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ONE YEAR RETROSPECTIVE STUDY OF ECTOPIC PREGNANCY IN A TERTIARY CENTER

Obstetrics & Gynaecology

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ABSTRACT

Ectopic pregnancy is a common life-threatening emergency in the first trimester of pregnancy that causes severe maternal morbidity and can even result in fatalities. Any woman of reproductive age who has severe lower abdominal pain or vaginal bleeding in the first trimester should be suspected of having an ectopic pregnancy. **AIM-**To review all cases of ectopic pregnancies, determine the incidence, clinical presentation, risk factors, outcomes and complications associated with ectopic pregnancy. **MATERIALS AND METHODS-** This was a retrospective study done in Patna Medical College and hospital, India, a tertiary care medical teaching hospital. Medical records of all women with an ectopic pregnancy between November2020 and October 2021 were retrieved from patient records and operation registers of the hospital. Parity, risk factors, clinical features, mode of management and need for blood transfusion was noted. The incidence of ectopic pregnancy, risk factors, mortality, and morbidity in these women were the main outcome measures investigated. **RESULTS-** Over the one-year period, 5306 pregnancies were diagnosed, among which 50 pregnancies were extra-uterine. The incidence of Ectopic pregnancy was 9.4/1000 pregnancies. The most common risk factor was history of PID (46%). In 42 (84%) women, abdominal pain was the most common complaint, although 36 (72%) women reported a history of prior amenorrhea. A spot urine pregnancy test was performed in all cases and was found to be positive in 43(86%) cases. The commonest site of ectopic was fallopian tubes 48(96%). One case each of cervical ectopic and ovarian ectopic was present. Only 2 (4%) patients were medically managed with Methotrexate. 48(96%) patients were managed surgically. Among the surgically managed patients, salpingectomy was done in 46(92%) cases. One patient(cervical ectopic) had to undergo hysterectomy and one patient(ovarian ectopic) had to undergo salpingo-oophorectomy. 41(82%) patients presented with ruptured ectopic. Most of the cases 46(92%) required blood transfusion and 32(64%) required ICU admission. Admission to intensive care unit was required mostly due to hemodynamic instability of the patient. **CONCLUSION-** Early diagnosis, identification of underlying risk factors, and timely intervention through conservative or surgical treatment can help in decreasing the morbidity and mortality associated with ectopic pregnancy.

KEYWORDS

ectopic pregnancy, incidence, risk factors, management, PID

INTRODUCTION

Ectopic pregnancy is originated from 'Ektopos' a Greek word denoting out of place. In ectopic pregnancy the fertilized ovum implants outside the endometrial cavity of uterus.[1] Earliest documentation of ectopic pregnancy was done by ABULCASIS, an Arabian surgeon practicing in Spain in 11th century.[2] Most hospital based studies report around 1-2% of ectopic pregnancy.[3]

Clinical manifestations of ectopic pregnancy usually appear six to eight weeks after the last menstrual period, but it can occur later depending upon the site of ectopic implantation.[4]The classical triad of ectopic pregnancy include amenorrhea, pain abdomen and vaginal spotting or bleeding. But unfortunately the classic triad is present only in 50% of patients.[5] Abdominal pain is the cardinal feature of ectopic pregnancy present in close to 100% of cases.[6] The patients may also present with other common symptoms of early pregnancy including fatigue, nausea, breast fullness and heavy cramping. Pelvic and lower abdominal pain is quite severe with tubal rupture and patient may present with hemodynamic shock. Ectopic pregnancy's impact to maternal mortality rates in developing nations like India is unknown, with statistics from a few studies indicating that 3.5-7.1 percent of maternal fatalities are caused by Ectopic pregnancy.[7]

Identified risk factors of ectopic pregnancy include age, previous ectopic pregnancy, previous pelvic surgeries, history of pelvic inflammatory diseases, use of intrauterine contraceptive device, tubal ligation, history of infertility and smoking.[8] Nearly all ectopic pregnancies are implanted in the fallopian tubes and a common factor for the occurence of such ectopics are the presence of a tubal pathology. 70% of ectopic pregnancies occur within the ampulla.

