DOI: 10.7860/JCDR/2023/66625.18522

Case Report

Obstetrics and Gynaecology Section

Chronic Ectopic Pregnancy Masquerading as Ovarian Cystadenoma: A Case Report

LUCKY SRIVANI REDDY[1], ARPITA JAISWAL[2], SUREKHA TAYADE[3], SAKSHI SHARMA[4], DRASHTI PATEL[5]

ABSTRACT

The term 'chronic ectopic pregnancy' refers to a type of tubal pregnancy in which a pelvic mass frequently develops as a result of repeated small ectopic ruptures or abortions, rather than a single episode of bleeding. Chronic ectopic pregnancy can often present with vague symptoms, making it susceptible to misdiagnosis and delaying treatment. In this case, a 27-year-old woman with para 2 and 2 live births presented with complaints of on-and-off abdominal pain in the right inguinal region for the past two months. During the clinical examination, a substantial, firm mass measuring 6×6 cm was palpated in the right adnexal region, not associated with any adnexal tenderness. Transabdominal sonography suggested an empty uterus with a solid cystic mass, round/oval in shape, located in the right adnexal region measuring approximately 6.9×6.4 cm. The ultrasound findings in these patients can either show an amorphous, avascular mass or a highly vascular complex. The diagnosis can be mistaken for endometriosis, acute pelvic inflammatory illness, vascular tumours, pelvic abscess, or, in this instance, a cystadenoma. In most cases, radiologic findings are essential in the differential diagnosis, but it is mostly confirmed through surgery, as in this case. A laparotomy was performed, which revealed a chronic ectopic pregnancy, and a salpingo-oophrectomy was performed.

Keywords: Misleading diagnosis, Pregnancy complication, Salpingo-oophrectomy

CASE REPORT

A 27-year-old woman with para 2 and 2 live births came with a complaint of on-and-off abdominal pain in the right inguinal region for the past two months. She underwent laparoscopic bilateral tubal sterilisation one year ago. Her last menstrual period occurred four weeks ago. During clinical examination, afebrile woman with right lower abdomen pain presented a substantial, firm mass measuring 6×6 cm in the right adnexal region, not associated with any adnexal tenderness. Laboratory reports showed a haemoglobin level of 7 gm%, β-HCG level of 154.3 mIU/mL, and negative results for tumour markers Carcinoembryonic Antigen (CEA), CA 19.9, CA 125, and Lactate Dehydrogenase (LDH) [Table/Fig-1]. Transabdominal sonography suggested an empty uterus with a solid cystic mass, round/oval in shape, located in the right adnexal region, measuring approximately 6.9×6.4 cm [Table/Fig-2]. It showed mild vascularisation. Abdominal Contrast Enhanced Computed Tomography (CECT) revealed a distinct round to oval solid cystic mass lesion in the right adnexa with septations within, measuring 6×5×5 cm [Table/Fig-3]. The right ovary could not be visualised separately from the lesion, suggesting cystadenoma. Based on the clinical presentation, mildly raised β-HCG levels, and non regressing abdominal pain, the woman was diagnosed with an ectopic pregnancy, and diagnostic laparotomy was advised. The woman underwent an uncomplicated diagnostic laparotomy. During laparotomy, upon opening the abdomen in layers, a right adnexal mass measuring approximately 5×5 cm, along with brownish peritoneal fluid, was observed [Table/Fig-4]. The mass had multiple adhesions with the peritoneum, while the left ovary and bowel appeared normal and were separated from an enlarged right tube containing multiple clots, raising suspicion of ectopic pregnancy, along with an enlarged right ovary [Table/Fig-5,6]. Due to the prominent mass and a dilated right fallopian tube, the patient underwent a right salpingo-oophorectomy. Histopathological examination of sections from the right fallopian tube confirmed the diagnosis of tubal ectopic pregnancy, with no evidence of gestational trophoblastic disease or foetal somatic tissue [Table/Fig-7]. The patient had an excellent post-surgery recovery, with her postoperative serum β-HCG levels remaining undetectable at 0.5 IU/L during the two-week follow-up.

