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Case Report

Extensive retroperitoneal hematoma after laparoscopic appendectomy

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ABSTRACT

The retroperitoneum is the abdominal portion located behind the sac of the peritoneal cavity and extending from the diaphragm to the pelvic inlet. A Retroperitoneal hematoma is a rare but a fearsome complication after appendectomy. The management of retroperitoneal hematomas can be difficult as the decision between a surgical intervention, angiographic embolization, and conservative management with fluids can be difficult to make. This case report would be outlining the clinical presentation, radiological findings, and outcome of a 60-year-old male who has been diagnosed with an intra-abdominal, retroperitoneal hematoma and flank ecchymosis with no signs of active bleeding after laparoscopic appendectomy. Retroperitoneal hematomas can be extensive post-laparoscopic abdominal surgeries. A comprehensive physical examination, radiological imaging, and laboratory investigations should be considered to rule out the possibilities of bleeding disorders and/or active bleeding contributing to the development of retroperitoneal hematomas.

Keywords: Appendectomy, Hematoma, Intra-abdominal, Retroperitoneal

INTRODUCTION

The retroperitoneum is the abdominal portion located behind the sac of the peritoneal cavity and extending from the diaphragm to the pelvic inlet.[1] The retroperitoneum contains several abdominal structures that are; gastrointestinal, urogenital, musculoskeletal, and neurovascular in origin. Injury to the retroperitoneal space may cause hematomas that are easily missed and difficult to identify.

The presentation of retroperitoneal hematomas ranges from minimal symptoms to extreme blood loss presenting as hypovolemic shocks.[2,3] The natural history of retroperitoneal hematomas and source of bleeding differ significantly depending on the etiology. For instance, the mortality and morbidity of a gunshot wound to the renovascular structures differ from that injury caused by a blunt trauma to the renovascular structures.

Generally, retroperitoneal hematomas may be caused by a penetrating (20-30%) or blunt (67-80%) injuries, with most hematomas being located in the peri-renal area (45%), followed by the pelvic area (29%), and other places (26%).[4]

Considering the unusual presentation of the case, this article would be outlining the clinical presentation, radiological findings, and outcome of a 60-year-old male who has been diagnosed with intra-abdominal, retroperitoneal hematoma after laparoscopic appendectomy.

CASE REPORT

This is a 60-year-old male, a known case of diabetes mellitus and dyslipidemia, who presented to the ER with a first episode of painless, gross hematuria for one day. The patient did not complain of lower urinary tract symptoms, and there was no history of previous urological surgeries. After that, the hematuria stopped on its own in the ER.

A renal ultrasound was performed which showed no evidence of stones, hydronephrosis, nor remarkable changes. The plan was to perform a urine cytology and book for a diagnostic cystoscopy. The cystoscope was inserted uretherally which showed no evidence of tumor or suspicious lesions. At this time, a CT urogram was requested to check for possible stones.

One week later, an abdominal and pelvis CT was performed which showed a right proximal ureter 4 mm stone, without hydronephrosis. The CT also showed an incidental finding of early picture of acute appendicitis. The patient was recalled from home for an abnormal abdominal and pelvis CT findings "Early picture of appendicitis".

The patient is now presenting with heaviness in the right iliac fossa for 3-4 days, which was not aggravated by activity or coughing. The pain was not limiting his daily activities. Furthermore, the patient did not report any abdominal pain, vomiting/nausea, change in bowel habits, nor anorexia.

On physical examination, the patient was lying down comfortably and was not in distress. There was clear equal bilateral air entry, the abdomen was soft and non-tender with no organomegaly. There was not any rebound tenderness or guarding. Vital signs including; blood pressure, heart rate, respiratory rate, oxygen saturation, and temperature were all within normal limits.

The patient was admitted and was given IV antibiotics. A laparoscopic appendectomy was performed on the next day. The patient tolerated the procedure well and was moved to the ward in a good, stable condition.

One day post laparoscopic appendectomy, the patient developed an ecchymosis over the surgical site, extending to the right flank. The ecchymosis was tender on palpation. The patient's hemoglobin dropped from 146 g/L to 85g/L. An ultrasound and CT scan were requested to investigate the source of bleeding.