Other sites of ectopic in the tube include fimbria, isthmus and interstitium. Ectopic implantation can also occur outside the fallopian tubes, within the ovary, cervix, caesarean scars, uterine cornua and abdomen.[9]This study aimed to examine all cases of ectopic pregnancy managed at Patna Medical College and Hospital, a tertiary care center in Patna over a period of 1 year and, to determine the incidence, risk factors, clinical presentation, management and morbidity associated with ectopic pregnancy.

MATERIALS AND METHODS

This was a retrospective analysis, conducted at a tertiary care medical teaching hospital in Patna, India. Medical records of all women with an ectopic pregnancy between November 2020 and October 2021 were retrieved from patient records and operation registers of the hospital. Patient characteristics like age, parity and risk factors for ectopic Pregnancy were noted. Mode of diagnosis, management modality, complications and need for blood transfusion were also recorded. Incidence of Ectopic pregnancy, their risk factors, mortality, and morbidity were the main outcomes studied.

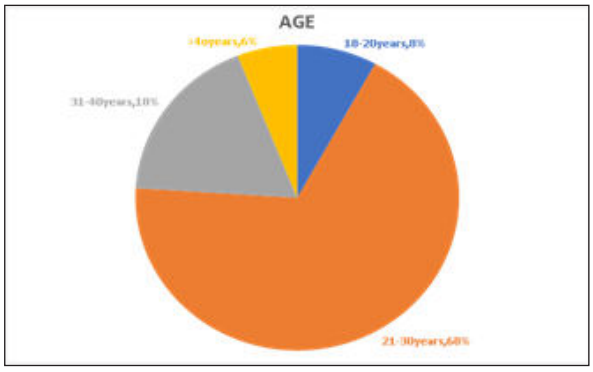
RESULTS

Over the one-year period, 5306 pregnancies were diagnosed, among which 50 pregnancies were extra-uterine. The incidence of Ectopic pregnancy was 9.4/1000 pregnancies. The majority of the women were between 21 and 30 years old. History of PID (46%) was the most common risk factor. The classic triad of amenorrhea, vaginal bleeding, and lower abdominal pain was present in 17 cases (34%). 42 (84%) women reported acute abdominal pain, while 36 (72%) reported preceding amenorrhea.

The other symptoms at presentation were vomiting and syncope. A spot urine pregnancy test was performed in all cases and was found to be positive in 43(86%) cases. It was found to be weakly positive in 4(8%) cases and negative in 3(6%) cases. The commonest site of ectopic was fallopian tubes 48(96%). One case each of cervical ectopic and ovarian ectopic was present.

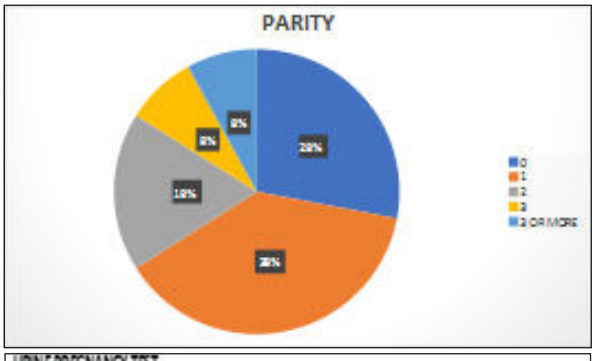
Only 2 (4%) patients were medically managed with Methotrexate. 48(96%) patients were managed surgically. Among the surgically managed patients, salpingectomy was done in 46(92%) cases. One patient(cervical ectopic) had to undergo hysterectomy and one patient(ovarian ectopic) had to undergo salpingo-oophorectomy. 41(82%) patients presented with ruptured ectopic. Most of the cases 46(92%) required blood transfusion and 32(64%) required ICU admission. Admission to intensive care unit was required mostly due to hemodynamic instability of the patient.

