Case Report

An Unusual Presentation of Rectal Injury Following Radical Prostatectomy

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1. Case Report

We present a case of a sixty-seven-year-old male with past history of hypertension, hyperlipidemia and type 2 diabetes mellitus, who underwent laparoscopic radical prostatectomy for Gleason 3+4=7 prostate cancer. An intra-operative air leak test was performed which was negative. He had an uncomplicated hospital stay and was discharged day three post-operatively. The patient re-presented on the fifth post-operative day with worsening abdominal pain, temperature of 38.9 degrees and foul smelling, faeculent discharge from the umbilical abdominal extra-peritoneal port site wound. His indwelling urinary catheter was producing clear urine with negative urinalysis for leukocytes and nitrites.

The patient initially underwent a computed tomography with intravenous contrast which demonstrated surgical emphysema and a small amount of free fluid and free gas in the retroperitoneal plane. This was inconclusive in distinguishing between expected post-laparoscopic surgical status from hollow visceral injury (Image 1, Video 1). As the patient did not improve the following morning, he underwent a further computed tomography of the abdomen and pelvis with water soluble rectal contrast without intravenous contrast. This scan showed extensive extravasation of contrast and gas into the extraperitoneal space from a defect in the distal

anterior rectal wall (Image 2, 3, Video 2). The patient was taken back to theatre for laparoscopic diversion by means of sigmoid loop colostomy. Extensive faecal contamination of the extraperitoneal space was treated by open irrigation and drain placement.

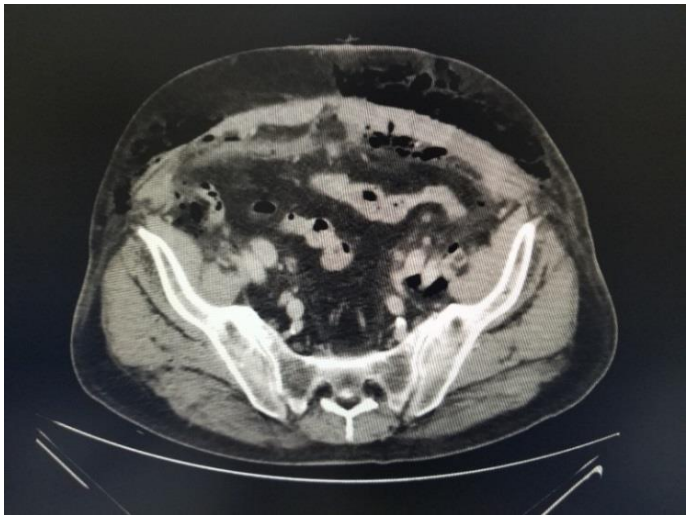


Image 1: CT without rectal contrast showing small volume free fluid and free gas in the extraperitoneal and subcutaneous planes.

Image 2: CT with rectal contrast demonstrating location of rectal injury.

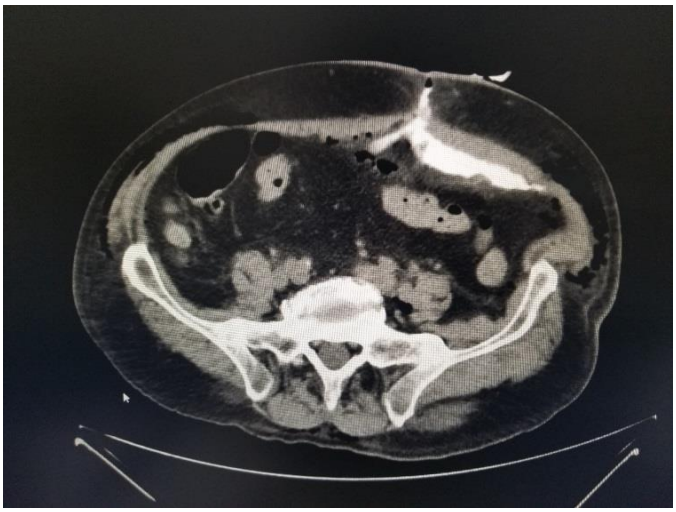


Image 3: CT with rectal contrast showing extravasation of contrast into the retroperitoneal plane and out of the skin wound.

