

**Research Article****A Study of the Rising Number of Ectopic Pregnancies  
Presenting at Tertiary Care Hospitals**

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**ABSTRACT**

**Background:** World is facing the problem of ectopic pregnancy as a threat to the life of both fetal and mothers having multiple presentations. There is an increase in the incidence of ectopic pregnancies; as in 1970 (0.5%) to 2% at present. Research was aimed at the incidence determination, clinical presentation, treatment, risk factors, mortality and morbidity related to ectopic pregnancy.

**Methods:** Our retrospective research was completed in 3 years at gynecology and obstetrics department in a tertiary healthcare facility starting from February, 2015 to January, 2018 on the sample of eighty patients analyzed through clinical features, operative outcomes, modality of treatment and risk factors.

**Results:** Against 2645 delivery cases hospital admission was made in eighty cases as three percent of the total delivery cases. The age group of the maximum number of cases was 25 – 29 years (43.75%) with gravida cases as (41.25%), identified risk factor in (66.25%) cases as the abortion was not common previously as a risk factor (31.25%). Amenorrhea classical triad, vaginal bleeding and abdomen pain abdomen was observed in (71.25%) cases, ruptures tubal pregnancy (55%), unruptured tubal pregnancy (10%) and one bilateral ectopic pregnancy case. Mainstay treatment method was applied for Salpingectomy (86.25%).

**Conclusions:** One of the major challenges in the pregnancies is an ectopic pregnancy. Mostly our country is observed with tubal rupture which requires an essential treatment through surgical methods. Maternal morbidity and fertility future can be saved through an early diagnosis, treatment and surgery.

**Keywords:** Ectopic pregnancy, Salpingectomy and Hemoperitoneum.

**INTRODUCTION**

Ectopic pregnancy can be referred to an extra or intra-uterine pregnancy where a fertilized ovum implants at abnormal site that is in conducive development and growth. In the two percent pregnant cases it is a threat to life of the patient and common 1<sup>st</sup> trimester mortality cause, which makes the ectopic pregnancy a serious issue of the modern practice and a challenge to the obstetricians with increased incidence of suspicion in the vaginal bleeding, abdominal pain and triad of amenorrhea. There is presence of non-specific sign in the women such as non-awareness of the

pregnancy and presence of a hemodynamic shock[1]. An early diagnosis can manage the unruptured ectopic pregnancy with success. Fatality is decreasing because of an early diagnosis. Most if the cases till rupture considered as asymptomatic as its 97% occurrence is in fallopian tubes. No risk factors are observed in frequent pregnancies, which have been reflected through controlled and prospective research about the increased awareness and risk factors related to the incidence of ectopic pregnancy; risk factors include pelvic inflammatory disease, ectopic

pregnancy history, abdominal surgery, pelvic surgery and tubal sterilization that help in the early diagnosis[2]. Clinical presentations are very vital in this regard, ectopic site and future reproductivity requirements, its management can be both surgical or medical.

**METHODS**

Our retrospective research was completed in 3 years at gynecology and obstetrics department in a tertiary healthcare facility starting from February, 2015 to January, 2018 on the sample of eighty patients analyzed through clinical features, operative outcomes, modality of treatment and risk factors. Diagnosis was made through historical presence, physical and clinical examination, radiological and laboratory investigations. We considered the record kept in the registers of gynecology, causality, operation theaters, labor rooms and wards for the total deliveries carried out in the time span of our research. We also made an analysis of the demographical data of the patients and studies the available record and information of the amenorrhea period, diagnosis

