International Journal of Research in Medical Sciences
Sharma N et al. Int J Res Med Sci. 2023 Dec;11(12):4562-4565
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012

DOI: https://dx.doi.org/10.18203/2320-6012.ijrms20233734

Case Report

Mortality due to ectopic pregnancy revealed by police surgeon

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Received: 09 October 2023
Accepted: 08 November 2023

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ABSTRACT

A pregnancy is said to be ectopic when implantation of fertilized ovum occurs other than uterine cavity. The incidence of ectopic pregnancy is increasing globally over time and carries significant maternal mortality due to the risk of rupture of ectopic pregnancy. Ruptured ectopic pregnancy is a life threatening surgical emergency. Usually, any abnormality in tubal morphology or function may lead to tubal ectopic pregnancy. Also an altered hormonal ratio (i.e. estrogen/progesterone) may affect tubal motility and cause ectopic pregnancy. To make diagnosis of ectopic pregnancy merely on the basis of symptoms is difficult and challenging task for clinician due to its non-specific clinical manifestations and such cases can be present with normal intrauterine pregnancy. Authors report a case of ruptured tubal ectopic pregnancy which remained undiagnosed clinically because clinician refer the patient to higher center for ultrasonography to confirm or rule out the ectopic pregnancy as there was non-availability of bed side ultrasonography machines in rural health care centers in developing countries like our country. but patient died in ambulance before reaching to higher center. The autopsy revealed 1.5-liter fluid and clotted blood in the peritoneal cavity. The right fallopian tube was bulged along with a tear evident on the anterior and superior aspect. Complete dissection revealed a gestational sac of diameter 7.5 cm containing a foetus and placenta. All other organs were pale and normal. The uterine cavity was found empty. The cause of death was attributed to ruptured ectopic pregnancy. This case emphasizes the fact that "health for all" and importance of the availability of various radiological investigations including ultrasonography, prompt diagnosis, laparoscopic management are the minimal demand of rural health care centers which play a major role in saving of life. Furthermore, this report envisions benefitting clinicians and autopsy surgeons facing similar cases in their practice. Finally, this case is another addition in maternal mortality data.

Keywords: Ectopic pregnancy, Maternal mortality, Rupture, Transvaginal ultrasonography, Laproscopy

INTRODUCTION

Maternal death is any death that occurs during pregnancy or within the first year after the end of pregnancy from any cause.[1] An ectopic pregnancy (EP) is defined as the implantation of a fertilized ovum outside the normal uterine cavity.[2] Ectopic pregnancy is seen in 2% of all pregnancies in USA and 3-4% worldwide. In some studies, the incidence is reported as high as 6 per 1000 pregnancies.[3] World Health Organization estimated that ectopic pregnancy was the cause of 4.9% of pregnancy-related deaths in the developed world.[4]

In normal pregnancy the ovum is fertilized in the fallopian tube, and then it is transported into the uterus. Any abnormality in tubal morphology or function may lead to ectopic pregnancy. It is believed that the most important cause of ectopic pregnancy is damage to the tubal mucosa, which could obstruct the embryo transport due to scarring. The mucosal damage may be caused by infection or surgical trauma.[5] The lifetime risk of maternal mortality in high income countries is of the order of 1:3300, while in the worst performing countries of west and central Africa it is approximately 1:20.[6]

In modern world, advanced researches in diagnostic modality to establish the diagnosis of ectopic pregnancy non-invasively, even in the women with minimal clinical symptoms but despite this still it is a global health problem which cause significant mortality and morbidity among reproductive age group. In the literature, cases of ruptured ectopic pregnancy are reported but few of them have been undiagnosed clinically due to non-availability of diagnostic facility including bed side ultrasonography. In the present case authors report and discuss a case of young female individual remained undiagnosed ectopic tubal pregnancy till death.

CASE REPORT

The investigating officer submitted requisition to conduct postmortem examination on a 26-year-old multigravida female body. History obtained from verbal autopsy and case file of deceased. Her husband stated that she had fever, abdominal pain and vomiting for one day. He also gave history of her fall in bathroom 2 days before the onset of aforementioned symptoms. She had taken some analgesics from the local medical shop but she did not get relied from medicine then she visited to rural health care center from where she was referred to higher center. In hospital record- there was no history of amenorrhea, vaginal bleeding, intake of oral contraceptive and any kind of surgery. On examination of physician, abdomen was soft and tenderness was observed. Various investigations including ultrasonography of abdomen with pelvic were advised.