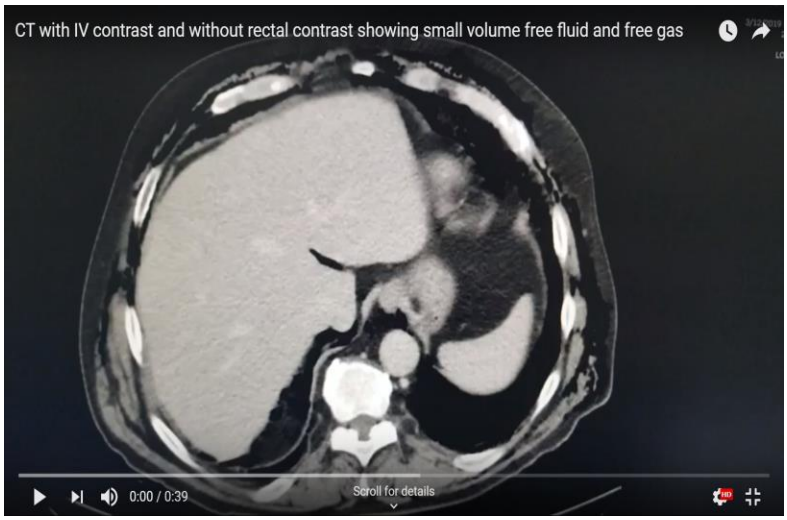
Rectal injury is a rare and serious complication of radical prostatectomy [1, 2], the incidence of which is 0.5% [1]. It is more commonly seen in open rather than laparoscopic radical prostatectomy. Factors associated with a lower risk of rectal injury include robotic assisted laparoscopic radical prostatectomy, high volume center and obesity (owing to increased perirectal adipose tissue potentially acting as a barrier to injury) [3]. The probability of rectal injury during prostatectomy may be influenced by previous TRUS (Transrectal ultrasound) guided biopsies which may result in rectoprostatic adhesions. It is plausible that perineal biopsies may reduce this risk.

Rectal injuries may be identified intraoperatively when the anterior rectal wall is examined by laparoscopic visualisation and or with concurrent digital rectal exam. Air insufflation leak testing, as was done in this case, may also exclude or confirm the presence of rectal injury. In situations where the injury is unrecognized intraoperatively or where a later ischaemic or thermal injury occurs, patients present with signs of an atypical acute abdomen, fever and tachycardia [3]. Our patient, in addition to having those signs, also had the unusual finding of faeculant discharge from the umbilical port site.

In these situations an abdominal computerized tomography along with prompt surgical exploration is recommended [3]. As barium enema is contraindicated when rectal injury is suspected, the addition of water-soluble contrast enema in the above case helped to better identify the rectal injury as well as its location and severity. A review of the literature does show that the use of rectal contrast does improve detection of rectal injury [4]. Identifying the exact anatomical location of injury and differentiating between extraperitoneal and intraperitoneal involvement may help to guide operative approach and management [5].

2. Conclusion

The use of water soluble iodinated rectal contrast during abdominal computed tomography, in patients with suspected rectal injury following radical prostatectomy, allows for better visualization and management of these injuries.



Video 1: CT with IV contrast and without rectal contrast showing small volume free fluid and free gas in the extraperitoneal plane.

Video 2: CT with rectal contrast demonstrating location of rectal injury and extravasation of contrast in the the retroperitoneal plane and out of the skin wound via the extraperitoneal space.

References

1. Mandel P, Linnemannstons A, Chun F, et al. Incidence, Risk Factors, Management, and Complications of Rectal Injuries During Radical Prostatectomy. European urology focus. Netherlands 4 (2018): 554-557.
2. Redondo C, Rozet F, Velilla G, et al. Complications of radical prostatectomy. Arch Esp Urol 70 (2017): 766-776.
3. Canda AE, Tilki D, Mottrie A. Rectal Injury During Radical Prostatectomy: Focus on Robotic

Surgery. European urology oncology. Netherlands 1 (2018): 507-509.

4. Tonolini M. Images in medicine: Diagnosis and pre-surgical triage of transanal rectal injury using multidetector CT with water-soluble contrast enema. J Emerg Trauma Shock 6 (2013): 213-215.
5. Weinberg JA, Fabian TC, Magnotti LJ, et al. Penetrating rectal trauma: management by anatomic distinction improves outcome. J Trauma 60 (2006): 508-514.