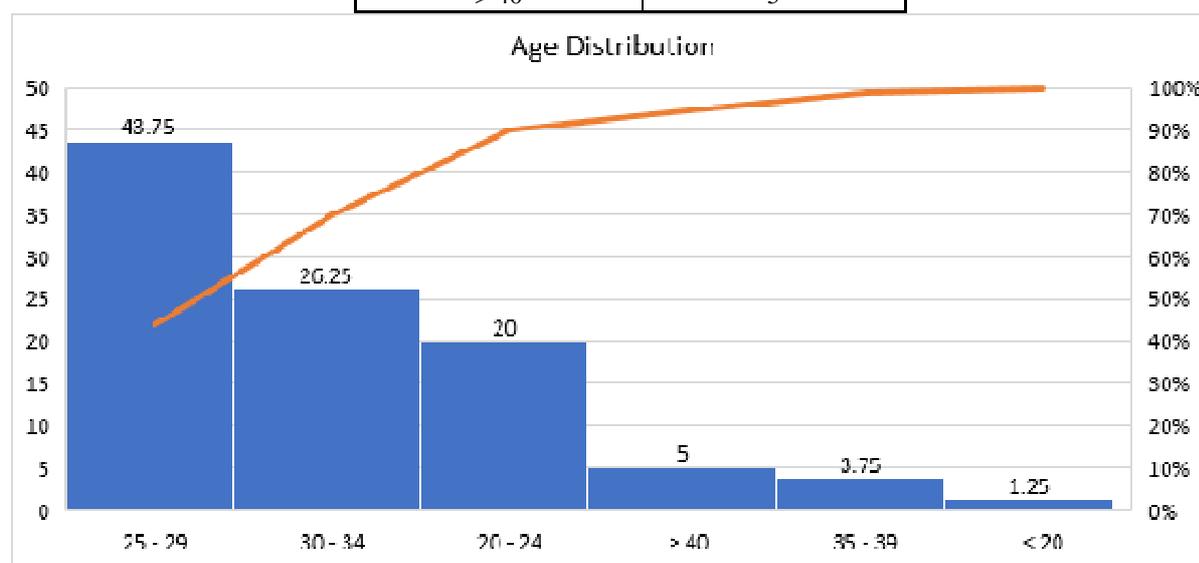
time, complain of abdomen pain, vaginal bleeding and acute abdomen pain[3]. at the time of diagnosis, presenting complaints like pain abdomen, bleeding per vagina and risk factors predisposition. UPT (Urine Pregnancy Test) was also carried out along with ultrasound. We also studied available management and treatment options and documented all the information on a pre-designed Performa through percentages. Our research included every woman presenting the confirm incidence of ectopic pregnancy in the research time period.

**RESULTS**

Our retrospective research was completed in 3 years at gynecology and obstetrics department in a tertiary healthcare facility starting from February, 2014 to January, 2017 on the sample of eighty patients analyzed through clinical features, operative outcomes, modality of treatment and risk factors. Against 2645 delivery cases hospital admission was made in eighty cases as three percent (30/1000) of the total 2645 delivery cases.

**Table-I:** Distribution of cases according to age

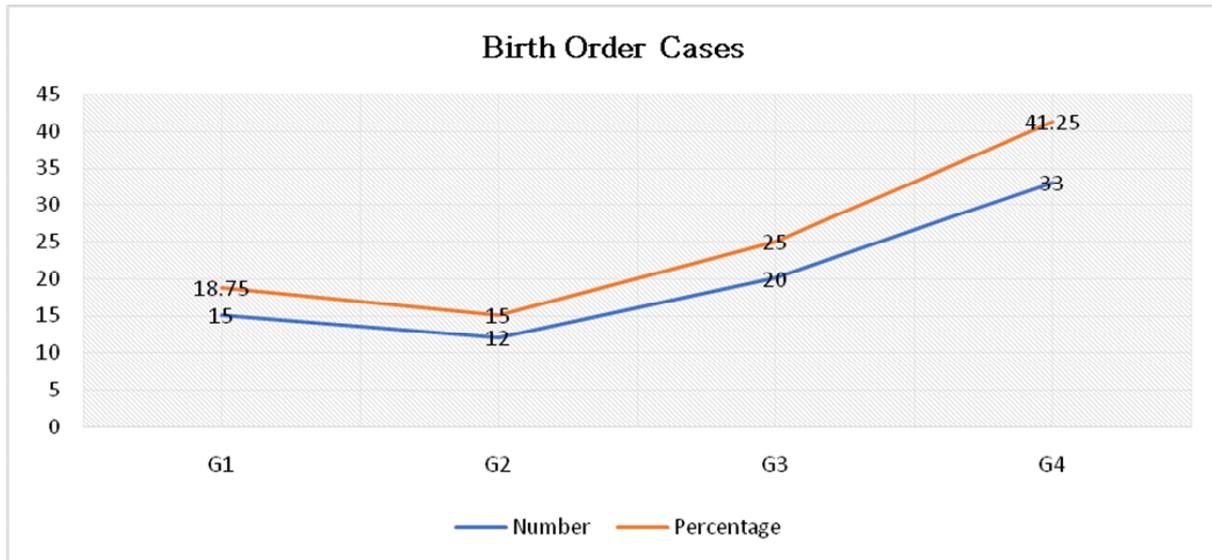
Age	Percentage
< 20	1.25
20 - 24	20
25 - 29	43.75
30 - 34	26.25
35 - 39	3.75
> 40	5



We observed that maximum ectopic pregnancies (43.75%) occurred in the age of 25 – 29 years.