Autopsy findings

Rigor mortis was present all over the body; postmortem lividity was fixed on the back surface of the body. On external examination, no external injury was appreciable over any part of the body. On dissection, peritoneal cavity contained 1.5 liters liquid and clotted blood, with more of clotted blood in the pelvic region (Figure 1).

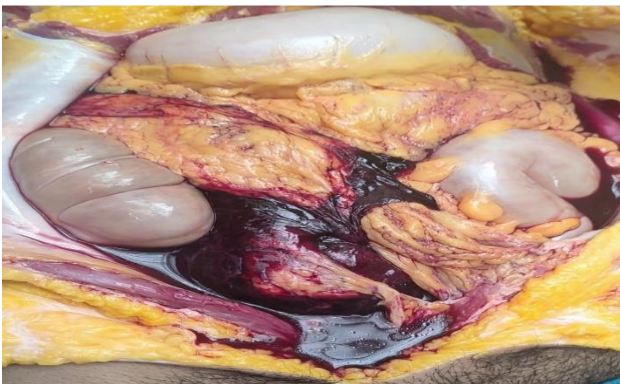

Figure 1: Depicting Liquid and clotted blood in peritoneal cavity.

A reddish mass of diameter 7.5 cm was found in the lumen of right fallopian tube (Figure 2).

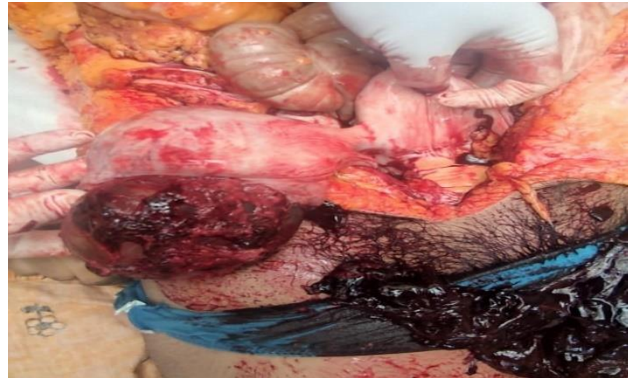

Figure 2: Depicting a reddish bulging due to gestation sac in right fallopian tube with normal uterus.

On dissection and exploration, there was a 4.2×2.5 cm × lumen deep rupture in the anterio-superior region of isthmic portion of right fallopian tube (Figure 3) and recovered a gestational sac contained foetus of age 3 months with placenta (Figure 4).

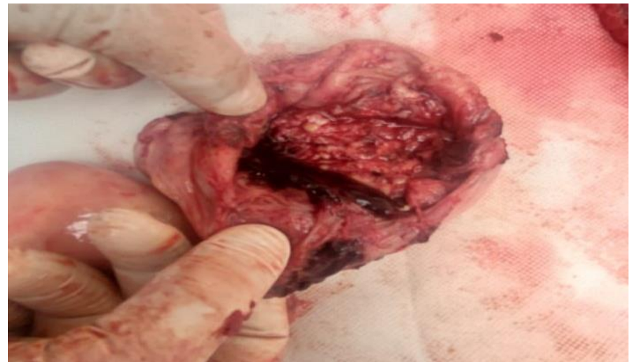

Figure 3: Depicting tear in fallopian tube surrounded by extravasation of blood in surrounding part.

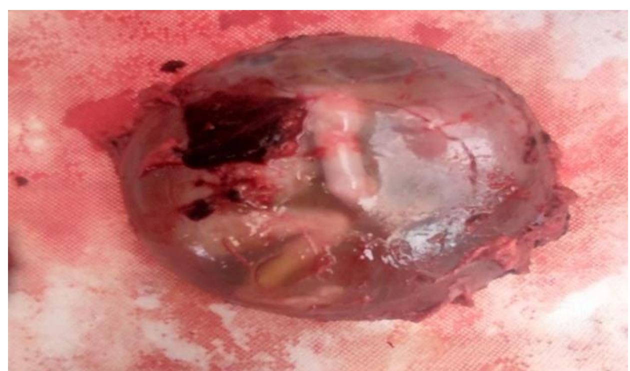

Figure 4: Depicting a gestational sac containing amniotic fluid, foetus with placenta.

Uterus measured 8.5×6.5×4.5 cm. Cut section showed empty cavity with thickened endometrium (Figure 5).

Right ovary measures 4×3×2.5 cm, slightly enlarged in size. Left side ovary appears normal, cut section unremarkable. All other internal organs were normal in

size; cut sections of the organs were pale. Authors opined the cause of death in this case is “hemorrhagic shock consequent to rupture of tubal ectopic pregnancy”.

