Combined intra- and extraperitoneal urinary bladder rupture – a rare seat-belt injury

T. Rauer, L. Grünherz, X. Startseva, H.-P. Simmen. Klinik für Traumatologie, Universitätsspital Zürich, Schweiz

Objective

Traumatic urinary bladder injuries (TBR) are rare, representing only 0.87 to 1.6% of all blunt abdominal trauma cases1,2. Up to 90% of TBR are associated with pelvic fractures of which only 5-8% are combined intra- and extraperitoneal ruptures (CBR)3. A CBR without an underlying fracture is an absolute rarity.

Methods

After a car accident, a 37-year-old seat-belt fastened driver in haemodynamically stable condition suffered from symptoms of an acute abdomen. He presented with bruises in the right lower quadrant (“seat-belt sign”), large volumes of intraabdominal fluid (radiodensity 10-20 HU) detected via CAT scan, and a CBR with additional fluid in the space of Retzius (Fig. 1). There was no evidence of fracture or further injuries to the parenchymatous or hollow organs. In the absence of urethral injury signs a Foley catheter was placed revealing gross haematuria.

Results

A midline laparotomy was performed, and the intraperitoneal (Fig. 2) as well as the extraperitoneal bladder rupture (Fig. 3) were repaired with a two-layer absorbable suture. Postoperatively, the Foley catheter remained in place for three weeks and was removed after inconspicuous cystography (Fig. 4).

Conclusion

The coexistence of a seat-belt sign and abdominal pain is associated with an increased risk of intraabdominal injuries4. Despite the rarity of traumatic urinary bladder injuries, and especially in the absence of an underlying fracture, physicians should maintain a high level of suspicion for urologic injuries in the presence of nonspecific lower abdominal pain, gross haematuria and the inability to urinate5.

Literatur