AGE(years)	18-20	21-30	31-40	>40
CASES	04	34	09	03
PERCENT	8	68	18	6



PARITY

PARITY	0	1	2	3	3 OR MORE
CASES	14	19	09	4	4
PERCENTAGE	28	38	18	8	8



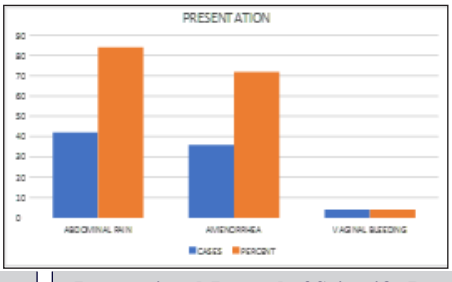
URINE PREGNANCY TEST

	POSITIVE	WEAKLY POSITIVE	NEGATIVE
CASES	43	04	03
PERCENT	86	08	06

	CASES	PERCENT
HISTORY OF PID	23	46
TUBAL SURGERIES(Tubal ligation)	02	04
HISTORY OF PREVIOUS ECTOPIC	03	06
HISTORY OF INFERTILITY	09	18
NO RISK FACTORS	13	26

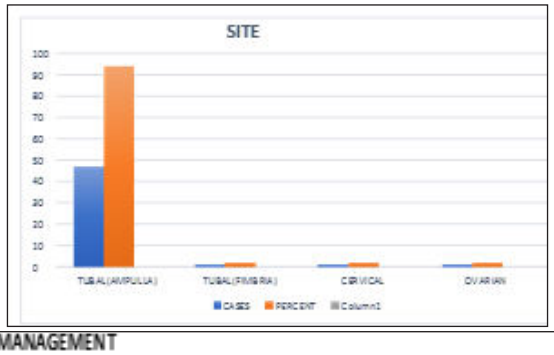
PRESENTATION

	CASES	PERCENT
ABDOMINAL PAIN	42	84
AMENORRHEA	36	72
VAGINAL BLEEDING	04	8



SITE

	CASES	PERCENT
TUBAL- AMPULLA	47	94
FIMBRIA	1	2
CERVICAL	1	2
OVARIAN	1	2

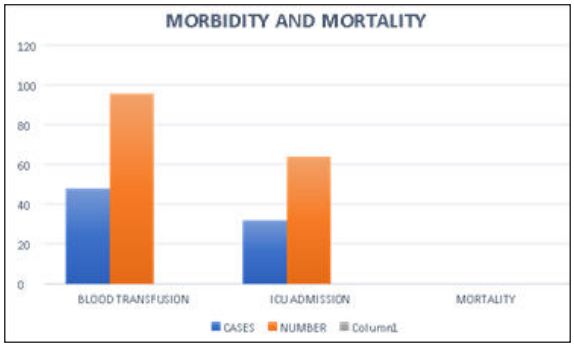


MANAGEMENT

	CASES	PERCENT
MEDICAL	2	4
SALPINGECTOMY	46	92
HYSTERECTOMY	1	2
SALPINGO-OOPHORECTOMY	1	2

MORBIDITY AND MORTALITY

	CASES	PERCENT
BLOOD TRANSFUSION	46	92
ICU ADMISSION	32	64
MORTALITY	0	0



DISCUSSION

In India, ectopic pregnancy is responsible for 3.5-7.1 percent of maternal mortality.[10] In our study, the incidence of ectopic pregnancy was 0.94 percent. This is in line with the majority of research undertaken in poor countries, where the incidence ranged from 0.56 to 1.5 percent. [11,12]In the first trimester, it is a leading cause of death. It is critical to refer patients to a higher level of care as soon as possible in order to prevent mortality and morbidity. Majority of the patients(68%) were in the age group 21 to 30 years in our study. Similar results were found in Smita Singh et.al and Samiya Mufti et.al studies.[13,14]This corresponds to the age of peak sexual activity and reproduction. There are studies which state that age related tubal changes increase the incidence of ectopic pregnancy.[15,16] In our study multigravida (72%) were found to be more prone to have an ectopic pregnancy. Studies conducted by Shraddha Shetty et.al and Laxmi Karki et al showed a similar result. [11,17]The commonest risk factors were history of pelvic inflammatory diseases(46%), history of infertility, history of previous ectopic pregnancy and previous history of tubal surgeries. Similar risk factors were noted in various other studies.1 In 46 percent of our patients, we found a history of Pelvic Inflammatory Disease (PID), which is similar to what Singh et al. and Mufti et al. found in their investigations.[3,19] Researchers from Nigeria, on the other hand have reported PID in 27-35.5% of their patients, hence making it the most common risk factor for ectopic pregnancy in the region. The

high incidence has been attributed to Nigeria's high polygamy rates.[20]