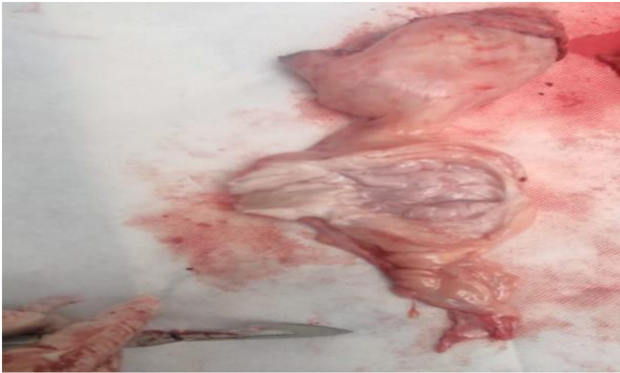

Figure 5: Depicting the empty uterine cavity with bulging in isthmus of right fallopian tube.

DISCUSSION

Ectopic pregnancy remains an important cause of maternal mortality worldwide. In India, ectopic pregnancy is the most common cause of maternal death in the first trimester of pregnancy. Deaths due to rupture of ectopic pregnancy constitute 0.5 to 1% of sudden natural deaths sent for medico-legal autopsy.[7] The vast majority of ectopic pregnancies implant at different locations in the fallopian tube, most commonly in the ampulla, followed by the isthmus, fimbria and interstitium.[8]

Various risk factors for ectopic gestation are pelvic inflammatory disease, intrauterine contraceptive device, smoking, previous ectopic gestation, tubal surgery, salphingitis isthimica nodosa, women aged between 35-44 year, infertility, tubal damage, endometriosis, artificial reproductive technique, congenital defects of uterus, overdevelopment of ovum and external migration.[9] History of pelvic inflammatory diseases and use of oral contraceptive pills are the most common risk factors associated with ectopic pregnancy.[10]

Early diagnosis of ectopic pregnancy is challenging, especially when the patient is asymptomatic. The suspicion of ectopic pregnancy arises when a woman presented with a history of abdominal pain and vaginal bleeding with a positive pregnancy test. Prompt diagnosis and timely management can be lifesaving. Unattended tubal pregnancy can rupture and ultimately result in fatality.[11] The most common causes of death in ectopic gestations in order of frequency are hemorrhage, embolism, PIH complications and infection.[12]

Gari et al reported a case of a 13 week live ruptured ectopic pregnancy which was managed successfully through an emergency laparotomy with a salpingectomy. They also discussed the reason for rupture of ectopic pregnancy or they often become symptomatic in the first trimester due to the lack of submucosal layer within the fallopian tube wall which enables ovum implantation within the muscular wall, allowing the rapidly proliferating trophoblasts to erode the muscularis layer. This usually causes tubal rupture at 7 weeks ±2, leading to hemorrhage and shock.[13] In present case female also died due to hemorrhagic shock.

Keche et al reported a case in which a lactating mother was died suddenly due to rupture of ectopic pregnancy and the deceased had mild abdominal discomfort at first but she ignored that. This is true for the present case because she thinked that symptoms were due to fall. Further the autopsy findings of present case are similar to their case.[14]

In the present case, young aged female was present with unspecific symptoms like abdominal pain and vomiting. Earlier, she ignored these symptoms and take medicine from medical shop but her symptoms get worsen then she came to hospital. As the patient was sexually active with history of irregular menstruation, clinician advised ultrasonography to rule out or confirm the diagnosis of ectopic pregnancy. There was no history of amenorrhea and vaginal bleeding. Meticulous autopsy revealed that cause of death in this case is hemorrhagic shock consequent to rupture of undiagnosed tubal ectopic pregnancy.

This case stresses that even mild symptoms in females of the reproductive age group should not be ignore. Further, availability of diagnostic (radiological investigation including ultrasonography) and Therapeutic (laparoscopic management) tools are the core demand of every health care level including rural health care centers as they play a major role in saving of life. Finally, this case is another addition in maternal mortality data.

CONCLUSION

Rupture of ectopic pregnancy can occur abruptly without any serious symptoms. Identification of the bleeding source (ruptured right fallopian tube) during postmortem examination and extraction of gestational sac with foetus confirming ectopic pregnancy helps in providing conclusive opinion as to the cause of death. Further, Early diagnosis and conservative management can be lifesaving in such cases.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Sharma N, Yadav N. Mortality due to ectopic pregnancy revealed by police surgeon. Int J Res Med Sci 2023;11:4562-5.