Turkish Journal of Health Science and Life

TJHSL

THE CONFUSING PRESENTATIONS AND FACES OF ECTOPIC PREGNANCY IN CONCORDANCE WITH DIAGNOSTIC MODALITIES IN A TERTIARY CARE HOSPITAL IN NORTH EASTERN SECTOR OF INDIA - A STUDY OF 2 YEARS PERIOD

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ARTICLE INFO

Article history:
Received 06 March 2019
Accepted 24 June 2019
Available Online: 31 December 2019

Key Words:
Ectopic pregnancy
Serum β-hCG
Laporoscopy

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Turkish Journal of Health Science and Life
2019, Vol.2, No.2, 20-24

ABSTRACT

Background: The study was taken up to know the about the various diagnosticcriteria used for ectopic pregnancy.

Methods: This study included seventy patients diagnosed as ectopic pregnancy. Clinical signs, symptoms and physical findings were recorded.Urine pregnancy test,serum β hCG and abdominalultrasound were the main diagnostic modalities.Findings at laparoscopy and laparotomy wereanalysed.

Results: Majority of the women presented withabdominal pain (90%) and amenorrhea (97.14%).Majority(82.84%) had amenorrhearanging from 4 weeks or less to 8 weeks. Cervicalexcitation was positive in 64.28% and adenexal masswas palpable in 15.7%. Urine pregnancy test andserum β hCG were positive in 82.8% and 95.2%. , respectively. Findings suggestive of ectopic werefound in 81.42% on transabdominal ultrasound exam.Twenty-five patients (35.6%) underwent diagnosticlaparoscopy while 98.5% underwent laparotomy.

Conclusion: Availability of sensitive and specificradio-immunoassays of β-human chorionic gonadotrophin (β-hCG) and high resolutiontransvaginal ultrasound (TVS) allows early detectionof ectopic pregnancies

1. Introduction

Detection of ectopic pregnancy in early gestation has been achieved mainly due to enhanced diagnostic capability. The conservative surgery is only possible with early diagnosis (1). Ectopic pregnancy is an implantation of a fertilized egg outside the uterine corpus. It presents as an acute emergency and is a life threatening event accounting for about 10% of all maternal mortalities (2,3). The incidence of ectopic pregnancy has been increasing worldwide. The incidence of ectopic pregnancy in developed countries is about 19.7/1000 pregnancies (3) and that in India is 3.12/1000 pregnancies (4). The most common site for ectopic pregnancy is fallopian tubes (90–95%) (4,5). Fallopian ectopic has multifactorial pathogenesis with the most important predisposing condition being pelvic inflammatory disease (PID). Other causes include tubal deformities and defects, endometriosis, previous surgery, and even treatment for infertility (6) Histopathological examination of the resected fallopian tube can give an insight into the etiopathogenesis of ectopic pregnancy. Ectopic pregnancy remains a source of serious maternal morbidity and mortality worldwide, especially in countries with poor prenatal care inspite of latest technology and diagnostic modalities (7).

Sensitivity and specificity were accorded for all the parameters of diagnostic importance.

2. Material And Methods

The present study was collaboratively conducted in military hospital shillong and NEIGRHIMS multispecialty hospital which is a tertiary referral center ,during 2 year period from Dec 2015 to Dec 2017. Seventy consecutive patients, diagnosed and treated as ectopic pregnancy, were enrolled. Clinical presentations and physical findings were recorded. Urine pregnancy test, serum ß hCG and abdominal ultrasound were the main diagnostic modalities. Findings at laparoscopy and laparotomy were analyzed. Consent Forms were duely signed by patients and ethical clearance taken from institution.

3. Results

The study was a retrospective analysis of the histomorphology of seventy cases of tubal gestation. The age of the patients ranged from 18 to 40 years. Patients came to the clinics with abdominal pain (90%) and amenorrhea (97.14%) (Table 1). Maximum patients had an amenorrhea of 4 to 12 weeks (Table 2). Amongst the seventy cases 69 underwent laparotomy through a pfannenstiel incision of <6 cm, after opening the peritoneal cavity (Table 4). Haemostatis was secured by identifying the site, operative procedure was performed and specimen sent for histopathology. Cases with persistent trophoblast were not seen. Patients were discharged on Day 5 and follow-up given.

