Case Report

Coexisting pathology of ectopic pregnancy and dermoid cyst: An uncommon occurrence

Sushma Ramraje[1], Sulagna Giri[2], Grace D'Costa[3], Abhishek Sengupta[4]

From [1]Associate Professor, [2]Assistant Professor, [3]Professor and Head, [4]Resident Pathologist, Department of Pathology, Grant Government Medical College, Mumbai, Maharashtra, India

Correspondence to: Dr. Sushma Ramraje, 2/15, Dhanwantari, Sir J J Hospital Campus, Byculla, Mumbai - 400 008, India. E-mail: sushmaramraje@gmail.com

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ABSTRACT

Mature cystic teratomas (dermoid cysts) are common benign ovarian neoplasms. About 10% of dermoid cysts are detected during pregnancy. Multiple gynecologic pathologies occurring together are uncommon, and both an ectopic pregnancy and dermoid cyst are seen concurrently being unknown and poorly documented. Here, we report a case of ectopic pregnancy and dermoid cyst occurring simultaneously in a 30-year-old woman.

Key words: *Gynecologic, Multiple, Pathologies*

Mature cystic teratomas (dermoid cysts) contribute to about 33% of all benign ovarian neoplasms occurring between 10 and 30 years of age [1,2]. Majority of the dermoid cysts are asymptomatic at diagnosis with 10–15% being bilateral. About 10% of dermoid cysts are detected during pregnancy [3].

About 1–2% of all reported pregnancies in the developed world are ectopic pregnancies. Incidence in developing countries is higher but with little documentation [3,4]. Multiple gynecologic pathologies occurring together are uncommon, and both an ectopic pregnancy and dermoid cyst are seen concurrently being unknown and poorly documented [1]. Here, we report a case of ectopic pregnancy and dermoid cyst occurring simultaneously in a 30-year-old woman.

CASE REPORT

A 30-year-old multipara was brought to the surgical outpatient department by her relatives about 3 weeks after her last menstrual period with a chief complaint of pain in the right lower abdomen for 10 days. The pain was intermittent, dull aching, and non-radiating. She did not give any history of fever, trauma, vomiting, diarrhea, hematuria, melena, or any past major surgical or medical illness. She was two gravida with two living children delivered by cesarean section.

At presentation, she was alert but in severe abdominal pain. She was normotensive with a normal heart rate. On physical examination, the abdomen was soft with tenderness in the right iliac fossa and a pelvic mass of size 12–14 weeks. However, there was no guarding. General and systemic examination was within normal limits. Obstetrics and gynecology reference was done. On per speculum examination, cervix was not visualized and was pushed up. On per vaginal examination, the cervix was felt pushed up. Free fluid was present bilaterally and a mass measuring 12–14 weeks with restricted mobility was felt in the posterior pouch.

She was hemodynamically stable and her hemoglobin and hematocrit were 10.6 g/dL and 29%, respectively. Blood tests showed mild anemia (red blood cell count 3.8×10^{12}/L; hemoglobin 10.6 g/dL; and hematocrit 29%) with near normal white blood cell count but an increased neutrophilic count (10,940/cumm; segmented neutrophil granulocytes 92%; lymphocytes 03%; monocytes 03%, and eosinophils 02%). All other biochemical investigations were normal. She was non-reactive for human immunodeficiency virus, Hepatitis B Ag, and hepatitis C virus. Human chorionic gonadotropin β (HCG), cancer antigen 125, and alpha-fetoprotein levels were 2901 mIU/mL, 54.8 U/L, and 2.48 ng/mL, respectively.

The patient had regular menstrual cycles occurring every 24–27 days and lasting for approximately 3 days. She had no history of the pelvic inflammatory disease or any other pelvic pathology and was healthy and was not on any medication.

Ultrasonography showed a large well-defined hyperechoic lesion with few cystic areas without any calcification or mural nodules measuring 9.7 cm × 6.5 cm × 9 cm extending to the pouch of Douglas suggestive of a large dermoid cyst. Both ovaries were not seen separately, and hence, the right or left side could not be ascertained. A CECT revealed a well-defined lesion measuring 11 cm × 9 cm × 7.5 cm with fat and fluid levels in the left adnexal region and extending in the pouch of Douglas (Fig. 1). No enhancing mural nodule, solid component, or calcification were seen. Both ovaries and tubes were not seen separately.

