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Case Report

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Abdominal Compartment Syndrome; Rare Occurrence due Ureteric Injury

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Introduction

- Compartment syndrome is a syndrome that can happened in any anatomical area with increased pressure in a confined body space, resulting in poor blood flow, cellular damage, and organ dysfunction.
- One of it is abdominal compartment syndrome and it is a serious condition that occurs when the pressure in the abdominal cavity rises above 20 mmHg and causes end-organ damage [1,4].
- Abdominal compartment syndrome may occur after conditions such as peritonitis, intestinal obstruction, laparoscopic procedures, or abdominal tumors4.
- Leakage from the urinary tract may cause accumulation of urine in the peritoneal cavity which commonly manifests as urinomas or urinary ascites.

Case Report

- We report an interesting case of a 34 years old gentleman who presented with intestinal obstruction secondary to obstructed rectosigmoid tumor with the background of familial adenomatous polyposis.
- The patient underwent an emergency on table colonoscopy, subtotal colectomy and end ileostomy which complicated with iatrogenic adventitial tear of proximal right ureter.
- The tear was repaired primarily and no contrast extravasation on retrograde pyelogram thus decision was made for ureteric stenting.
- Patient was initially recovering well up till Day 6 post op whereby patient complaining of severe abdominal pain, abdominal distension, oliguria and desaturation requiring oxygen supplement. Imaging computed tomography (CT) showed contrast extravasation at distal third of right ureter indicating right distal third ureteric injury with gross intrabdominal free fluid while the left ureteric stent in situ.
- Figure 1 and Figure 2 are slices of delayed phase CT Abdomen Pelvis of different views which showed gross fluid within abdomen with contrast extravasation from distal third of right ureter at the level of S1.
- Decision after the CT scan was for ultrasound guided peritoneal drainage and it did improve his condition.
- Upon his follow up after 2 months post operation, the patient was well and we did a retrograde pyelogram on his affected left ureter before removing the stent showing no contrast extravasation and the ureteric stent was removed and patient was well up to this day.

Discussion

- According to our research, there are not much studies or case series reporting for compartment syndrome due to ureteral injury post procedure or it may be under reported.
- However, there is another quite similar case report back in 2007 entitled abdominal compartment syndrome due to delayed identification of a ureteral perforation following abdominoperineal resection for rectal carcinoma highlighting the same principal management which are ureteric stenting and percutaneous drainage [1,2].

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- However ureteric injury per says differ in its management depending on timing of diagnosis and the level of injury (Figure 3) [3].
- Pertaining to this case with delayed diagnosis and distal injury, J-J ureteric stenting is the best option with add on of percutaneous drainage for immediate decompression of abdominal compartment pressure.
- The possible long-term complication could be ureteric stricture which should be determined by doing retrograde pyelogram. For this particular case, there was no evidence of stricture and the J-J stent able to be removed [3].

Figure 1: Shows a slice of delayed phase CT Abdomen Pelvis (Axial view). Arrow indicating the point of contrast extravasation

Figure 2: shows a slice of delayed phase CT Abdomen Pelvis (Coronal view). Arrow indicating the point of contrast extravasation

Conclusion

failure to recognize and ACS can lead to poor prognosis and is recognized as an independent predictor of mortality. Prompt identification of the causes of ACS and early interventions may reverse the organ damage.

The treatment in this case, consisted of adequate fluid resuscitation, ureteric stenting and surgical decompression either by percutaneous or open drainage when necessary

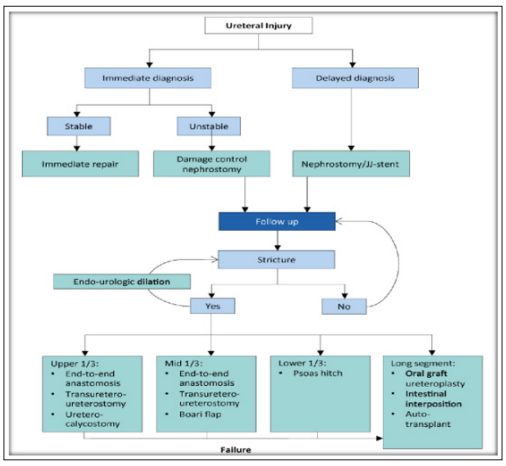

Figure 3: Management of Ureteric Injury Algorithm

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