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Original Research Paper

Radiology

IMAGING SPECTRUM OF COMMON AND UNCOMMON GYNECOLOGICAL EMERGENCIES: CASE SERIES

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ABSTRACT This Case series compiles a pictorial review of common and uncommon gynecologic emergencies which aiming to provide radiologists with a thorough familiarity with gynaecologic emergencies by illustrating their CT and MRI appearances, in order to provide a timely and correct imaging diagnosis.

KEYWORDS : Gynaecologic emergency, acute abdomen, ectopic pregnancy, female pelvic organs.

INTRODUCTION

Most of the patients with gynecological emergencies complain of pelvic pain or vaginal discharge/bleeding.

First, the distinction between pregnant and nonpregnant patients, as determined by β-hCG levels in correlation with menstrual history, is important.

There is significant overlap between symptoms of gastrointestinal, urinary system and genital system. This case series will highlight common and uncommon gynaecological emergencies and discuss imaging findings which aids radiologists in correct and timely diagnosis.

CASE SERIES

CASE1: 24 Years female complained of severe pain in abdomen presented in emergency USG-Complex hemorrhagic cyst with the characteristic lacelike echogenic pattern of fibrin strands-Hemorrhagic Cyst

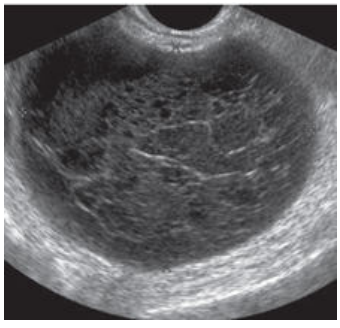

Figure 1 -USG showing lace like echoes -Hemorrhagic cyst.

CASE2: 32 years female presented with dysmenorrhea and painful micturition USG- large, well-defined, complex cystic mass with low-level internal echoes.

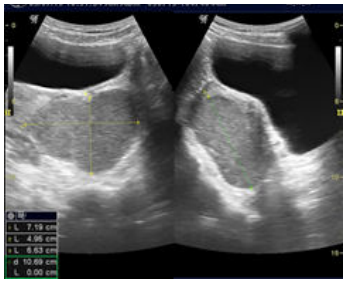

Figure 2-USG showing complex cystic mass with low level internal echoes -endometrioma.

MRI- Hyperintense on T1wi and hypointense on T2wi(due to presence of deoxyhemoglobin and methhemoglobin –SHADING SIGN) T2 dark spot sign specific for chronic haemorrhage.s/o Endomterioma

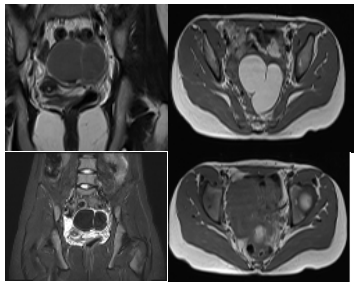

Figure 3-MRI showing T2dark spot sign and Shading phenomenon sugegestive of chronic hemorrhage-endometrioma.

CASE3: 35 years old female with pain lower abdomen.

USG-hyperechoic fat, teeth, and hair, as well as fluid in various amounts.

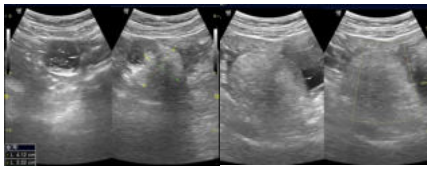

Figure 4-USG showing hyperechoic fat, teeth and hair -Dermoid

MRI –Adnexal mass with fat component

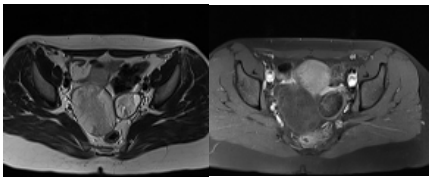

Figure 5- MRI pelvic organs showing adnexal mass with fat component.

CASE4: 19 years old female presented with acute onset pain in lower abdomen.

USG-Enlarged ovary (maximal diameter >5cm) with prominent follicles and a small amount of free fluid (arrow) around inferior margin.

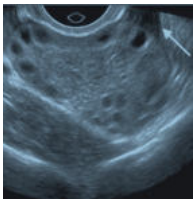

Figure 6-USG pelvis showing enlarged ovary with prominent follicles.

MRI-Bulky ovaries with peripherally arranged follicles.

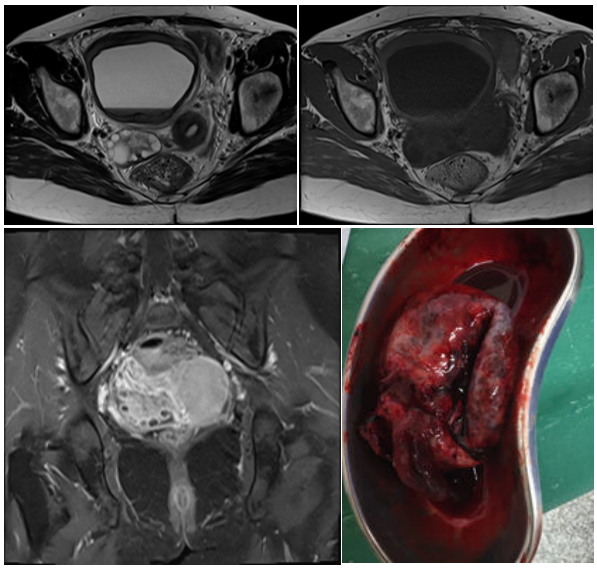

Figure 7-MRI showing enlarged ovary with peripheral follicles.