The most common complaints were acute abdominal pain, amenorrhea, and abnormal vaginal bleeding. In Porwal Sanjay et al study, 87.5% reported with pain abdomen, bleeding per vagina encountered in 67.5% and 90% of cases had history of amenorrhea ranging from 6 weeks to 4months. These characteristics aid in the early detection of ectopic pregnancies.[18] Right sided tubal pregnancy was present in 29(60.4%) cases and left tubal involvement in 19(39.5%) cases, consistent with other studies.[20] Ectopic pregnancy is most commonly found in the ampulla of the fallopian tube. In other studies, the ampullary tube was commonly involved in most ectopic pregnancies.[21] The majority of patients in developing nations are diagnosed after tubal rupture. 86 percent of the women at our tertiary referral centre had ruptured ectopic pregnancies and presented with a hemoperitoneum, whereas some studies have reported 70-100 percent of ectopic pregnancies ruptured at diagnosis, owing to late referrals.[12]

Most of the cases were managed surgically and a salpingectomy was performed. The majority of studies found a high rate of surgical treatment. [11,20,22,23] In contrast, surveys conducted in the United Kingdom by Taheri et al. and van den Berg et al. found that the number of patients addressed surgically has decreased over the last two decades (from 98 percent to 62 percent and 50 percent to 27 percent, respectively). This was ascribed to the introduction of Early Pregnancy Assessment Units (EPAU), where ectopic pregnancy is more likely to be diagnosed early in pregnancy, when medical intervention is still possible.[24,25] There were no deaths due to Ectopic Pregnancy during the period of our study. Maternal mortality due to ectopic pregnancy was reported to be between 0% and 1.3% in various studies.[11,20,22]

Mortality is mostly due to haemorrhage following rupture of the ectopic pregnancy due to delayed referrals and diagnosis. National Institute for Health and Clinical Excellence has estimated that two-thirds of maternal deaths due to ectopic pregnancies in the UK may have been associated with inadequate care. The prognosis for morbidity, mortality, and fertility can be improved by reducing the risk factors and identifying them as early as possible.[26]

CONCLUSION

By early identification of underlying risk factors, diagnosis with transvaginal ultrasound and β-hCG as well as timely medical or surgical intervention, one will be able to reduce morbidity and mortality associated with ectopic pregnancy, and to improve future reproductive success.