Radiological data

The ultrasound showed a collection in the right flank, measuring 9.6 × 7 × 10 cm with a volume of 355 ml. The collection showed internal echogenicity and septations, keeping with hematoma. There was a trace amount of free fluid in the pelvis (Figure 1). An abdominal and pelvis CT was performed to rule out intra-abdominal bleeding. It showed a 13 x 10 x 7.4 cm homogenous hyperdense lesion in the right upper quadrant adjacent to the surgical bed with no signs of active bleeding.

Figure 1: A right upper quadrant abdominal ultrasound showing collection of blood with internal echogenicity.

It also showed a 4 mm proximal right ureteric obstructive stone with right-sided hydronephrosis and hydroureter. There were subcutaneous soft tissue air foci in the right lower quadrant that is likely post-surgical.

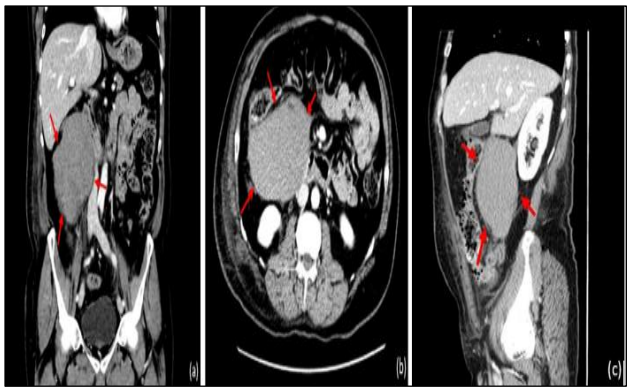

Figure 2: A: Coronal CT; B: Axial CT; C: Sagittal CT. (A), (B) and (C) Abdominal and pelvis CT showing homogenous hyperdense lesion in the right upper quadrant.

The imaged lung bases showed bilateral atelectasis changes (Figure 2).

Outcome and follow-up

Hematology was consulted to investigate the possibilities of bleeding disorders. After extensive investigations, there was no clear reason for bleeding. The plan was to hold heparin and transfuse 2 units of packed RBCs, without fresh frozen plasma, to keep his hemoglobin >10 g/dL.

The patient's vital signs were monitored, and serial abdominal ultrasounds were performed to exclude

surgical causes if bleeding persisted. Factor Xlll and fibrinogen levels were requested to exclude bleeding disorders, both of which were within normal limits along with the INR, PTT, and platelets.

Four days post laparoscopic appendectomy, the patient was doing fine, tolerating regular diet, and ambulating. Thereafter, the antibiotics were discontinued, and the patient was encouraged to mobilize. The plan was to manage him conservatively and to continue iron saccharate IV and continue bowel protocol.

An abdominal ultrasound was ordered to follow up for collection. It showed an interval increase in the size of the right side abdominal collection, measuring 387 ml in comparison to the previous measurement of 355 ml.

8 days post laparoscopic appendectomy, the patient was discharged home in a stable condition. Discharge medications included; Acetaminophen, Tramadol, Ferrous Sulfate, Tamsulosin, and Atrovastatin. One week after discharge, the patient improved clinically, the abdomen was soft and lax, and his hemoglobin returned to 125 g/L.

DISCUSSION

A retroperitoneal hematoma is a rare but a fearsome complication after appendectomy.[5] Complication and Injuries to the intra-abdominal organs and major vessels after appendectomy are rare but have been documented.[6]

The management of retroperitoneal hematomas can be difficult as the decision between a surgical intervention, angiographic embolization, and conservative management with fluids can be difficult to make. This is especially true when the patient is presenting in hemodynamic instability, presence of uncertain radiological image findings, or when there is a rupture of the parietal peritoneum.