CASE5: 36 years old female K/C/O endometrial TB presented with pain abdomen.

USG -Multiloculated complex adenexal mass. appearance of incomplete septa. Ovary & tube cannot be separately distinguished within inflammatory mass. Presence of free fluid

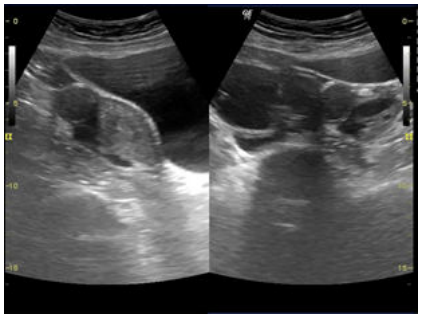

Figure 8-USG showing complex adnexal mass with incomplete septa with free fluid.

MRI PELVIS -showing multiloculated right tuboovarian lesion with two focal well-defined areas of diffusion restriction-abscess with large hydrosalphix.

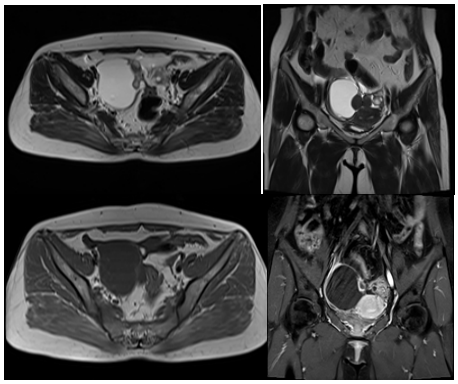

Figure 9-MRI pelvis showing multiloculated right tuboovarian abscess.

CASE6: 29 years old female patient with previous history of ectopic pregnancy case of pain in abdomen.

USG -Transabdominal longitudinal pelvic ultrasound image shows empty endometrial cavity with a distended tubal structure posterior to the uterus having viable fetus having CRL of 28mm~9W,5D-TUBAL ECTOPIC PREGNANCY.

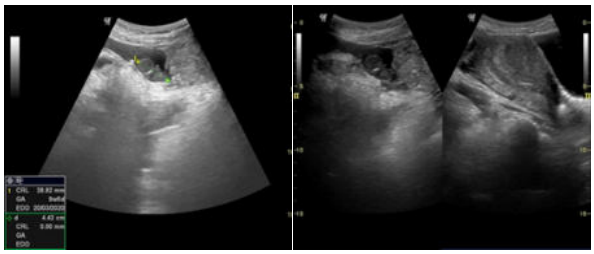

Figure 10-USG showing transabdominal sonography showing empty endometrial cavity with tubal ectopic pregnancy.

DISCUSSION

Gynaecological disorders are a common cause of morbidity among women of reproductive age worldwide. The most common gynaecological emergencies are ectopic pregnancy, acute pelvic inflammatory disease, miscarriages and complicated ovarian cysts .[1]

Emergencies are life threatening medical scenarios that require prompt attention to save life. Gynaecological emergencies deserve even more urgent attention because a lot of them occur in pregnant women, placing the life of the mother, the unborn child and her fertility at risk.

In developing countries, ectopic pregnancy is the most common surgical gynaecological emergency.[2]

Common gynaecological emergencies typically present as an acute abdomen, abnormal vaginal bleeding or a combination of both. In cases of suspected acute gynaecological disease, the findings on imaging must be interpreted in association with the clinical presentation.

Gynaecological emergencies can be classified into two broad categories based on whether they are pregnancy related or non-pregnancy related.[3] Pregnancy related gynaecological emergencies are mainly complications of early pregnancy namely ectopic pregnancy, miscarriage and complications of unsafe abortion. Non-pregnancy related gynaecological emergencies include acute pelvic inflammatory disease, menstrual disorders, bleeding from gynaecological malignancies, coital laceration and sexual assault.

Measurement of βhCG levels is also important in excluding ectopic pregnancy, which can have a similar presentation.[4,5]

On ultrasound, endometriomas have homogeneous low level echogenicity and give an appearance referred to as the "ground glass pattern". On MRI, T1 hyperintense cysts with T2 shading or multiple T1 hyperintense cysts regardless of the T2 signal intensity increase the sensitivity and specificity of diagnosis.[6]

CONCLUSION

CT and MR imaging are helpful in gynecologic emergencies, especially when US findings are inconclusive. CT is ideal investigation for emergency use and can demonstrate hemoperitoneum. MR imaging can narrow the differential diagnosis. Radiologists play an important role in diagnosing acute gynecologic conditions for timely management. This case series is a compilation of gynecologic emergencies encountered in acute abdomen conditions.

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