Ruptured Endometrioma with Hemoperitoneum Requiring Emergency Laparotomy: A Case Report

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ABSTRACT

Endometrioma is the localization of endometriosis in ovary which often develops as cyst. The condition can be complicated with infection, torsion and rupture leading to significant hemoperitoneum and ascites.

We present here a 28-year female P2 L1 presented with the features of acute abdomen and severe anemia referred from other hospital where pain management was done. She had raised Ca-125 level, negative Urine Beta HCG and USG findings of left endometrioma with degenerating subserosal fibroid. The improvement of her general condition with analgesics was misleading however a static hematocrit level despite blood transfusion raised suspicion of ongoing pathology leading to blood loss and diagnostic paracentesis confirmed the hemoperitoneum while awaiting of CT report. She underwent Emergency Laparotomy which revealed hemoperitoneum of 2000ml and right ruptured ovarian endometrioma measuring and left ovarian cyst measuring 6x6 cm was noted. The postoperative period was uneventful.

Keywords: Acute abdomen; case report; endometriosis; hemoperitoneum; ruptured endometrioma.

INTRODUCTION

Endometrioma is the localization of endometrial glands and stoma in ovary which often develops as a cyst. It is composed of dark colored fluid hence often called a chocolate cyst. Endometrioma is bilateral in 50% of the cases and common in the reproductive age group with the prevalence of 17-44%.[1,2] It can be complicated with infection, torsion, rupture leading to hemoperitoneum and malignant transformation. The initial diagnosis can be made by ultrasonography. However, diagnostic laparoscopy supported by histopathology study is the gold standard for confirmation. Surgery is the mainstay of treatment when the cyst is more than 3 cm if associated with pain and infertility. [3]

CASE PRESENTATION

A 28-year female, P2 L1 hailing from Tanahun Nepal, presented in OPD of Kathmandu Model Hospital with the complaint of pain abdomen in the lower quadrant for 5 days which was gradual in onset, severe and intermittent in nature, non-radiating type of pain which subsided with analgesics that was prescribed by other hospital when she visited on previous day for the same complaint. On examination- pallor was noted. Her vitals recorded were: Blood pressure 90/60 mm Hg, Temperature- 98 F, Pulse- 98 bpm ,SPO2- 96% in room air. On abdominal examination- tenderness on bilateral iliac region noted. On per vaginal examination uterus was normal in size, tenderness on bilateral adnexa noted and fornices free. She had an episode of syncopal attack after examining period in OPD which persisted for about a minute following which she was actively resuscitated and admitted for further workup and evaluation. Conservative management was done for pain.

Her LMP was 35 days back. Her menstrual cycle is regular of 30-32 days which usually lasts for 3-4 days. She gave a history of secondary dysmenorrhea which starts 2 days prior to mensuration and persists throughout the period, however she has no complaint of heavy menstrual bleeding or inter-menstrual bleeding.

On her laboratory work-up done on the former hospital. Hemoglobin was 8.7gm/dl. Pregnancy was excluded by Urine Beta HCG. Ca-125 was 112U/ml. Other parameters were all within range.

USG was done which noted - Cyst with low level internal echoes in left adnexa likely-Endometrioma (4.2x4.6cm), Heteroechoic mass at suprapubic region abutting

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uterine fundus likely degenerating subserosal uterine fibroid (9.8x4.4cm), moderate loculated collection in RIF region.

Hemoglobin level and PCV were re-evaluated in our hospital which were 6.6gm/dl and 22% respectively. Blood transfusion was done with two bags of B positive whole blood.

Her PCV level was evaluated in the evening on the same day which was 22% after blood transfusion,The patient was comfortable. She had no signs of hypovolemia or pain. Report of CT-scan was awaited, As her hematocrit level was static despite transfusion, a diagnostic paracentesis was done at Morison Pouch which confirmed the diagnosis of hemoperitoneum. Hence, she was planned for Emergency Exploratory Laparotomy on the night shift of the second day of admission under Spinal anesthesia.

