Bladder Rupture and Urine Fistula Between-Bladder and Supracondylary Pin Tract After Pelvis Fracture: A Case Report

Pelvis Kirığı ile Birlikte Supra Kondiler İdrar Fistülü / Pelvic Fractures with Urinary Supracondylary Fistula

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Özet

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Abstract
One of the most important complications of pelvic fractures is bladder rupture. Potential complications of pelvic fractures caused by bladder ruptures are vesicovaginal, vesicorectal, vesicouterine and urethreorectal fistulas. Along with bladder rupture, which is rarely encountered in the literature, the case of urinary fistula from pin tract in femur supracondylar region was represented. The case of the bladder rupture induced by pelvic fracture that associated with urinary fistulisation between bladder and pin tract from femur supracondylar region was reported.

Keywords
Pelvis Fracture; Bladder Rupture; Pin Tract; Urine Fistula
Introduction
Roughly 90% of all bladder ruptures are associated with pelvic disruption; however, only 9% to 16% of all pelvic disruptions have a concomitant bladder rupture [1]. Vesicovaginal, vesicorectal, vesicouterine fistula is a well-known surgical problem defined as an abnormal connection between the urinary bladder, the vagina, the rectum and the uterine [1-4]. Vesicocutaneous fistulas are characterized as an aberrant connection between the urinary bladder and the skin. Their formation has been associated with postsurgical complications, trauma as the result of bladder entrapment by external pelvic fixator [5]. Furthermore, no report has been published describing bladder rupture and urine fistula between-bladder and supracondylar pin tract after pelvis fracture. We present the unique case of bladder rupture and urine fistula between-bladder and supracondylar pin tract after blunt pelvic trauma resulting from a traffic accident.

Case Report
The case is a 63 year-old female patient. As a result of in-vehicle traffic accident, in another center pelvic external fixator and bilateral skeletal traction were applied to the case due to fracture of left ischium, right iliac wing fracture and right sacro-iliac joint separation (Tile Type C1-2) [6] (Fig.1). The case was transferred to emergency service of our hospital and primary bladder repair was applied. Serous flow occurred in the pin tract in supracondylar region in 12th day of bladder repair. There were no bacteria or increase of polymorphonuclear leukocytes related pin tract infection in direct microscopic examination and aerobic culture taken from pin tract. Leakage of methylene blue was observed from the pin tract in supracondylar region after filling the bladder with methylene blue and a fistula between bladder and supracondylar pin tract was detected in bladder cystogram (Fig. 3). Bladder was repaired again.

Discussion
Since pin tract infection is the most significant complication associated with the use of external fixation, it has been reported to occur up to 63% of pins[6-8]. This high infection rate has been attributed to the conduit that the pins provide between the skin and underlying soft tissue and bone. Complications related to pin tract infection include a need for pin change or removal, failure of fracture healing, septic arthritis, and osteomyelitis. Therefore, a method to decrease the rate of pin infection has tremendous clinical appeal [6]. However, main macroscopic and microscopic main characteristics of reported case were not complied with the infection. Fluid is more serious and has a homogeneous colour. Another possible reason is that synovial fluid leaking from a pin placed near the joint. As a result of radiological controls, it was verified that there was no relationship between pin and joint. By virtue of cystogram and filling bladder with methylene blue, it was determined that the fluid was urine. Alexander and Sagi [9] reported a case having septic cox arthritis secondary to development of a cystosynovial fistula after non-operative treatment for both a pelvic fracture and bladder rupture. Tolkach et al.[10] reported Vesico-Acetabular Fistula and Urolithiasis in the hip joint cavity due to persistent bladder entrapment after acetabular fracture. However, there has been no similar case in the literature.

In conclusion, it should be remembered that in patients having pelvic fracture along with bladder and urethral injury, fistula between bladder and pin tract can occur as well as possible reasons such as pin tract infection or synovial fluid leakage in case of serous fluid from pin tract.
Competing interests
The authors declare that they have no competing interests.

References

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