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Ectopic pregnancy prospective analytic study

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Abstract
This is a prospective study carried out at the maternity and pediatrics teaching hospital in Al-Najaf by reporting the clinical presentations, investigations and management of women with ectopic pregnancy. The study was carried out at a period between the first of January -2001 to the 30th of Jun 2003. A total of 70 patients are included in this study all were admitted to maternity and pediatrics hospital in Al-Najaf, full history are taken and if possible a review of her previous medical record i.e admission for PID or record of previous laparotomy. Full examinations are done for the patients then we follow up the patients at theater for the type of operations.
From this study noted

- Peak age incidence was 23-33 years (60%).
- Nulliparous patients was 42(60%) patients.
- 38(54.2%) of the patients had previous inflammatory diseases.
- 55(78.5%) of patients were not using any methods of contraception while 4(5.7%) and 10(l4.2 %) were using l.U.C.D and C.O.C.P respectively.
- Abdominal pain 48(68.5%), Irregular vaginal bleeding 15 (21.4%) and in state of shock 7(10%) respectively were the most frequent presenting complaints.
- 50(7l.4 %) of patients had rupture tubal pregnancy at presentation. All patients had laparotomy and had right and left salpingectomy respectively 36(51.4%), 28(40%) and 2 cases in the rudimentary horn and remove the horn and 4 cases only salpingectomy.

Our study confirmed that the majority of patients with ectopic pregnancy are nulliparous in their mid-thirty with history of previous pelvic inflammatory disease and not used any type of contraception prior to the ectopic pregnancy and management options is limited to laparotomy and salpingectomy with occasional salpingectomy.

Keywords: Laparotomy, Salpingectomy, Ectopic

Introduction

Ectopic pregnancy is a life threatening condition that every practicing obstetrician – gynecologist encounters in his or her practice therefore it is imperative to be familiar with the latest methods of treatment with the advent of assays to quantitative human chorionic gonadotropin (HCG) levels and tarnsvaginal ultra-sound monitoring the detection of an abnormal gestation can be achieved much earlier(15).

Definition: The term ectopic pregnancy is applied to pregnancy following implantation of the fertilized ovum at any site other than the lining the uterine cavity. Because some time ectopic pregnancy and yet be situated within the uterus as in case of interstitial or cervical pregnancy[7].

- **Incidence(4)**
- Significant increase during the last 20 years 16/1000 pregnancies a fivefold increase compared with 1970 (U.S.A).
- More than 1/100 in the United States and more than 95% involve the fallopian tube.
- Highest rate in 35-45 years of life.
- 13% of all maternal death it's remain the second leading cause of maternal mortality.
- After an ectopic pregnancy 7-13 fold increase recurrence.
- Next pregnancy:

* Intrauterine 50-80 %
* Another ectopic pregnancy 10-25 %

* The rest infertile.

Epidemiology and Risk Factors: [7] there has been a marked increase in both the absolute number and rate of ectopic pregnancies in united states in the past two decades. The actual number has increased out of proportion to population growth. Most ectopic pregnancies occur because the fertilized ovum cannot pass through the fallopian tube to the uterus. The ovum is unable to pass through narrowed or blocked tubes. Any condition which may damage the fallopian tubes increases a woman's risk for an ectopic pregnancy.
Pelvic inflammatory diseases (PID) is the single greatest risk factor [15].

- Previous tubal pregnancy (repeat rate is about 12%).
- Previous tubal surgery.
- Multiple induced abortions.
- Pelvic adhesions (bands of scar tissue that constrict the tube most often a result of pelvic surgery), and also reveres of previous tubal ligation surgery.
- Assisted reproductive technique.
- Use of intrauterine device (I.U.C.D).
- Exposure of female fetus to DES in utero (Developmental abnormalities of the tube e,g hypoplasia).

Clinical Presentation: Subacute Presentation: commonest one usually occur in tubal Abortion.
Signs

A. Pain is mainly lower abdominal pain could be in one or both iliac fossa or may be generalize. Pt may have shoulder pain due to blood in peritoneal cavity (P.O.D) irritate the diaphragm (irritate the phrenic nerve $C_{2.3.4}$).
B. Amenorrhea (few days-few weeks) may reach 6-8 weeks may reach 20 weeks in abdominal. Pregnancy (75% have Amenorrhea, 25% none).
C. Vaginal. Bleeding (70% of cases, may be intermittent or continuous) usually slight rarely heavy, dizziness and syncope bec. Of vasovagal shock bec. of pain in early time but later due to hypovolemic shock [3].