An exploratory laparotomy with frozen section was advised. On opening the abdomen, the operating surgeon identified the cyst in the pouch of Douglas and a separate globular mass just behind the ovarian cyst. Both the ovarian cyst and the globular mass were sent for frozen section. We received an ovarian cyst measuring 10 cm x10 cm x3 cms. It was smooth and congested externally. On cutting open, pultaceous cheesy material containing hair oozed out (Fig. 2-top). Rokitansky's protuberance or any solid papillary areas were not identified. Fallopian tube was not attached to the ovarian cyst. The separate globular mass measured 5 cm x4 cm x3 cms. It was congested and hemorrhagic on external and cut surface (Fig. 2-bottom). Frozen section of the ovarian cyst showed stratified squamous epithelium and numerous pilo-sebaceous units in the subepithelium (Fig. 3). Also seen were adipose tissue and keratinous material. The globular mass revealed chorionic villi and trophoblastic tissue (Fig. 4) against a haemorrhagic background. A diagnosis of dermoid cyst with ectopic pregnancy was given. Histopathology of both the specimens confirmed a benign mature cystic teratoma and an ectopic pregnancy.

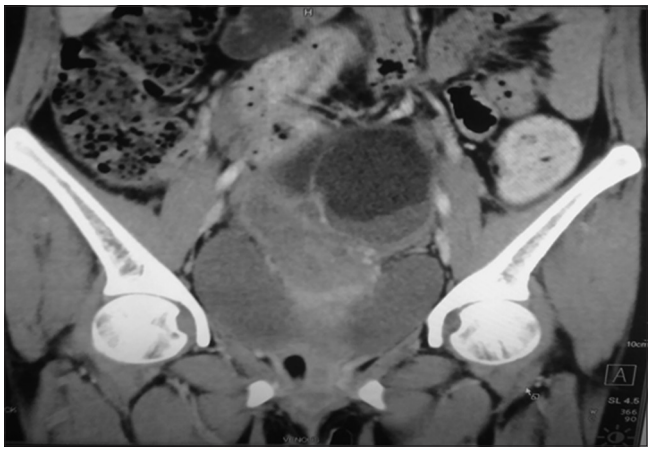

Figure 1: A contrast-enhanced computed tomography revealed a well-defined lesion seen in the left adnexal region and extending in the pouch of Douglas

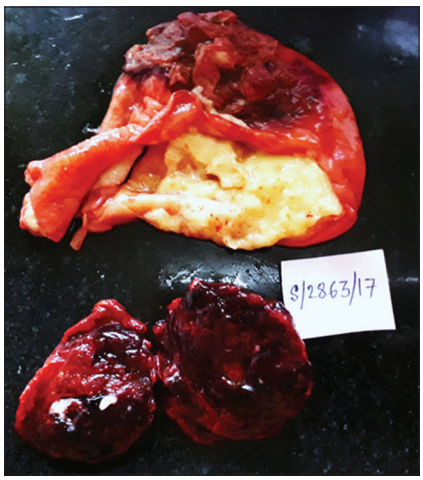

Figure 2: Ovarian cyst containing pultaceous cheesy material (top); separate globular mass congested and hemorrhagic on external and cut surface (bottom)

DISCUSSION

Dermoid cysts are common ovarian neoplasms and are bilateral in 10–15% of cases. They are mostly asymptomatic and discovered incidentally during laparotomy [2]. Few patients may present with abdominal pain and mass, nausea, vomiting, constipation, and anorexia. Torsion, rupture, infection, and hemorrhage are some common complications. About 10% of dermoid cysts are detected at pregnancy [1].

The prevalence of ectopic pregnancy in developed countries is 1–2%, with the percentage being higher in developing countries [4]. This increase is the result of risk factors such as pelvic inflammatory disease, smoking in women of reproductive age, and use of assisted reproductive technology. The patients usually present with severe and persistent pain and vaginal bleeding at 6–10 weeks' gestation [5]. Syncope, shock, shoulder tip pain, and abdominal tenderness can occur in some women. Cervical motion tenderness and a palpable adnexal mass have been reported [6].