**Table-II:** distribution of cases according to birth order

Gravida	Number	Percentage
G1	15	18.75
G2	12	15
G3	20	25

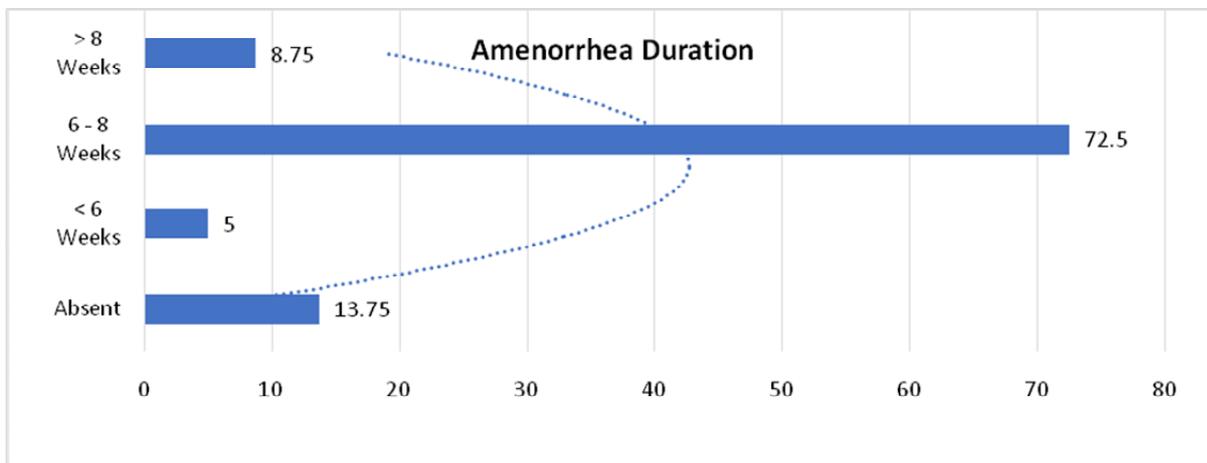


>G4	33	41.25
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Majority were above Gravida (41.25%) and the diagnosis was made in the week number from 6 – 8.

**Table-III:** Duration of Amenorrhea

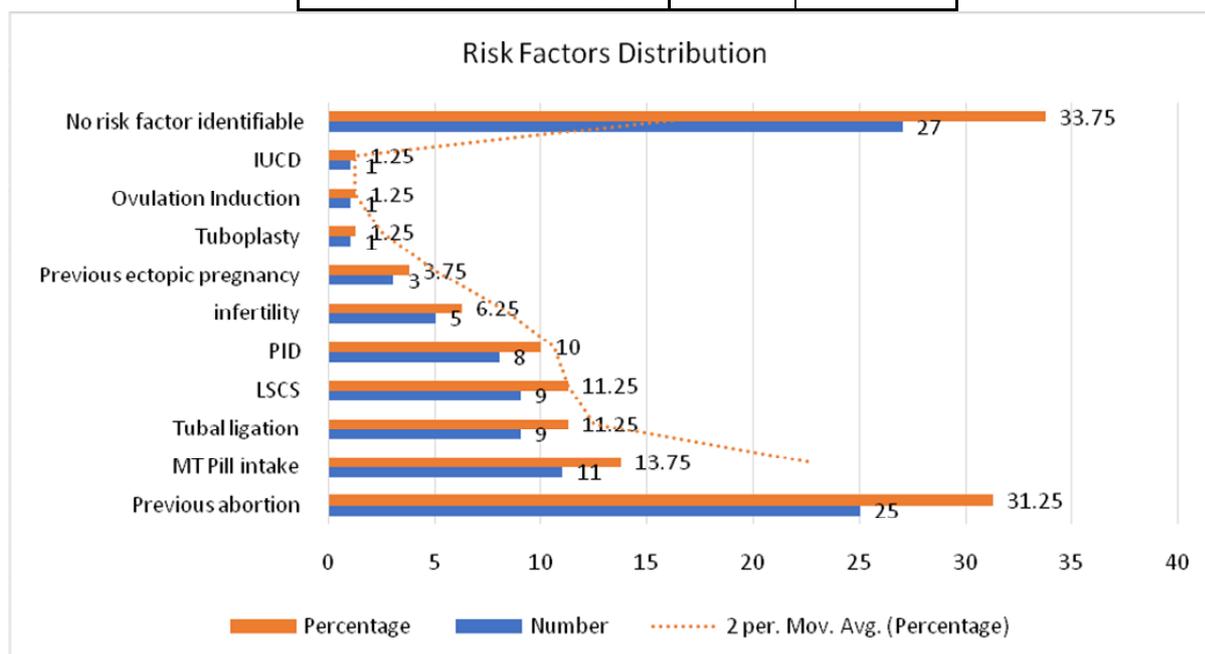
Amenorrhea Duration	Percentage
Absent	13.75
< 6 Weeks	5
6 - 8 Weeks	72.5
> 8 Weeks	8.75