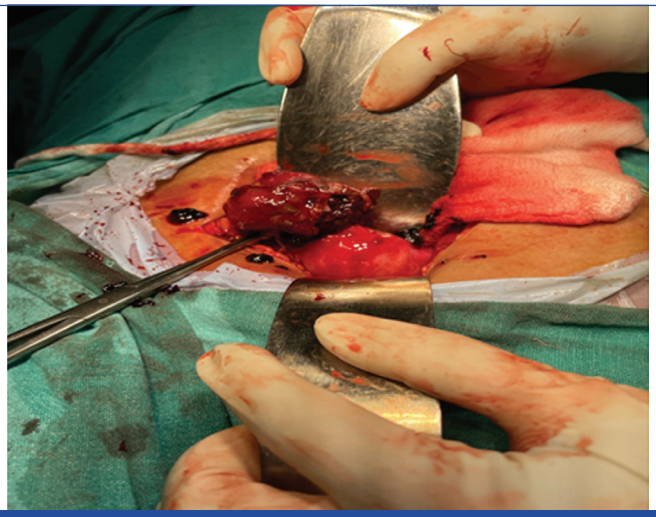
Investigation	Lab values of the patient	Normal range in an adult female
Haemoglobin (gm%)	7	12-15
Total leukocyte count (/cumm)	6,300	4000-10,000
β-HCG (mIU/mL)	154.11	<5 in a non pregnant woman
CA 125 (cancer antigen 125) (U/mL)	11.0	<35
Carcinoembryonic Antigen (CEA) (ng/mL)	0.72	<3.0
CA 19.9 (U/mL)	1.4	<37
C-Reactive Protein (CRP) (mg/dL)	0.30	<1.0
Lactate Dehydrogenase (LDH) (U/L)	250	120-246

[Table/Fig-1]: Lab values of the blood investigations done.

[Table/Fig-2]: USG suggestive of a solid and cystic right adnexal mass.

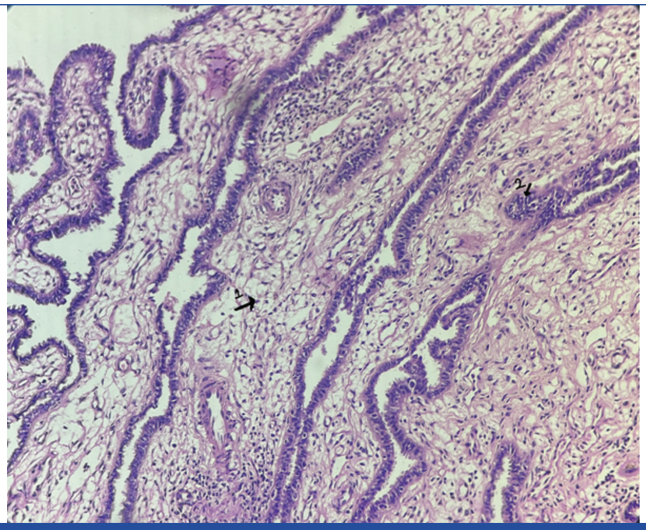
[Table/Fig-3]: CT showing uterus: (1) along with a right complex adnexal mass (2).

[Table/Fig-4]: Right adnexal mass was seen on opening the abdomen.



[Table/Fig-5]: Fallopian tube with mass within and multiple clots.

[Table/Fig-6]: Separation of the adhesions.



[Table/Fig-7]: Histopathological side with 20X magnification stained with Haematoxylin and Eosin showing: 1) Cytotrophoblasts; 2) Syncytiotrophoblast between the columnar choriodecidual tissue.

DISCUSSION

Ectopic pregnancy can occur in 1 out of 80 pregnancies or more [1]. It may affect any sexually active woman of reproductive age and accounts for 0.25-2% of all pregnancies worldwide [2]. The prevalence of ectopic pregnancy in India is around 0.91% [3]. The traditional trifecta of symptoms, including lower abdominal pain, amenorrhoea, and vaginal bleeding, is not observed in approximately 43-55% of ectopic pregnancies [4]. The true incidence of chronic ectopic pregnancy is unknown, but the few available studies report a frequency of 6-20% [5-7]. Ectopic pregnancy often presents acutely with symptoms such as amenorrhoea, pelvic discomfort, elevated β-HCG levels, and haemoperitoneum, leading to a standard clinical and ultrasound-guided diagnosis. In chronic ectopic pregnancy, patients typically have a mild clinical history with gradually increasing β-HCG levels, intermittent or chronic pelvic pain, and mild bleeding [8]. Occasionally, these patients may have near-normal or negative β-HCG levels [9]. Due to the low β-HCG levels, inconclusive ultrasound findings, and overall rarity of the condition, the diagnosis is rarely made before surgery. Depending on the patient's clinical presentation, ultrasound results, and biochemical and haematological findings, ectopic pregnancy can be treated medically or surgically [10]. As the pelvic pain is subacute or chronic, it may be mistaken for other causes of pelvic discomfort during pregnancy.