Physical Examination
Vital signs
Pulse normal or rapid
B.P normal or low
Temp. normal in majority but may not > 38 C (important point to Diff. from salpengitis) [3].

Abdominal Exam [5]
1- Tenderness, muscle guarding and rigidity.
2- May be abd. Distension.

Pelvic exam
- ❖ Bulk uterus not > 8 weeks.
- ❖ Localise tenderness in one of adenxia.
- ❖ May be cervical excitat.
- ❖ Tenderness in one of the tube.
- ❖ May felt tender mass in one adenexial (tube, ovary).

- **Acute Presentation** [3]

– Sudden lower abd. pain.
– Followed by collapse: Pt. pale, low B.P rapid pulse, sever abdominal tenderness and rigid abdomen.
– P.V some advice to be avoided because it may lead to rupture of enrapture ectopic.

Silent Presentation
With U/S transvaginal or abdominal U/S Pt. thinks it's pregnant bec. of Amenorrhea and adenexial mass on U/s [3].

Diagnosis
1- History [11]
- History of irregular vaginal bleeding.
- Past obstetrical History.
- Infertility.
- Contraceptive status.
- Sympton.

2- Sympton [3]
There are no pathognomic symptom of octopic pregnancy but the:
* Classical triad
- Abdominal pain
- Amenorrhea in only 50%
- Vaginal – bleeding
* Most common with rupture.

3- Physical examination
In patients with an enraptured ectopic pregnancy may be extremely variable. Most patients are a febrile but 10% of patients have a temperature higher than 38C. 90% have abd. Tenderness but only 45% have positive rebound tenderness and only 50% have an adnexal mass on pelvic examination in half the cases the mass is contralateral to the ectopic pregnancy and represents the corpus luteum. 20% present with bilateral andnexal masses owing to the presence of a contralateral corpus luteum cyst-the uterus is soft and either of normal size or slightly enlarged [3]. Tachycardia, followed by hypotension distended abdomen, tenderness rebound and guarding.

4- U/S
The U/S either done abdominally or transvaginal has allowed the detection of an intrauterine gestational sac as early as 3 weeks of Amenorrhea (2 mm diameter this virtually ruling out an ectopic pregnancy). When associated with – HCG determination its important to recognized adiscriminatory zone this can be defind as the level of beta. HCG at which an untrauterine sac must be seen with U/S if the sac is not visualized at that discriminatory level of beta HCG the likelihood of an ectopic pregnancy is greater than 90%. Discriminatory zone differ among institution depending on available technology and individual skills but an average are equal to 10000 I.U/L of beta HCG [7].

5- Laboratory Diagnosis
- Pregnancy test will be run (if the pregnancy has not already been confirmed negative pregnancy test not excluded ectopic pregnancy.
- Blood level of HCG will be evaluated. HCG is a hormone that is present in a woman's system during pregnancy. In a normal pregnancy HCG level doubles about every two days.
- During the first 10 weeks of pregnancy in an ectopic pregnancy through, the HCG level climbs significantly more slowly. This difference help distinguish between a normal and abnormal pregnancy. A physician may run HCG tests over period of days to examine the pattern of increase.
- Blood level of progesterone may evaluated. Lower than in normal pregnancy, 70% of viable intrauterine pregnancy > 25 ng/ml, 105% of ectopic pregnancy > 25 ng/ml.

6- Culdocentess occasionally is done. In culdocentess a needle is inserted at the cul-de-sac between the uterus and the rectum to cheek for blood. The presence of unclotted blood may indicate bleeding from a rupture fallopian tube [15].

Differential Diagnosis [15]

1) Gynecological disorder

1. Threatened or incomplete abortion.
2. Rupture corpus luteum cyst.
3. Acute pelvic inflammatory disease.
4. Adnexial torsion or degenerating leiomyma.

B) Non – Gynecological disorder [15]

1. Acute appendicitis.
2. Pyelonephritis.
3. Pancreatitis.

Treatment of Tubal Pregnancy

1) Surgical Management [3].

a- Laparoscopy.
b- Laparotomy.

2) Medical management [9].

3) Expectant management [9].

1 – Surgical management

a. Laparoscopy

– Both Diagnosis and treatment.
– Both rupture and enrapture provide vital sign stable.

Advantage

– Reduce operative time.
– Hospital stay and cost.
– Earlier return to activity.
– Improve cosmetic result.
– Less adhesion so improve fertility.
– Less blood loss.

Contraindication

– Massive intra-abdominal bleeding.
– Extensive intra-abdominal adhesion.

Methods of laparoscopy

– Linear salpingiostomy.
– Fimbrial evacuation.
– Mid tubal resection.