One or more than one risk factors were present in 66.25% cases. In the spontaneous or induced risk factors abortion rate was 31.25% and abdominopelvic surgery history in (23.75%) cases. Tubectomy was observed in(11.25%), LSCS in 11.25% and tuboplasty was observed in one patient. Self-administered MTPill intake history was observed in (13.75%) cases. Repetition of ectopic pregnancies was observed in (3.75%) cases and no identification were observed in (33.75%) cases.

**Table-IV:** Distribution of cases according to high risk factors

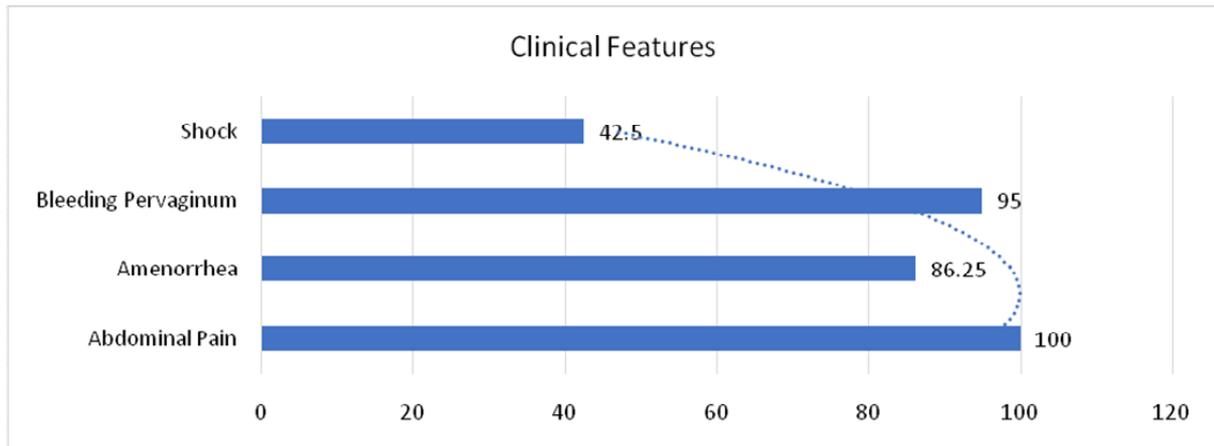
High Risk Factor	Number	Percentage
Previous abortion	25	31.25
MT Pill intake	11	13.75
Tubal ligation	9	11.25
LSCS	9	11.25
PID	8	10
infertility	5	6.25
Previous ectopic pregnancy	3	3.75
Tuboplasty	1	1.25
Ovulation Induction	1	1.25
IUCD	1	1.25
No risk factor identifiable	27	33.75



Abdominal pain classical triad, vaginal bleeding and amenorrhewere observed in (71.25%) cases.