REFERENCES

1. Walker JJ Ectopic pregnancy. ClinObstet Gynecol 2007; 50:89-99
2. Amr SS, Tbakhi A. Abu Al Qasim Al Zahrawi (Albucasis): pioneer of modern surgery. Ann Saudi Med. 2007;27(3):220-221. doi:10.5144/0256-4947.2007.220
3. Singh S, Mahendra G, Vijayalakshmi S, Pukale RS. Clinical study of ectopic pregnancy in a rural setup: A two year survey. Natl J Med Res. 2014;4(1):37–39.
4. Bansal, P.M.C, Ectopic Pregnancy. www.slideshare.net,,2011
5. Dart, R.G, Kaplan and K Varakalis, Predictive value of history and physical examination in patients with suspected ectopic pregnancy. Ann Emerg Med,, 1999,33(3): p.283-90
6. Pam IC, Otubu JAM. Ectopic Pregnancy. In: Agboola A, ed. Textbook of Obstetrics and Gynaecology for medical students, 2nd edn. London: Heinemann Education Publishers, 2006; 101-5.
7. Shah P, Shah S, Kutty RV, Modi D. Changing epidemiology of maternal mortality in rural India: time to reset strategies for MDG-5. Trop Med Int Health. 2014;19 (5): 568 –75.
8. Panchal D, Vaishnav G, Solanki K. Study of Management in Patient with Ectopic Pregnancy. National Journal of Integrated Research in medicine, 2011;2(3):91-94
9. Bouyer J ,Coste J, Fernandez HPouly JLJob-Spira N.Sites of ectopic pregnancy; a 10 year population bases study of 1800 cases. HumReprod.2002 Dec;17(12):3224-30.107.
10. Yadav K, Namdeo A, Bhargava M. A retrospective and prospective study of maternal mortality in a rural tertiary care hospital of Central India. Indian J Community Health. 2013;25(1):16–21.
11. Shetty S, Shetty A. A clinical Study of Ectopic Pregnancies in a Tertiary care hospital of Mangalore, India. Innov J Med Health Sci [Internet] 2014 [cited 2015 Oct 12];4(1)
12. Baria D, Thaker R, Patel M, Shah S, Shah P, Jani S. Analysis of ectopic pregnancy at a tertiary care hospital: one year study. Int J Reprod Contracept Obstet Gynecol. 2013;2(4):621.
13. Smita Singh 1Mahendra G2, Vijayalakshmi S3, Ravindra S Pukale4. Clinical study of ectopic pregnancy in a rural setup: A two year survey. Print ISSN:22249 4995 |eISSN: 2277 8810 Volume- 4|Issue 1|Jan-March2014.
14. Samiya Mufti, Shagufta Rather, Samina Mufti, Reyaz A Rangrez, Wasiqa, Khalida Ectopic Pregnancy: An analysis of 114 cases JK- Practitioner 2012;17(4):20-23.
15. Menon S Sammel MD, Vichnin M, Barnhart KT. Risk factors for ectopic pregnancy: a comparison between adult and adolescent women. J Paediatr Adolesc Gynecol 2007;20: 181-5
16. Sindos M, TogaA, Sergentani N, Karagiannis A, Malamas F, Fafaras A, et al. Ruptured ectopic pregnancy: risk factors for a life threatening condition. ArchGynecol Obstet 2009; 279:621-3.
17. R. C (Karki) L, Pradhan B, Duwa S. Annual Analysis of Ectopic Pregnancy in Tertiary Care Hospital. PMJN 2011;11 :5-8
18. Gupta R, Porwal S, Swarnkar M, Sharma N, Maheshwari P. Incidence, trends and risk factors for Ectopic Pregnancies in a tertiary care hospital of Rajasthan. JPBMS 2012; 16 (07):1-3.
19. Mufti S, Rather S, Mufti S, Rangrez RA, Wasiqa K. Ectopic pregnancy: An analysis of 114 cases. JK- Pract. 2012;17(4):20–23.
20. Udigwe GO, Umeononihu OS, Mbachu II. Ectopic pregnancy: a 5 year review of cases at nnamdiazikiwe university teaching hospital (NAUTH) Nnewi. Niger Med J. 2010;51(4):160.
21. Swende TZ. Jogo AA. Ruptured tubal pregnancy in Makurdi, North Central Nigeria. Niger J Med 2008; 17(1): 75-7
22. Cornelius AC, Onyegbule A, Onyema null, Uchenna ET, Duke OA. A five year review of ectopic pregnancy at Federal Medical Centre, Owerri, South East, Nigeria. Niger J Med J Natl AssocResid Dr Niger. 2014;23(3):207–12.
23. Khaleeque F, Siddiqui RI, Jafarey SN. Ectopic pregnancies: A three year study. J-Pak Med Assoc. 2001;51(7):240–42.
24. Taheri M, Bharathan R, Subramaniam A, Kelly T. A United Kingdom national survey of trends in ectopic pregnancy management. J ObstetGynaecol J Inst ObstetGynaecol. 2014;34(6):508–11.
25. van den Berg MMJ, Goddijn M, Ankum WM, van Woerden EE, van der Veen F, van Wely M, et al. Early pregnancy care over time: should we promote an early pregnancy assessment unit? Reprod Biomed Online. 2015;31(2):192–98.
26. Majhi AK, Roy N, Karmakar KS, Banerjee PK. Ectopic pregnancy--an analysis of 180 cases.J Indian Med Assoc. 2007 Jun;105(6):308,310,312