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Clinical, investigational, surgical, and histopathological correlation of diagnosis of tubal ectopic pregnancy

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Abstract

Ectopic pregnancy is a life threatening condition and one of the major cause of maternal morbidity and mortality, and its incidence is increasing worldwide. Despite advances in Ultra-sonography and estimation of serum B hCG, the diagnosis of ectopic pregnancy remains a major challenge. The objective of this study was to correlate ectopic pregnancy clinically, investigational, surgically, and histopathologically.

Materials and Method: It was conducted at Burdwan Medical College Hospital over period of two years extending from 1st Dec 2010 to 30th Nov 2012 among 200 patients suspected to have ectopic pregnancy. Only tubal ectopic pregnancies were included.

Results and Analysis: In our study the majority 71.5% women belonged to 20-29 years age group. 52.5% (105) patients were primigravida. 80.5% of the patients came from rural area. 92% of the patients belonged to lower socio-economic class. Abdominal pain was the most common (77.5%) presenting symptom. Amenorrhea was the second most common presenting symptom, seen in 75% patients. 86% patients had adnexal tenderness. Lower abdominal tenderness was present in 80% patients. Adnexal mass was present in 39.5% cases. UPT was positive in 92.5% patients. Clinical findings were suspicious in 88% cases. USG detected the ectopic pregnancy in 97.89% cases. 96.5% cases of ectopic were detected after surgery.

Conclusion : careful history, thorough examination along with freely available urine pregnancy kit test and age old process like abdominal/ vaginal puncture can diagnose most of the ectopic pregnancies. Only the minority of patients need the help of ultrasonography, serum B hCG estimation or laparoscopy for diagnosis.

Key words: ectopic pregnancy.

Introduction:

Ectopic pregnancy is a life threatening condition. In majority (95%) ectopic pregnancy occurs in fallopian tubes¹. Ectopic pregnancy causes maternal morbidity and mortality, with pregnancy loss and its incidence is increasing worldwide.²⁻⁵. Despite advances in Ultra-sonography and estimation of serum B hCG, the diagnosis of ectopic pregnancy remains a major challenge. The objective of this study was to correlate ectopic pregnancy clinically, investigational, surgically, and histopathologically.

Materials and Method:

It was conducted at Burdwan Medical College Hospital over period of two years extending from 1st Dec 2010 to 30th Nov 2012 among 200 patients suspected (having suspected clinical findings and investigations) to have ectopic pregnancy. Only tubal ectopic pregnancy were included. The detailed history and examination included age, parity, domicile, socio-economic conditions, risk factors presenting symptoms and signs. Final diagnosis was made with the help of urine pregnancy test, serum BhCG estimation, abdominal/ vaginal proof punctures, ultrasonography and laparoscopy. Surgical findings were also noted and specimen obtained, were sent for histopathological confirmation. Histopathological reports were reviewed.

Results And Analysis:

Table 1: Age distribution in women with ectopic pregnancy

Serial No	Age (years)	No. of patients	Percentage (%)
1.	<15	1	0.5
2.	15-19	29	14.5
3.	20-24	77	38.5
4.	25-29	66	33
5.	30-34	23	11.5
6.	35-40	4	2
Total		200	100

In our study the majority 71.5% women belonged to 20-29 years of age. 15-19 years age group were 14.5%. Ectopic pregnancy was less before 15 years (0.5%) after 35 years (2%). 11.5% ectopic pregnancy were seen among 30-34 years age group.

Table 2: Parity distribution in women with ectopic pregnancy

Serial No	Parity	No. of patients	Percentage (%)
1.	P ₀₊₀	105	52.5
2.	P ₁₊₀	25	12.5
3.	P _{≥2}	70	35
Total	200	100	

The majority 105 (52.5%) patients were primigravida. Among them 40 patients had treated for infertility. 21 patients was treated for pelvic inflammatory disease. 12.5% (25) were second gravidae. 11 patients of them had CuT in situ. Ectopic pregnancy was also quite high in multigravidae patients. 35% (70) patients belonged to

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multigravidae group. 39 multigravidae patients had ligation done.

Table 3: Geographic area distribution in women with ectopic pregnancy

Domicile	No. of patients	Percentage (%)
Rural	161	80.5
Urban	39	19.5
Total	200	100

The majority 80.5% of the patients came from rural area. This is probably that thistertiary care centre is situated at rural area.

Table 4: Socio-economic condition among women with ectopic pregnancy

Socio-economic condition	No. of patients	Percentage (%)
Lower class	184	92
Middle class	11	5.5
Upper class	5	2.5
Total	200	100

The majority 92% of the patients came from lower socio-economic class. 5.5% cases came from middle class family and only 2.5% came from upper socio-economic class. Majority of the hospital patients are from lower economic class. Though middle and upper class patients go to nursing home initially as ectopic pregnancy is emergency and moribund condition private nursing home deny to admit such patients anticipating chaos. So they refer the cases to the govt. hospital.

Table 5: Clinical symptoms in women with ectopic pregnancy

Serial No	Clinical symptoms	No. of patients	Percentage (%)
1.	Amenorrhea	150	75
2.	Bleeding per vagina	71	35.5
3.	Abdominal pain	155	77.5

Abdominal pain was the most common symptom and was obtained in 77.5% patients. Amenorrhea was the second most common presenting symptom, seen in 75% patients. 35.5% patients presented with vaginal bleeding.