**Table-V:** Clinical features

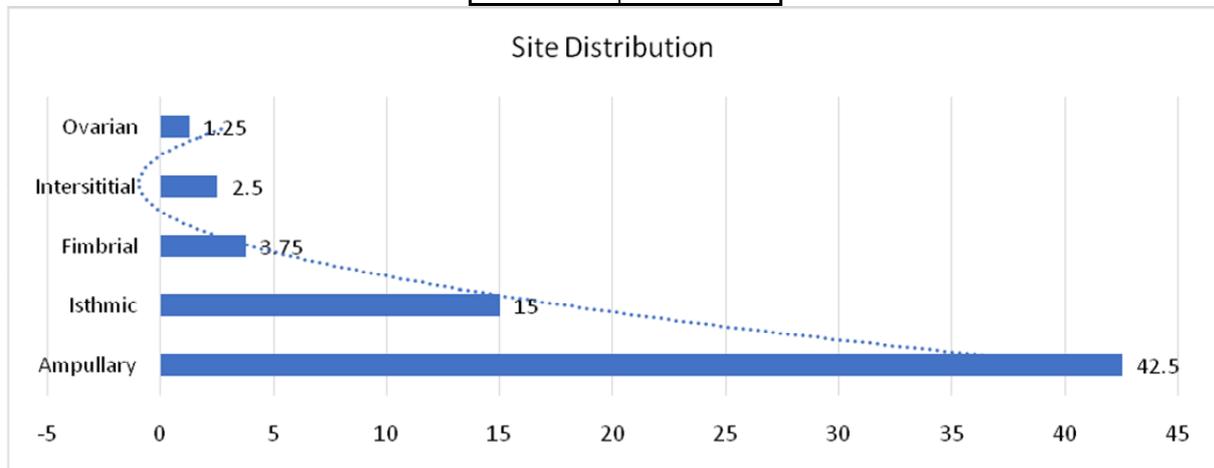
Cause	Percentage
Abdominal Pain	100
Amenorrhea	86.25
Bleeding Prevaginal	95
Shock	42.5



Shock, abdominal pain, amenorrhoea, positive urine pregnancy and ultrasonography was observed respectively in 42.5%, 100%, 86.25%, 95% and 96.25% cases which confirmed the diagnosis process but three cases were still not determined for the final diagnosis.

**Table-VI:** Distribution of cases according to site

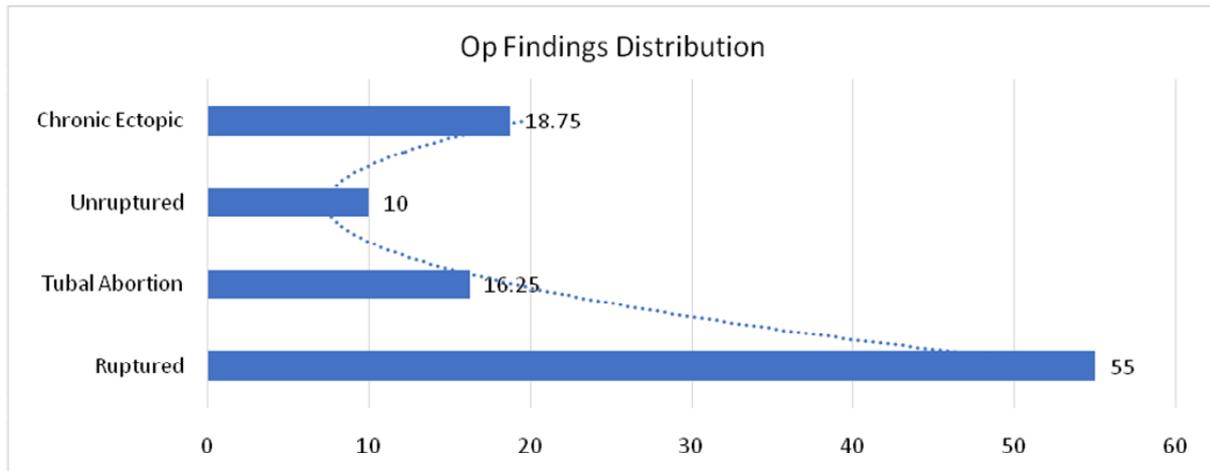
Case	Percentage
Ampullary	42.5
Isthmic	15
Fimbrial	3.75
Interstitial	2.5
Ovarian	1.25



Commonly observed was ampulla in tubal pregnancy(42.5%), bilateral ectopic pregnancy (01 case) and ovarian pregnancy (01 case). 53.1% cases were left sided and right sided cases were 47.1%. Various tubal pregnant cases were observed on the abdomen opening.