As such, keeping high index of suspicion to detect retroperitoneal hematomas is of utmost importance to allow for earlier intervention and prompt treatment.[1,7]

The management of retroperitoneal hematomas depends on; the size and stability of the hematoma, contrast extravasation, and whether the patient is hemodynamically stable.[1]

Diagnosing retroperitoneal hematomas clinically is difficult, due to the non-specificity of signs and symptoms. For instance, patients can present with abdominal pain, back pain, neuropathic pain, and/or bruises localized to the flanks/periumbilical region.[7]

Consequently, Imaging should be considered to identify possible sources of bleeding, exact location of the hematoma, and whether there is active intravascular extravasation of contrast material.[1] Initially, an ultrasound may be helpful to detect retroperitoneal hematomas, however, it does not allow delineation of the extension of hematoma and it cannot detect the presence of concomitant visceral lesions.

A multi-detector CT scan, on the other hand, may be utilized to detect retroperitoneal hematomas more readily. Therefore, all patients who are hemodynamically stable with a suspected diagnosis of retroperitoneal hematoma should be evaluated by a CT scan.[7]

Clinically, retroperitoneal hematomas vary in presentation depending on the onset of haemorrhage (acute vs chronic), amount of haemorrhage, and the ability of the adjacent structures to contain the bleeding.[8] Contained, non-expanding retroperitoneal hematomas should not be surgically opened, unless there is a need to exclude concomitant visceral injuries. Patients who are vitally-stable and not in a state of shock, do not require urgent operations. Rather, they should be observed with serial clinical examinations and investigations.[9,10]

Still, the treatment of retroperitoneal hematomas is an area of debate. Regardless of the cause, patients with retroperitoneal hematomas should be managed carefully in a high-dependency unit or an intensive care unit, wherein fluid resuscitation, blood transfusions, and coagulation profile monitoring can be readily utilized. Furthermore, patients with inherited coagulopathies might benefit from replacement of the clotting factors and a conservative non-surgical approach.[10,11]

CONCLUSION

Retroperitoneal hematomas can be extensive post-laparoscopic abdominal surgeries. A comprehensive physical examination, radiological imaging, and laboratory investigations should be considered to rule out the possibilities of bleeding disorders and/or active bleeding contributing to the development of retroperitoneal hematomas.

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REFERENCES

1. Daly KP, Ho CP, Persson DL, Gay SB. Traumatic retroperitoneal injuries: review of multidetector CT findings. Radiographics. 2008;28(6):1571-90.
2. Weil PH. Management of retroperitoneal trauma. Curr Probl Surg. 1983;20(9):539-620.
3. Feliciano DV. Management of traumatic retroperitoneal hematoma. Ann Surg. 1990;211(2):109.
4. Hemat RA. Traumatic Retroperitoneal Hematoma Principles of modern urology. Urotext. 1998;426-31.

5. Vo NG, Hall FM. Severe postappendectomy bleeding. Am Surg. 1983;49(10):560-2.
6. Christensen JG, Achiam MP. Retroperitoneal haematoma as a complication at the beginning of a laparoscopic operation. Ugeskr Laeger. 2015;177(2A):98-9.
7. Socea B, Carâp A, Bobic S, Constantin VD. Psychological barriers in long term non-operative treatment of retroperitoneal hematoma. J Mind Med Sci. 2015;2(1):67-71.
8. Abe T, Kai M, Miyoshi O, Nagaie T. Idiopathic retroperitoneal hematoma. Case Rep Gastroenterol. 2010;4(3):318-22.
9. Henao F, Aldrete JS. Retroperitoneal hematomas of traumatic origin. Surg Gynecol Obstet. 1985;161(2):106-16.
10. Abdulhussein BJ, Hussein YF, Nawar AH. Pattern of presentation of retroperitoneal hematoma among sample of Iraqi patients attending surgery clinic of a teaching hospital. Surg Sci. 2015;6(05):208.
11. Ylmaz S, Ören H, Irken G, Atabay B, Duman M, Ylmaz E, et al. Life-threatening mediastinal-retroperitoneal hemorrhage in a child with moderate hemophilia A and high inhibitor titer: successful management with recombinant activated factor VII. J Pediatr Hematol Oncol. 2005;27(7):400-2.

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