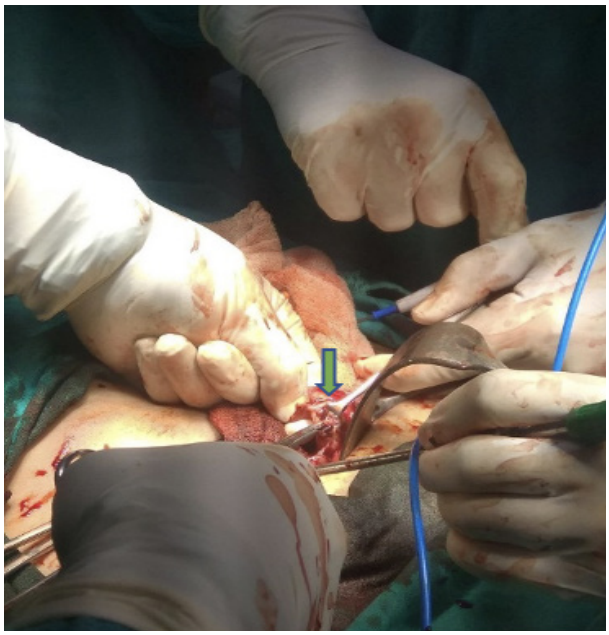
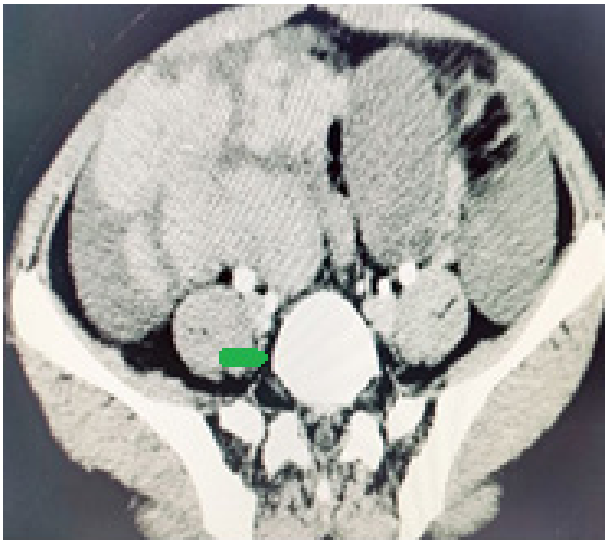


Figure 1. Intraoperative finding of right ruptured ovarian endometrioma.

Hemoperitoneum of 2000 ml blood noted during intraoperative period. Right ruptured ovarian endometrioma and Left ovarian cyst which was unilocular containing clear fluid and measuring 6x6 cm was noted. Bilateral fallopian tubes and uterus were normal. Bilateral ovarian cystectomy with ovarian reconstruction was done. The noted findings on USG as heteroechoic mass likely degenarting subserosal fibroid abutting uterine fundus was large blood clots. Blood transfusion of two bags of whole blood was done during her post-operative period. Her postoperative period remained uneventful.She was discharged on her third post-operative day.

Her histopathology report noted- Right ovarian endometrioma and left benign ovarian serous cystadenoma.



MDCT Abdomen and Pelvis report findings
Large intra-abdominal hematoma at right adnexal region extending to RIF region with heterogenous area at right ovary measuring - 9.5x6.1x10.7 cm with volume 350ml.
Moderate fluid noted in abdomen and pelvis.
Minimal B/L pleural effusion.
Cyst at left ovary suggestive of Benign cyst measuring 6x5.8cm

Figure 2. CT image of Hematoma at Right adnexal region extending to RIF region.

DISCUSSION

Rupture of Endometrioma is a rare event with reported incidence of less than 3% which is often seen during pregnancy with larger endometrioma when the size measures more than 6 cm due to stimulation of endometrial stroma by hormones.[1] Only few cases of Endometrioma causing acute abdomen and hemoperitoneum has been recorded so far. Kim et al, reported a case of Endometriosis induced massive hemoperitoneum misdiagnosed as ruptured ectopic pregnancy in 2020. Young et al reported a case of Ruptured endometrioma in a non-pregnant patient in 2022 which was misdiagnosed with ovarian neoplasm.

Our patient presented with the features of acute abdomen and severe anemia. Her pain was subsiding

with analgesics.She had raised Ca-125 level, negative Urine Beta HCG and USG findings of left endometrioma with degenerating subserosal fibroid. The improvement of her general condition with analgesics was misleading, however a static hematocrit level despite blood transfusion raised suspicion of ongoing pathology leading to blood loss and diagnostic paracentesis confirmed the hemoperitoneum while awaiting a CT report . She was planned for Emergency Laparotomy which was a life-saving decision by our expert team.

Ruptured endometrioma presents usually with acute abdomen and signs of hypovolemia. Differential diagnosis can be ruptured ectopic pregnancy, pain secondary to fibroid degeneration, ovarian or adnexal torsion, ruptured dermoid cyst, pelvic inflammatory disease, ovarian malignancy, ovarian hyperstimulation syndrome or surgical emergencies. TVUS and MRI pelvis have an important role in the diagnosis of endometrioma but the gold standard for definitive diagnosis is laparoscopy. However, in case of ruptured endometrioma clinical vigilance is important. The pre-operative confirmatory diagnosis of Ruptured endometrioma can be challenging to Gynecologists. Most of the ruptured cases have been diagnosed intraoperatively like in our case. Studies have suggested that increased level of Ca-125, CA 19-9 and D-dimer[1] with presentation of acute abdomen should raise the high suspicion of spontaneous rupture of Endometrioma. Radiological imaging tools like TVUS, CT or MRI can be of great value in the diagnosis of ruptured endometrioma. Also, previous history of endometrioma supports the diagnosis.

CONCLUSIONS

Although, ruptured endometrioma is a rare complication but can be life threatening. The preoperative confirmation of the condition is difficult but any woman of reproductive age group when presents with acute abdomen with hemoperitoneum in presence of USG diagnosed endometrioma, a suspicion of ruptured endometrioma should be made. A clinical vigilance is of a great importance in such cases and prompt intervention is life saving.

CONFLICT OF INTEREST

The authors declare no conflict of interest

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