Table 1: Ectopic Pregnancy- Clinical Presentation

Symptoms	No	%
Amenorrhoea	67	97.13
Pain lower abdomen	63	90
Nausea and syncope	17	24.2
Vaginal bleed	52	74.2

Table 2: Weeks of amenorrhea relating to Ectopic pregnancy (n=70)

Weeks	No.	Percentage
<4 weeks	13	18.57%
5-6 weeks	22	31.42%
7-8 weeks	23	32.85%
9-12 weeks	08	11.4%
>12 weeks	01	1.4%
Lactational amenorrhea	03	4.2%

Table 3: Ectopic Pregnancy- Urine pregnancy test

Investigation	No	(%)
Positive	58	(87.87)
Negative	6	(8.5)
Not clear	2	(2.8)
Not done	4	(5.7)

Maximum patients had an amenorrhea of 4 to 12 weeks (Table 2). Pelvic findings amongst the patients were (Figure 1) Adenexal mass with free fluid 11 (15.7%), Adenexal tenderness 33 (47.14%), Cervical excitation 45 (64.28%), Bulky uterus 43 (61.42%), Normal size uterus 21 (30%). Urine pregnancy test were Positive in 60 cases (95.21%), Negative 1 (1.4%), Not done 7 (10.%). Findings suggestive of ectopic were found Positive in 57 (89.06%), Negative 7 (10%) and was not done in 6 patients(8%), Twenty-five patients (35.6%) underwent diagnostic laparoscopy while (98.5%) underwent laparotomy (Table 3). Fallopian tubal pregnancy often presents as an acute medical (Figure 2) emergency due to rupture of the fallopian tube. Grossly the site of implantation shows ,Distension of tube with thin or ruptured wall, dusky red serosa (Figure 3). The wall of the fallopian tube becomes thinned out due to the invasion of trophoblastic cells and chorionic villi, (Figure 4) on histopathology ,which in turn is due to the limited ability of the endosalpingeal stroma to undergo decidualization. Unruptured ectopics are seen as irregular sausage-like dilatations of the tube, with a bluish discoloration caused by hematosalpinx. Ectopic tubal pregnancy is the most common cause of hematosalpinx. In the

present study,78/90 (86.66%) cases had presented with features of ruptured ectopic and 12/90 (13.33%) were unruptured.

Table 4: Ectopic Pregnancy- Urine pregnancy test

Findings on surgery	No	(%)
Done and positive	69	98.50
Haemoperitoneum	60	85.70
Ruptured ectopic	29	41.42
Unruptured ectopic	24	34.20
Tubal abortion	14	20.00
Corpus leuteum cyst	12	17.14
Endometriosis	2	2.8

4. Discussion

Ectopic pregnancies is the pregnancy in which the zygote is implanted out-side the endometrial cavity almost 2% of all pregnancies (3,8) and often present with vaginal bleeding or abdominal pain. Diagnosis is ascertained by a transvaginal ultrasound and elevated hCG levels, as recommended by the American Congress of Obstetricians and Gynecologists (4). A combination of ultrasound and hCG has a 96% sensitivity and 97% specificity for diagnosis of ectopic pregnancy. Occasionally in ectopic pregnancy, the hCG is elevated and increases abnormally, rising <53% in 48 hour (5). Daniilidis et al described similar findings (5). Since 1987, eight cases of ruptured ectopic pregnancy have been reported with a negative urine pregnancy test. All of the patients were taken to the operating room for suspected hemoperitoneum (6). Above mentioned cases and ours suggest that ectopic pregnancy should be considered even with a negative pregnancy test. Our patient previously had methotrexate. Current recommendations for methotrexate therapy in ectopic pregnancy include a single or multi dose regimen in patients who are hemodynamically stable and have no medical contraindications for methotrexate. Surveillance after methotrexate includes serial hCG levels (7) Treatment Failures are defined as failure of hCG to decrease by at least 15% from day 4 to day 7 after treatment (8). One of the other causes for chronic salpingitis, especially in India, is genital TB. In India, the incidence of genital TB in patients undergoing surgery for acute ectopic pregnancy was as high as 35.29–40%. 7-15 India has a high burden of TB accounting for 2