Chronic ectopic pregnancy is a potentially life-threatening condition if left untreated, as the developing foetus can cause the fallopian tube to rupture, leading to profuse bleeding and potentially fatal complications. The repeated, small-scale bleeding into the pelvic peritoneal cavity, resulting in the formation of an organised clot between pelvic structures, is known as a pelvic haematocoele [11]. Haematosalpinx may develop when bleeding is confined to the tube without peritoneal involvement. Chronic ectopic pregnancy refers to small, frequent ruptures of the tubal pregnancy, resulting in a haematocoele filled with blood, clots, and trophoblastic tissue. This often triggers an inflammatory response and is accompanied by adhesions. Acute on chronic rupture is a rare occurrence. Typically, the β-HCG level is low, although occasionally it can be normal [8-10]. In this case, the low β-HCG level should have raised a suspicion of an ectopic pregnancy when correlated with the faintly positive Urine Pregnancy Test (UPT). It is crucial to arrive at a diagnosis by considering these factors.

Sonography is crucial for further characterising adnexal abnormalities and ruling out an intrauterine pregnancy. Sonography can help rule out alternative causes of pelvic pain, such as ovarian torsion, haemorrhagic cysts, endometriomas, and dermoid cysts. Although the sonographic symptoms of ectopic pregnancy and acute pelvic

inflammatory disease with pyosalpinx or tubo-ovarian abscess may be similar, the clinical manifestations of the two disorders usually provide a clear distinction. Sonography findings in chronic ectopic pregnancy include a non diagnostic sonogram showing a complex heterogeneous adnexal mass and a highly vascular adnexal complex [6-9,12]. Doppler flow is typically observed in the periphery or external to the mass, often with aberrant vessels and arteriovenous shunting [6,7,12]. Free fluid may occasionally be present in the pouch of Douglas or other locations in the pelvis, but it is a vague finding. A patient with chronic ectopic pregnancy and a negative β-HCG, which is usually an accidental finding, presents a more challenging scenario.

Misdiagnosis of chronic ectopic pregnancy as an ovarian cystadenoma is possible, as both the conditions can present with similar symptoms such as abdominal pain, bloating, and irregular bleeding. Ovarian cystadenomas are benign tumours that grow on the surface of the ovary, causing pain and discomfort but typically not posing a life-threatening risk [13]. An accurate diagnosis is essential in determining the appropriate treatment plan. Pregnancy in cases of chronic ectopic pregnancy must be terminated immediately to avoid further complications. In contrast, ovarian cystadenomas can be managed conservatively with medication or surgically removed if necessary [13].

As discussed by O'Neill D et al., chronic ectopic pregnancy may cause a diagnostic dilemma by mimicking a germ cell tumour, which can only be confirmed by histopathological examination [14]. As stated by Alao AI et al., the best method of managing a chronic ectopic pregnancy is laparoscopic salpingectomy, as there is usually extensive damage to the tube, making conservative surgeries difficult [15]. Diagnostic tools such as ultrasound, CT scans, and blood tests can be used to help differentiate between the two conditions, but the final diagnosis should be made clinically. The treatment of chronic ectopic pregnancy can vary, from medical management to surgical intervention such as salpingo-oophorectomy. The most common treatment documented in the literature for chronic ectopic pregnancy is laparoscopic salpingectomy, which is considered the preferred approach [16].

CONCLUSION(S)

In a nutshell, chronic ectopic pregnancy is not a rare clinical condition, but it is seldom diagnosed before treatment. Ultrasonologists play a vital role in suggesting this possibility, but the final diagnosis should always be made clinically. A typical individual will have low β-HCG levels and experience subacute or chronic pain. If not promptly and effectively treated, it not only poses a threat to life but also jeopardizes the female's future fertility. In this case, several factors contributed to the diagnostic conundrum. Other clinicians may be facing a similar issue. Therefore, being aware of such uncommon circumstances can help us broaden our clinical strategy and preserve the patient's invaluable life. Finally, knowledge of such extraordinary occurrences is beneficial for future therapeutic practice.

