

# AB136. SOH23ABS\_122.

## Management of intraperitoneal bladder rupture with ultrasound guided percutaneous drain insertion: a case report

Cian Hehir<sup>1</sup>, Prem Thomas Jacob<sup>2</sup>

<sup>1</sup>University of Limerick, School of Medicine, Limerick, Ireland;

<sup>2</sup>Department of Surgery, University Hospital Limerick, Limerick, Ireland

**Background:** Intraperitoneal rupture of the bladder is a rare but significant complication of transurethral resection of bladder tumour (TURBT) with a high degree of associated morbidity and mortality. These patients are also exposed to a significant risk of developing TURBT syndrome secondary to intraperitoneal extravasation of irrigation fluid resulting frequently in electrolyte imbalances. Conventional management of intraperitoneal bladder rupture consists of formal laparotomy and open surgical repair. There is growing interest in less invasive management of bladder perforation in haemodynamically stable patients. We present one such case of intraperitoneal bladder rupture which was successfully managed with percutaneous drain insertion under ultrasound guidance. Percutaneous drain insertion is a novel, minimally invasive approach which has proven successful in the management of uncomplicated intraperitoneal bladder perforation. Three cases successfully utilising this treatment modality have been reported in the literature to date. Despite being performed in many institutions, there is a clear lack of reporting in the literature. This case study aims to add to the growing body of research supporting the use of percutaneous drainage in the management of uncomplicated intraperitoneal bladder rupture.

**Methods:** A 74-year-old female underwent TURBT of a high-grade papillary tumour (PT1G3). Resection was carried out under spinal analgesia, using monopolar diathermy with 1.5% glycine solution used for continuous bladder irrigation. Bladder perforation was suspected

intraoperatively, resection was terminated, and patient was transferred to our hospital for urgent investigation and management. On arrival the patient was agitated with a distended, tender abdomen. Serum electrolyte studies revealed the patient to be profoundly hyponatraemic (Na =110 mmol/L). Seizure like activity was noted following admission. Intraperitoneal bladder rupture was confirmed via computed tomography (CT) urogram. Drainage of abdominal free fluid was performed via percutaneous, radiologically guided insertion of a pigtail catheter. Continuous free drainage of the bladder was performed via urethral catheterisation. Serum sodium was carefully corrected via target lead intravenous infusion.

**Results:** Percutaneous drainage of abdominal free fluid with free catheter drainage resulted in complete resolution of bladder rupture in this case. Serum sodium normalised at day 4 of admission and remained stable thereafter. Complete resolution of bladder rupture was confirmed 8 weeks post discharge during cystoscopy. The patient later underwent two successful re-resections of bladder tumour without complication at 8 and 10 weeks respectively.

**Conclusions:** Percutaneous drain insertion is a feasible treatment option in the haemodynamically stable patient with isolated intraperitoneal bladder rupture.

**Keywords:** Bladder rupture; interventional radiology; intraperitoneal; nonoperative treatment; urology

### Acknowledgments

*Funding:* None.

### Footnote

*Conflicts of Interest:* The authors have no conflicts of interest to declare.

*Ethical Statement:* The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

*Open Access Statement:* This is an Open Access article distributed in accordance with the Creative Commons Attribution-NonCommercial-NoDerivs 4.0 International

License (CC BY-NC-ND 4.0), which permits the non-commercial replication and distribution of the article with the strict proviso that no changes or edits are made and the original work is properly cited (including links to both the formal publication through the relevant DOI and the license). See: <https://creativecommons.org/licenses/by-nc-nd/4.0/>.

doi: 10.21037/map-23-ab136

**Cite this abstract as:** Hehir C, Jacob PT. AB136. SOH23ABS\_122. Management of intraperitoneal bladder rupture with ultrasound guided percutaneous drain insertion: a case report. *Mesentery Peritoneum* 2023;7:AB136.