



ARTERIO-VEINUS MALFORMATION IN APPENDIX PRESENT AS AN ACUTE ABDOMEN; CASE REPORT

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Abstract: Arterio-venous malformations (AVM) are architectural abnormalities of blood vessels. Appendicular AVMs are rare and we present one presenting as acute abdomen. AVM are congenital architectural disorganizations in blood vessels. About 12% of AVM become symptomatic and present as acute appendicitis or acute abdomen due to bleeding. Almost all the cases of AVM were diagnosed post operatively. Intra-abdominal AVM might be treated pre operatively if found to prevent complications

INTRODUCTION

Arterio-venous malformations (AVM) are architectural abnormalities of blood vessels in development. Usually they are asymptomatic. AVM in appendix is very rare. Here we present another case of AVM of appendix presented with acute abdomen. Further they mimic acute appendicitis or may present with non-specific abdominal pain.

CASE STUDY

44-year healthy male presented with lower abdominal pain and vomiting. He was ill, but the vitals were stable. His abdomen was distended with a mass palpable on the central and left lower quadrant with localized peritonitis.

He had leukocytosis with neutrophil count with WBC of 11.3 and rest of the components of full blood count within normal range. CRP was 261. USS abdomen reported a 11 * 8 mm large heterogeneous mass within the peritoneal cavity. Focal hemorrhagic are noted within the capsule and free fluid around the liver. GIST was suspected with recent bleeding into the capsule and peritoneal cavity. Furthermore, we did an upper gastrointestinal endoscope to see whether there were any obvious lesions in upper GI tract but it was normal.

CECT abdomen showed large enhancing lesion occupying the midline of pelvis 10*12*8 cm in size with significant peri-lesion stranding. It compresses the dome of the bladder and posteriorly closely related to the upper rectum and sigmoid colon. No pelvic or para-aortic lymphadenopathy, but few mesenteric lymphadenopathies. Liver is normal. An incidental finding right lung lower lobe consolidation was noted. Differential diagnoses were desmoids tumor and GIST (Gastro Intestinal Stromal Tumor).

On laparotomy a large pelvic mass was identified attached to the dome of the bladder, covered with small bowel loops. Mass was posteriorly attached to the rectum, sigmoid colon and it was friable with altered blood inside. Appendicular tip was also inside the mass it was ulcerated and unhealthy. Rest of the appendix was normal. Routine appendectomy done and specimen was sent for histology. Clot was removed. Peritoneal lavage done. Patient fully recovered. Histology showed a benign lesion of the appendix favoring an AVM with hemorrhagic necrosis



Organizing hematoma in the peritoneal cavity



Ruptured tip of the appendix

Discussion

Arterio-venous malformations are congenital lesions between arteries and veins bypassing capillary bed. Therefore, it leads to ischemia. Friable vessels in AVM is prone to rupture and bleed. It is reported that 12% of AVMs become symptomatic in life (Majeed *et al.*, 2019). Symptomatic appendicular AVMs, present as acute appendicitis (Khan, Lu and Parajuli, 2021) (Geramizadeh *et al.*, 2016) and in rear cases, acute abdomen due to bleeding. Almost all the cases of AVM were diagnosed post operatively. So actual incidence of AVMs could be much higher as we actively do not look for them in the population. Even though hemangioma and AVM are different pathologies, complications of both present in similar manner (Majeed *et al.*, 2019). However, pre operatively diagnosed AVMs are left alone, since they are rarely life threatening.

In our case, laparoscopy was an option, but decided on laparotomy as the mass is large with multiple bowel adhesions around and the uncertainty of pre-operative diagnosis. Having the differential diagnosis of GIST, an upper gastrointestinal endoscopy(UGIE) was done to see whether are there any gastrointestinal lesions. However, it was normal.

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