauma, leading to a range of complications that present a substantial threat to the patient's overall well-being and survival. The chosen treatment modality is intermedullary nailing; nevertheless, there is a possibility of experiencing positioning-related side effects, such as neurapraxia, specifically associated with the pudendal nerve. Prolonged utilization of a perineal post may give rise to significant complications.

This report pertains to a male patient, aged twenty, who was involved in a motor vehicle collision resulting in an isolated fracture of the femur. To achieve fracture fixation, a fracture table was employed, and the patient's treatment plan included surgical fixation with closed reduction intramedullary nail fixation. In order to address the lack of a perianal post on the table, we were compelled to employ an alternative tool, such as lateral support.

The objective of this case report is to evaluate the effectiveness of utilizing lateral support as a perianal post in healthcare settings that have limited resources, particularly in relation to fractures of the femur shaft. In order to optimize patient care, it is imperative to ensure sufficient padding and consider the varying types of fractures and the patient's body composition.

Keywords: *Femoral Shaft Fractures; Polytrauma; Neurapraxia; Pudendal Nerve*

Introduction

Orthopedic surgeons treat femoral shaft fractures frequently because they are a common kind of injury. This type of fracture often shows signs of polytrauma, which greatly increases the risk to the patient's life [1]. Motor vehicle crashes (MVCs) are a common source of these injuries, which, if left untreated, can lead to amputations and other limb abnormalities [1]. Higher energy trauma is more common

in younger people and lower energy trauma is more common in older people when it comes to femoral shaft fractures, according to the usual bimodal distribution [1].

Typically, femoral shaft fractures are managed through the utilization of nailing techniques, which involve the use of a traction table and a perineal post. However, it is important to note that this approach can sometimes lead to the occurrence of diverse complications in the groin region, such as pudendal nerve neurapraxia [2]. While the majority of these complications are temporary in nature, research has indicated that rates as high as 26% have been documented [2].

The utilization of a perineal post during the management of femur fractures on a fracture table presents potential hazards for pudendal neuropraxia and perineal soft tissue damage [3]. The surgical management of fractures in the lower extremities frequently entails the utilization of an orthopedic table equipped with a perineal post to provide countertraction. Nevertheless, the extended utilization of the perineal post has been linked to noteworthy complications [4]. In order to facilitate prompt initiation of treatment if necessary, it is imperative to conduct a comprehensive assessment of the sexual history in all patients who have undergone internal fixation of femur fractures [5]. The potential occurrence of this significant complication resulting from traction can potentially be prevented through meticulous patient positioning during the application of traction [5].

In the present study, the decision was made to employ an intramedullary nail for the internal fixation of a femur fracture in our particular case. During the surgical procedure, a traction table was utilized along with a lateral support system in the absence of a conventional perianal post. The main aim of this case report is to analyze the outcomes and results related to the implementation of lateral support, with a specific focus on the occurrence and progression of complications such as pudendal nerve neuropathy. Through the assessment of these variables, our objective is to elucidate the efficacy and prospective advantages of employing lateral support in the management of femur fractures, thereby offering valuable perspectives on the enhancement of patient care.

Clinical Presentation

A 20-year-old male with no relevant medical history is involved in a car accident and is transferred to our institution's emergency department with right thigh Pain and deformity. He confirms wearing a seatbelt and denies loss of consciousness during the event; the patient was brought to the emergency unit. On examination, the patient was vitally stable. The ATLS protocol was established. The patient was alert, oriented, and cooperative during the exam. The local examination revealed right thigh swelling, ecchymosis, and deformity; the perineal skin condition was unremarkable. There is tenderness over the right mid-thigh and a restricted range of motion; however, the distal neurovascular exam was intact.

Figure 1: *Exhibit an AP view of Right femur with mid shaft fracture.*

Patient was taken to operation room for close reduction internal fixation with intermedullary nail, using lateral support instead of unavailable perineal post hospital stay of the patient post operation was unremarkable, starting the patient with weight bearing as tolerated by physiotherapy. Three follow up visits was completed starting with two weeks post operation, one month, and three months, patient denies any numbness or erectile dysfunction, local examination shows unremarkable skin condition and a full range of motion was observed.

Figure 2: *Intra-operative positioning of the patient using lateral support.*

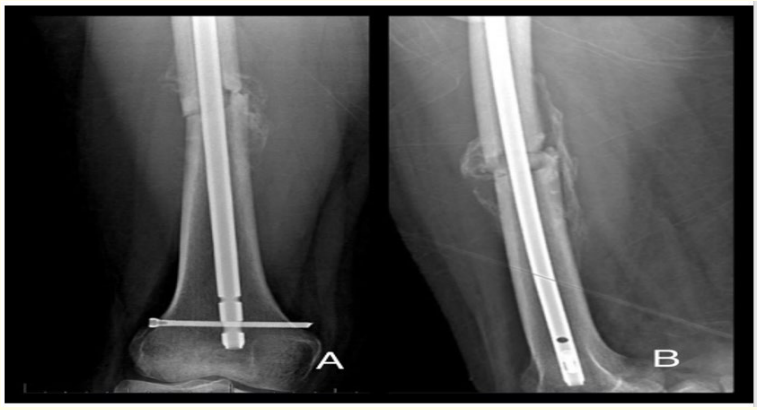

Figure 3: *Post operative x-ray shows sign of healing in AP view (A), and lateral view (B).*

Discussion

In 106 patients who had femur shafts static interlocking nailing, this prospective study aimed to determine what variables were associated with pudendal nerve palsy and the duration and intensity of intraoperative traction. Individuals with a history of erectile dysfunction or changes in labial, scrotal, or penile sensation are evaluated during patient follow-up. Pudendal nerve palsy was identified in ten patients, six of whom were male and four of whom were female. Nine of these patients reported no changes at all, while one indicated erectile dysfunction symptoms. With the exception of one male participant who reported experiencing dysesthesia six months

after the surgery, all patients had their symptoms resolved at the three-month follow-up assessment [6]. Also included is a case report study Three patients within a month's time sought medical attention after experiencing genitoperineal injuries while using a traction table. The study's authors looked at how the perineal injuries appeared clinically, how long the surgery took, the treatment strategy used, the results of the surgery, and how long the patients had to stay in the hospital. All patients developed scrotal and perineal partial-thickness necrosis in the area affected after surgery. Two patients was treated with surgical debridement for infections of necrotic tissues. When perineal traction causes genitoperineal skin necrosis, surgical debridement is required, which means the patient has to stay in the hospital for a longer period of time. To lessen the likelihood of this problem, orthopedic surgeons should use a number of strategies, such as using the appropriate perineal post diameter, surgical duration, and limb positioning [7].

Conclusion

Using a perineal post with sufficient padding is critical to reducing the risk of soft tissue injury when treating femur fractures on a fracture table and the risk of pudendal neuropraxia. Appropriate perineal skin examination prior to and after the surgery is also important. The perineal post is an important tool that is used in the management of surgeries around the hip for traction and reduction purposes. However, using lateral support with good padding as an alternative tool in limited-resource facilities Could help with a femur shaft fracture, according to our case study. Considering interfering with the C-arm x-ray and adduction of the leg without putting pressure on the skin, different types of fracture and patient body build need to be studied while using the lateral support on the table and comparing the results of the postoperative condition.

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Volume 15 Issue 1 January 2024
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