Table 6: Clinical signs in women with ectopic pregnancy

Serial No	Clinical signs	No. of patients	Percentage (%)
1.	Abdominal tenderness	160	80
2.	Adnexal tenderness	172	86
3.	Cervical motion tenderness	92	46
3.	Adnexal mass	79	39.5
4.	Shock	20	10

About 86% patients had finding of adnexal tenderness. Lower abdominal tenderness was present in 80% patients. Adnexal mass though consistent with diagnosis, was present in 39.5% cases. 46% patients had cervical motion tenderness. 10% cases came with shock

Table 7: Investigations done in women with ectopic pregnancy

Serial No	Types of investigations	No. of patients	Percentage (%)
1.	Urine test for pregnancy	200	100
2.	Serum B hCG estimation	50	25
2.	Abdominal paracentesis / Culdocentesis	155	77.5
3.	Ultrasonography	95	47.5
4.	Laparoscopy	10	05

Urine test for pregnancy was done in all cases of suspected ectopic pregnancy. 25% patients could afford to do serum B hCH. Proof puncture either by abdominal approach or vaginal root was done in 77.5% patients. Though Gyne dept has its own USG still it was accessible only in 47.5% cases because USG could not be done in patients came after 5 P.M. Majority patients came with acute condition and in the odd our of the day. Moreover our in-expertization in laparoscopic surgery, laparoscopy was done in only 5% cases.

Table 8: Ultrasonographic findings in women with ectopic pregnancy (n=95)

Serial No	USG findings	No. of patients	Percentage (%)
1.	Empty uterine cavity	93	97.89
2.	Adnexal mass	87	91.57
3.	Big mass occupying Adnexa and POD	5	05.26
4.	POD collection	90	94.73

Among 47.5% patients to whom USG were done, 93 patients had empty uterine cavity with mass either in adnexa or big enough to occupy adnexa and POD. 90% patients had collection in POD.

Table 9: Histopathologic findings in women with ectopic pregnancy (n=200)

Serial No	Histopathologic findings	No. of patients	Percentage (%)
1.	Chorionic villi present	181	90.5
2.	No chorionic villi present	11	5.5
3.	Salpingitis with no chorionic villi	5	2.5
4.	Specimen missing	3	1.5
Total		200	100

Chorionic villi was detected in specimen of 90.5% cases. 2.5% patients tube showed evidence of salpingitis without any trace of chorionic villi. 5.5% patients specimen had shown no chorionic villi. Most of these cases were tubal abortion and specimen of ectopic pregnancy were collected from abdominal cavity and sample consisted mostly of blood clots. In 3 cases specimen were missing. One sample was misplaced from ward and another two were missing from O.T.

Table 10: Correlation between clinical and ultrasonographic findings in women with ectopic pregnancy (n=95).

Adnexal mass	Present		Absent		Total
	No. of patients	Percentage (%)	No. of patients	Percentage (%)	
USG	93	97.89	2	2.1	95
Clinical	79	39.5	121	60.5	200

Among 95 patient 93 (97.89%) patients had empty uterine cavity along with adnexal mass and/or mass in POD. Clinically out of 200 patients 79 (39.5%) had adnexal mass detected.

Table 11: Correlation between Urine pregnancy test (UPT), Clinical, and Surgical findings in women with ectopic pregnancy (n=200).

Procedures	Positive test or findings		Negative test or findings		Total
	No. of patients	Percentage (%)	No. of patients	Percentage (%)	
UPT	185	92.5	15	7.5	200
Clinical	176	88	24	12	200
Surgery	188	96.5	12	3.5	200

UPT was positive in 92.5% patients. Clinical findings were suspicious in 88% cases. USG detected the ectopic pregnancy in 97.8% cases. 96.5% cases of ectopic were detected after surgery.

Discussion:

In our study 71.5% ectopic pregnancy occurred in the age group 20-29 years. Westrom in 1981 in Sweden and Rubin et al in USA reported the incidence of ectopic pregnancy increasing with age^{6,7}. This difference might be due to early marriage of Indian women specially in rural area. The majority 92% of the patients came from lower socio-economic class. Vyas et al has reported that more ectopic are seen in the lower socio-economic classes than in higher society which is also seen in our study⁸. Abdominal pain was the most common symptom and was obtained in 77.5% patients. Amenorrhoea was the second most common presenting symptom, seen in 75% patients. 35.5% patients presented with vaginal bleeding. Not always the patient presents with classical symptoms. Williams reported 85% patients presenting with abdominal pain⁹. Breen in his series showed 85% patients presenting with amenorrhoea¹⁰. About 86% patients had finding of adnexal tenderness. Lower abdominal tenderness was present in

80% patients. Ratnam reported in his series 75.9% patients who presented with cervical movement tenderness¹¹ which is not consistent with our study. In our study 46% patients had cervical motion tenderness.

Among 45% patients to whom USG were done, 93 patients had empty uterine cavity with mass either in adnexa or big enough to occupy adnexa and POD. 90% patients had collection in POD. In our series, USG was positive in 97.89% of cases. Lawson showed 76% of cases positive on USG¹².

Conclusion:

Careful history, thorough examination along with freely available urine pregnancy kit test and age old process like abdominal/vaginal puncture can diagnose most of the ectopic pregnancies. Only the minority of patients need the help of ultrasonography, serum hCG estimation or laparoscopy for diagnosis.

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