REFERENCES

[1] Padubidri VG. Shaw's Textbook of Gynaecology. 17th edition. RELX India Pvt., Ltd., 2019;17:2.
[2] Yadav A, Prakash A, Sharma S, Pegu B, Saha MK. Trends of ectopic pregnancies in Andaman and Nicobar Islands. Int J Reprod Contracept Obstet Gynecol. 2017;6(1):15-19.
[3] Tahmina S, Daniel M, Solomon P. Clinical analysis of ectopic pregnancies in a tertiary care centre in southern India: A six-year retrospective study. J Clin Diagn Res. 2016;10(10):QC13-QC16.
[4] Walker A. The Trifecta passport: Tools for mast cell activation syndrome, postural orthostatic tachycardia syndrome and Ehlers-Danlos syndrome. Amber Walker; 2021 Jan 27.
[5] Bedi DG, Moeller D, Fagan CJ, Winsett MZ. Chronic ectopic pregnancy: A comparison with acute ectopic pregnancy. Eur J Radiol. 1987;7(1):46-48.
[6] Turan C, Ugur M, Dogan M, Ekici E, Vicdan K, Gokmen O. Transvaginal sonographic findings of chronic ectopic pregnancy. Eur J Obstet Gynecol Reprod Biol. 1996;67(2):115-19.
[7] Cole T, Corlett RC. Chronic ectopic pregnancy. Obstet Gynecol. 1982;59(1):63-68.
[8] Barnhart KT, Rinaudo P, Hummel A, Pena J, Sammel MD, Chittams J. Acute and chronic presentation of ectopic pregnancy may be two clinical entities. Fertil Steril. 2003;80(6):1345-51.
[9] Brennan DF, Kwartra S, Kelly M, Dunn M. Chronic ectopic pregnancy: Two cases of acute rupture despite negative beta hCG. J Emerg Med. 2000;19(3):249-54.
[10] Omih E, Makris A, Choy C, Bhuskute N. Chronic ectopic pregnancy mimicking pelvic malignancy. BMJ Case Rep. 2021;14(3):e233534.
[11] Alkatout I, Honemeyer U, Strauss A, Tinelli A, Malvasi A, Jonat W, et al. Clinical diagnosis and treatment of ectopic pregnancy. Obstet Gynecol Surv. 2013;68(8):571-81.
[12] Abramov Y, Nadjari M, Shushan A, Prus D, Anteby SO. Doppler findings in chronic ectopic pregnancy: Case report. Ultrasound Obstet Gynecol. 1997;9(5):344-46.
[13] Liu X, Song L, Wang J, Liu Q, Liu Y, Zhang X. Diagnostic utility of CT in differentiating between ruptured ovarian corpus luteal cyst and ruptured ectopic pregnancy with hemorrhage. J Ovarian Res. 2018;11:01-08.
[14] O'Neill D, Pounds R, Vella J, Singh K, Yap J. The diagnostic conundrum of chronic ectopic pregnancy: A case report. Case Rep Womens Health. 2018;20:e00086. Doi: 10.1016/j.crwh.2018.e00086. PMID: 30505696; PMCID: PMC6251942.
[15] Alao AI, Dasgupta J, Biswas B. Chronic ectopic pregnancy presenting as a suspected tubo-ovarian abscess: A diagnostic dilemma. BMJ Case Rep. 2023;16(1):e253396. Doi: 10.1136/bcr-2022-253396.
[16] Tempfer CB, Dogan A, Tischoff I, Hilal Z, Rezniczek GA. Chronic ectopic pregnancy: Case report and systematic review of the literature. Arch Gynecol Obstet. 2019;300(3):651-60. Doi: 10.1007/s00404-019-05240-7.

PARTICULARS OF CONTRIBUTORS:
1. Junior Resident, Department of Obstetrics and Gynaecology, Jawaharlal Nehru Medical College, Datta Meghe Institute of Higher Education and Research, Wardha, Maharashtra, India.
2. Professor, Department of Obstetrics and Gynaecology, Jawaharlal Nehru Medical College, Datta Meghe Institute of Higher Education and Research, Wardha, Maharashtra, India.
3. Professor, Department of Obstetrics and Gynaecology, Jawaharlal Nehru Medical College, Datta Meghe Institute of Higher Education and Research, Wardha, Maharashtra, India.
4. Assistant Professor, Department of Obstetrics and Gynaecology, Jawaharlal Nehru Medical College, Datta Meghe Institute of Higher Education and Research, Wardha, Maharashtra, India.
5. Junior Resident, Department of Obstetrics and Gynaecology, Jawaharlal Nehru Medical College, Datta Meghe Institute of Higher Education and Research, Wardha, Maharashtra, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:
Dr. Lucky Srivani Reddy,
Junior Resident, Department of Obstetrics and Gynaecology, Jawaharlal Nehru Medical College, Datta Meghe Institute of Higher Education and Research, Wardha, Maharashtra, India.
E-mail: srivaniluckyreddy@gmail.com

PLAGIARISM CHECKING METHODS: [Jain H et al.]
- Plagiarism X-checker: Jul 21, 2023
- Manual Googling: Aug 23, 2023
- iThenticate Software: Sep 13, 2023 (6%)

ETYMOLOGY: Author Origin

EMENDATIONS: 6

AUTHOR DECLARATION:
- Financial or Other Competing Interests: None
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. Yes

Date of Submission: **Jul 21, 2023**
Date of Peer Review: **Aug 15, 2023**
Date of Acceptance: **Sep 15, 2023**
Date of Publishing: **Oct 01, 2023**