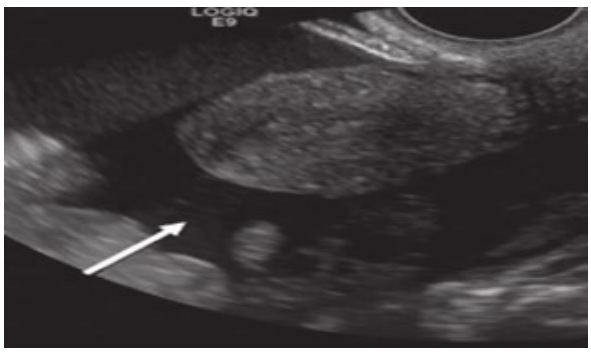

Figure 1. Adnexal mass with free

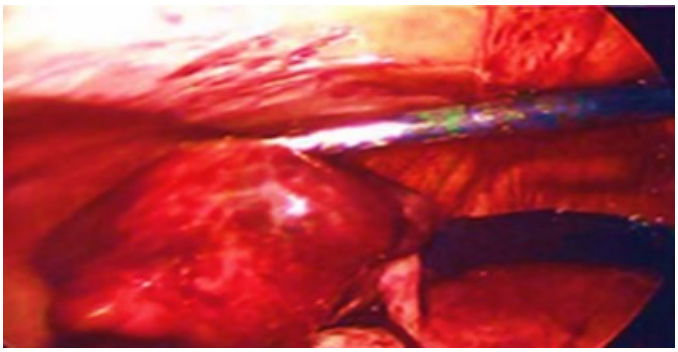

Figure 2. Dilated fallopian tube with ectopic, hemorrhage

Figure 3. Adnexal mass gross

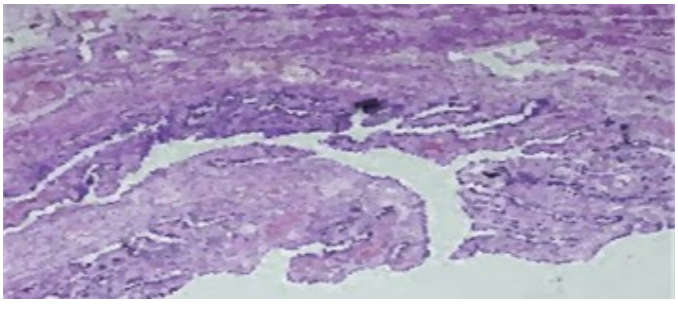

Figure 4. Histopathology of tube with ectopic

million cases annually as compared to 9.4 million cases globally, in the year 2009 (15,16). It is said that approximately 40% of the Indian population is infected with tubercle bacillus. In India, one in eight women suffering from pulmonary TB develops genital TB (7) and 10–20% women who die of TB have tubal involvement (16). TB is characterized by granulomatous inflammation. The earliest microscopic lesions are mucosal with the extension of granulomas into the muscularis and serosa. As the tubercles enlarge, they erode through the mucosa and discharge contents into the lumen. Early diagnosis of Ectopic pregnancy allows the clinician to be able to give the option of medical treatment and if surgery is required then minimal surgical procedure can be done (9,10,16). Studies show that abdominal pain, vaginal bleeding and amenorrhea of less than 12 weeks, are the commonest presentations (11-16). Lab investigations show that sensitivity of urine pregnancy ,tests kits is improved which can now detect even 25IU/l of ß-Hcg (14). Studies on ß-hCG dynamics provide evidence that 85% of viable intra-uterine pregnancy will show a 66% rise in ß- hCG levels in every 48 hr period in the first 40 days of gestation. On the contrary only 13% of ectopic pregnancies will show a 66% rise (15,16). In present study Transabdominal ultrasound scan (TAS) was performed which showed positive results in 89.06%. Several studies have shown that TVS is valuable tool in early diagnosis of ectopic pregnancy .The sensitivity of TVS for prediction of ectopic pregnancy is 87% and specificity is 94% (18,19). Laparoscopy has been mentioned as a gold standard for diagnosis and management of ectopic pregnancy. We had only diagnostic laparoscopy available in our hospital. In our study 25 cases had laparoscopy and 23 were positive giving 92% as positive the 2 negative laparoscopies that were constituted by acute pelvic inflammatory disease (PID) and the other was appendicitis. With the availability of the Operative laparoscopy minimally invasive surgeries and conservative surgery can be performed (19,20). A laparoscopic approach is superior to a laparotomy in terms of recovery from surgery, subsequent intrauterine pregnancy rate and recurrent ectopic rate butis associated with a higher risk of persistent trophoblast (23, 24). Recommendations include following hCG weekly after 7 days until levels are negative. Laparoscopy has been mentioned as a gold standard for diagnosis and management of ectopic pregnancy. We had only diagnostic laparoscopy available in our hospital. Operative laparoscopy minimally invasive surgeries and conservative surgery can be performed. This is equally effective and with shorter hospital stay compared with laparotomy. Surgical approach for an ectopic pregnancy is by open laparotomy (25).

5. Conclusion

Study performed by us concludes and emphasis on the importance of combining physical examination findings with hCG levels to ensure successful detection ,diagnosis and management of ectopic pregnancies, yet the delusional images presented in this condition can be varied. Histopathological examination of the resected fallopian tubal ectopics can provide an insight into the etiopathogenesis of ectopic pregnancy. In some cases, it can also aid in the treatment modality to prevent a recurrent ectopic.

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