B) Laprotomy

Indication

– Damage tube.
– Control bleeding.

Surgery either

– Radical surgery → Salpingectomy.
– Conservative surgery.

- Aspiration of affecting segment.
- Milking of the tube.
- Linear salpingectomy with cautery or lazer.

2) Medical Management: 75% of ectopic pregnancy may be suitable for this method

- Systemic methotroxat.
- Local injection of drug into gestational sac either by → Laparoscopy. or → Trans vaginal or → Trans cervical cannula

Patient use for these management

1. Size of pregnancy < 4 cm.
2. Enrapture tube without active bleeding.
3. Serun HCG level < 1500 iu/L.
4. U/S non-viable pregnancy. Success rate (80 – 90)% .

3) Expectant management

Non-surgical non-medical used when the patient with serial B. HCG testing and monitoring of vital sign and restrict this to women with these criteria.

- Decreasing serial BHCG level.
- Ectopic site restricted to fallopian tube.
- No evidence of intra-abdominal bleeding using vaginal sonography.
- Diameter of ectopic not greater than 3 – 5 cm.

- **Ectopic Pregnancy (11) Sites of EUP**
  1) Tubal pregnancy 98.3%.

S. Te	Rate	Rupture
Ampulla	74.6%	12 w
Isthmus	12.3%	Early
Fimbria	6.2%	
Intestitium	1.9%	12-16 w

2) Abdominal pregnancy1.4%
3) Cervical pregnancy 0.15%
4) Ovarian pregnancy 0.15%

Aim of the Study

This is an analytic study of the clinical profile of patients presenting with ectopic pregnancy to investigate the current status of the incidence, predisposing risk factors and the management options available in Al-Najaf.

Abbreviations

P.I.D	Pelvic inflammatory disease
DES	Diethylstill besterol
I.U.C.D	Intrauterine contraceptive device
HCG	Human chorionic Gonadotropin
U/S	Ultrasonogrophy
EUP	Extra uterine pregnancy
C .O.C.P	Combined oral contraceptive pills
PT	Patient
P.O.D	Pouch of Dugulus

Patients and Methods

This is a prospective study carried out at the maternity and pediatrics teaching hospital in Al-Najaf by reporting the clinical Presentations, Investigations and management of women with ectopic pregnancy. The study was carried out at a period between the first of January – 2001 to the 30th of Hun 2003. A total of 70 patients are included in this study all were admitted to maternity and pediatrics hospital in Al-Najaf, full history are taken and if possible a review of her previous medical record i.e admission for PID or record of previous laparotomy.

Full examinations are done for the patients then we follow up the patients at theater for the type of operations.

Other clinical data were included

- Name of patient.
- Age
- Residency
- Occupation
- B-group and RH
- Gravida and parity
- Date of admission
- Date of Marriage
- Type of contraception
- History of pelvic infection
- History of laparotomy
- Mode of clinical oresentations
- U/S findings
- Culdocentesis
- Type of operations
- Site of Ectopic

Results

A total of 70 patients were available for analysis 3 group of patients according to the age. Group I (n=11) consist of age from 15-25 years and group II (n=42) consist age group from 26-35 years and group III (n=17) consist of age group from 36-45 years.

These 3 groups was analyzed using comparisons between 3 groups and parity, type of contraception, pelvic infection, previous laparotomy, mode of presentation and site of ectopic and also analyzed these 3 groups with seasonal variation. There is significant differences in relation to parity and ectopic pregnancy was more in the nullipara than in multipara the differences was 12 (Table 1) ($P > 0.05$)

Table 1: Nullipara 41 cases (58.56 %) multipara 29 cases (41.41 %)

Age group (years)	Nullipara		Multipara		Total	
	No	%	No	%	No	%
15-25	10	14.28	1	1.42	11	15.7
26-35	24	34.28	18	25.71	42	60
36-45	7	10	10	14.28	17	22.2
Total	41	58.56	29	41.41	70	100%

X2 = 7.06 Df = 2 P < 0.05

There is significant differences were found in the use of contraception between 3 group (Table 2) there is higher % of ectopic pregnancy in patients not used any type of contraception ($P<0.05$).

Table 2: Relationship between ectopic pregnancy and contraceptive state preceding the onset of ectopic pregnancy.

Age (years)	Not used		C.O.C.P		I.U.C.D		Total	
	No	%	No	%	No	%	No	%
15-25	10	14.28	1	1.42	0	0	11	15.71
26-35	38	54.28	0	0	4	5.71	42	60
36-45	7	10	10	14.28	0	0	17	24.2
Total	55	78.56	11	15.70	4	5.71	70	100

X2 = 37.3 P < 0.05

There is no significant differences in relation to pelvic infection (Table 3) ($P > 0.05$)

Table 3: According to pelvic infection from her history and available medical record.