**Table-VII:** Distribution of cases according to per op findings

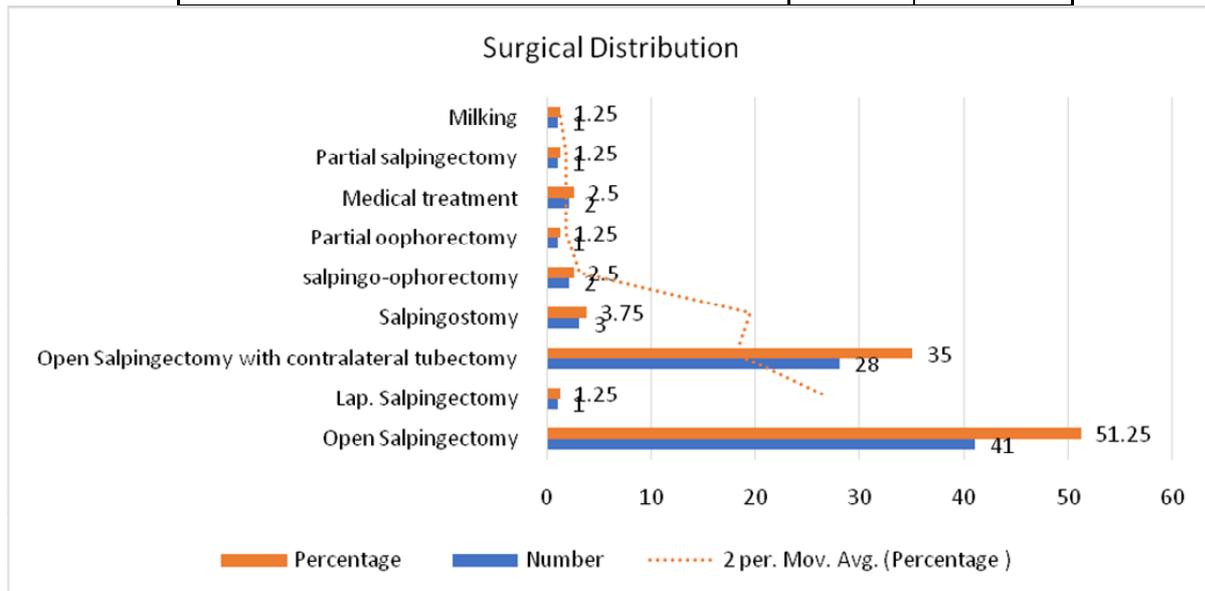
Case	Percentage
Ruptured	55
Tubal Abortion	16.25
Unruptured	10
Chronic Ectopic	18.75



Amenorrhea classical triad, vaginal bleeding and abdomen pain abdomen was observed in (71.25%) cases, ruptures tubal pregnancy (55%), unruptured tubal pregnancy (10%) and one bilateral ectopic pregnancy case. Mainstay treatment method was applied for Salpingectomy (86.25%).

**Table-VIII:** Distribution of cases according to type of surgery done

Procedure	Number	Percentage
Open Salpingectomy	41	51.25
Lap. Salpingectomy	1	1.25
Open Salpingectomy with contralateral tubectomy	28	35
Salpingostomy	3	3.75
Salpingo-ophorectomy	2	2.5
Partial oophorectomy	1	1.25
Medical treatment	2	2.5
Partial salpingectomy	1	1.25
Milking	1	1.25



Medical treatment was extended to 2 (2.5%) cases with one-time administration of methotrexate. Hemodynamically stable un-married female was treated through laparoscopic salpingectomy. Salpingectomy having contralateral tubectomy was carried out in (35%) cases. For bilateral ectopic pregnancy which was diagnosed per op Salpingectomy on one & salpingostomy on other side was also carried out. No death case of maternal nature was observed in our research.