Our patient did not have any of the mentioned risk factors and was hemodynamically stable. She was diagnosed with a dermoid cyst clinically and neither an intrauterine nor an ectopic

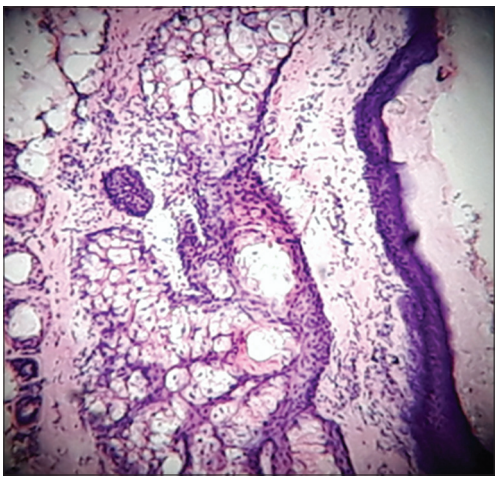

Figure 3: Frozen section of the ovarian cyst showing stratified squamous epithelium with the presence of numerous pilosebaceous units in the subepithelium (H and E; ×40)

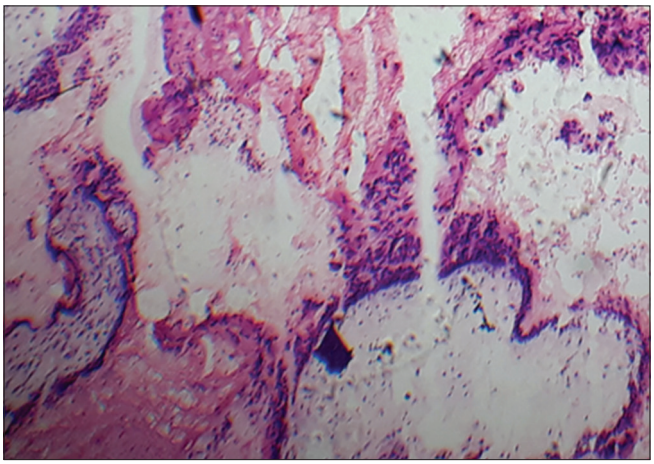

Figure 4: Frozen section of the globular mass showing chorionic villi and trophoblastic tissue (H and E; ×40)

pregnancy was suspected although her beta-HCG levels were 2901 mIU/Ml. Mature ovarian cystic teratomas have rarely been reported to secrete HCG and may mislead to emergency surgery for treating a suspected extrauterine pregnancy [7].

A case of ectopic pregnancy with dermoid cyst was described almost a century ago by Matin, in 1917 [8]. There are only a few case reports on the coexistence of ectopic pregnancy and dermoid cyst [9,10]. Authors have described only five previous reports on the occurrence of a mature cystic teratoma of the fallopian tube discovered at laparoscopy for an ectopic pregnancy [11]. A benign teratoma of the fallopian tube occurring in association with a tubal pregnancy and a case of ruptured right ectopic pregnancy and dermoid cyst of the left adnexa has also been reported [12,13]. Recently, a case of a female patient who suffered from early abdominal pregnancy complicated by parasitic bilateral dermoid cysts has been described [14].

Although dermoid cysts and endometriosis are commonly found separately in women of reproductive age, few cases of endometriosis coexisting with dermoid cyst have been reported [15]. Thorough literature search revealed only sporadic cases of the dermoid cyst and ectopic pregnancy, the coexistence of endometriosis and dermoid cyst, and dermoid cyst superinfection. However, an extensive search on PubMed/Medline for an ectopic pregnancy of pouch of Douglas and coexisting dermoid cyst did not reveal any case reports.

To the best of our knowledge, this is the first case report of the dermoid cyst and ectopic pregnancy occurring together in the pouch of Douglas. Both the ovaries and fallopian tubes were not identified separately on CECT as well as during surgery, and hence, we reiterate that the dermoid cyst and ectopic pregnancy occurred together in the pouch of Douglas.

CONCLUSION

Coexisting pathologies in a single organ present a challenge to both, the clinician and the histopathologist. This case highlights the importance of pathologies that justify immediate surgical intervention and the need for the physician to be meticulous in putting together a differential for acute pelvic pain. Furthermore, studies should focus on multiple pathologies with special reference to ovarian mass having an increased risk for aberrant implantation during pregnancy or not.

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