Age (years)	Yes		No		Total	
	No	%	No	%	No	%
15-25	7	10	4	5.71	11	15.7
26-35	23	32.82	19	27.14	42	60
36-45	8	11.42	9	12.85	17	24.2
Total	38	54.24	32	45.70	70	100

X2 = 0.7 P > 0.05

There is significant differences in 3 groups in relation to previous laparotomy was higher in those had previous laparotomy (Table 4) ($P < 0.05$).

Table 4: According to previous laparotomy from her history and available medical records.

Age (years)	No		Yes		Total	
	No	%	No	%	No	%
15-25	3	4.28	8	11.42	11	15.7
26-35	20	28.57	22	31.42	42	60
36-45	5	7.14	12	17.14	17	24.2
Total	28	39.99	42	59.98	70	100

X2 = 2.55 P < 0.05

There is significant differences in 3 groups according to mode of presentation 48 cases (68.56%) out of 70 present with abdominal pain (Table 5) ($P < 0.05$).

Table 5: According mode presentation.

Age (years)	Mode of Presentation						Total	
	Abdominal pain		vaginal bleeding		Collaps			
	No	%	No	%	No	%	No	%
15-25	6	8.57	3	4.28	2	2.85	11	15.7
26-35	29	41.42	9	12.85	4	5.71	42	60
36-45	13	18.57	9	4.28	1	1.42	17	24.2
Total	48	68.56	15	21.42	7	9.98	70	100

X2 = 1.73 P < 0.05

There is no significant differences in distribution of ectopic in relation to side (Table 6) ($P > 0.05$).

Table 6: Distribution of ectopic pregnancy by sides.

Age (years)	Left		Right		Total	
	No	%	No	%	No	%
Fallopian	28	40	36	51.42	64	91.4
Rudimentary horn	1	1.42	2	2.85	3	4.28
Ovary	1	1.42	2	2.85	3	4.28
Total	30	42.84	40	57.12	70	100

X2 = 0.26 P > 0.05

From this prospective study were analyzes 70 patients there is significant differences in parity, use of contraception, previous laparotomy and mode of presentations.

Discussions

1. In this prospective study there is significantly higher ectopic pregnancy in (group II) age 26-35 years old was 42 cases (60%) these finding were in an agreement with previous prospective studies. In Benin city Nigeria Gharoro E.P,IG bafe AA. And this in this age group might be related to abnormal embryogenesis, short luteal phase and lat onset of

ovulation all these factors caused by low serum progesterone level [6].

2. There is significantly higher ectopic pregnancy among nullipara in comparism to multipara 4 1cases (58.5%), 29 ¢cases (41.4%) respectively out of 70 cases and these findings were in an agreement with previous study in Bening city Nigeria of [6] (P<0.053).
3. There is higher incidence of ectopic pregnancy among women not used any type of contraception and this finding not in an agreement with Stromme WB.Conservative Surgery for ectopic pregnancy [5].
4. There 18 no significant differences in women with history of pelvic infection and those who give no such history and this not m an agreement were comparable with other reports and this may be attributed to the small number of women was included in this study [3-14-15].
5. There is significantly higher ectopic pregnancy in those patient who have history of previous laparotomy compare with no such history there is higher in those with history and this increase rate of ectopic because of increased risk of peritubal adhesion and this most common in peritubal reconstruction surgery. And this an agree with in Fertility Tutorials-com information [9].
6. Most of the cases of ectopic presentation in this analytic study was Abdominal pain 48 cases (68.5%) of patients (P < 0.05) and this an agreement with Ahmed M.Saleh Md, FRCSC, Monam. Mahjoub MD. A Ahmed M. El-Kurdy MD, FACHARZT [13].
7. The Distribution of ectopic pregnancy according to site was 92% in the fallopian tube and mostly in the Rt-tube and this agreement with. During period of our study no case of maternal death reported [15].

Conclusions

This study shows that the majority of the patient with ectopic pregnancies are nulliparous in their mid-thirties with history of pelvic previous laparotomy most of them not used any type of contraception prior to ectopic pregnancy and most of cases Acute presentation of severe abdominal pain and fainting attack management options 1s limited to laparotomy and ‘salpingectomy with occasional salpingectomy. In our governorate still there is no availability of laparoscopy and methotrexate so our first option in management of ectopic pregnancy is laparotomy.

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