**DISCUSSION**

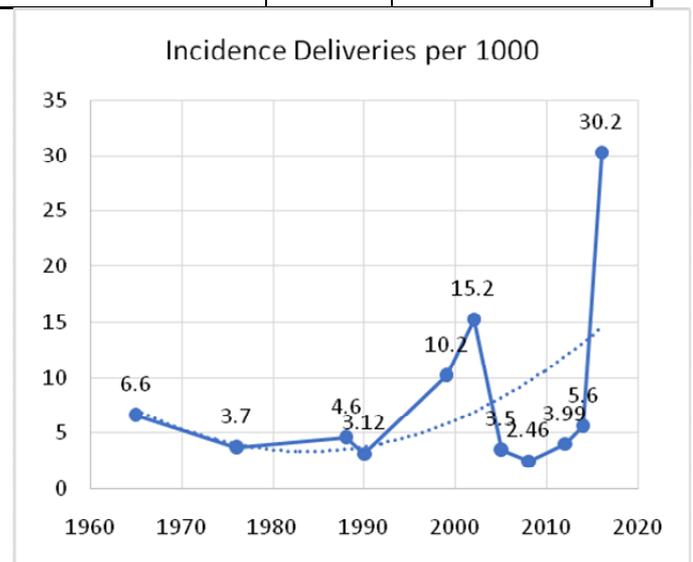
Ectopic pregnancy can be referred to an extra or intra-uterine pregnancy where a fertilized ovum implants at abnormal site that is in conducive in development and growth[4]. In the two percent pregnant cases it is a threat to life of the patient and common 1<sup>st</sup> trimester mortality cause, which makes the ectopic pregnancy a serious issue of the modern practice and a challenge to the obstetricians with increased incidence of suspicion in the vaginal bleeding, abdominal pain and triad of amenorrhea[5]. There is presence of non-specific sign in the women such as non-awareness of the pregnancy and presence of a hemodynamic shock. An early diagnosis can manage the unruptured ectopic pregnancy with success[6]. Fatality is decreasing because of an early diagnosis. Most if the cases till rupture considered as asymptomatic as its 97% occurrence is in fallopian tubes[7]. No risk factors are observed in frequent pregnancies, which have been reflected through controlled and prospective research about the increased awareness and risk factors related to the incidence of ectopic pregnancy[8]; risk factors include pelvic inflammatory disease, ectopic pregnancy history, abdominal surgery, pelvic surgery and tubal sterilization that help in the early diagnosis. Clinical presentations are very vital in this regard, ectopic site and future reproductivity requirements, its management can be both surgical or medical[9].

Our retrospective research was completed in 3 years at gynecology and obstetrics department in a tertiary healthcare facility starting from February,

2015 to January, 2018 on the sample of eighty patients analyzed through clinical features, operative outcomes, modality of treatment and risk factors[10]. Against 2645 delivery cases hospital admission was made in eighty cases as three percent (30/1000) of the total 2645 delivery cases[11]. Our research signifies a bit higher incidence in comparison to the other under developed countries where the range of this incidence is in the range of 0.56 – 1.5 percent, 0.2%, 13 – 15 percent and 10% as stated by numerous authors reflected in Table-IX.

**Table-IX:** Comparison of incidence quoted by several authors

Authors	Year	Incidence Deliveries per 1000
Jothi P	1965	6.6
Pendse V	1976	3.7
D’Mello	1988	4.6
ICMR	1990	3.12
Thomas A et al	1999	10.2
Jophy R et al	2002	15.2
Gaddagi RA et al	2005	3.5
Sanjay P et al	2008	2.46
Muffti et al	2012	3.99
Shetty S et al	2014	5.6
Present study	2016	30.2



Age group was same as noticed by the other authors that is in the range of 25 – 29 years with higher prevalence rate in the young age groups due to various contributing factors such as early marriage and conception[12]. Our findings relate ectopic gestation to birth order. Parity relation is also shown by few of the authors; whereas, few do not agree with the parity coincidence and state the decreased parity related to the increased ectopic pregnancy[13].

Pain and bleeding are the early markers of ectopic pregnancies and diagnosed at gestational age of 6 – 8 weeks. Our research observed, amenorrhea classical triad, vaginal bleeding and abdomen pain abdomen was observed in (71.25%) cases, ruptures tubal pregnancy (55%), unruptured tubal pregnancy (10%) and one bilateral ectopic pregnancy case[14]. Mainstay treatment method was applied for Salpingectomy (86.25%) which is also same as observed but few other authors present the incidence of abortion history as a risk factor involved in the tubal dysfunction and damage of the tube[15], awareness and education is required in order to improve abortion care and practice[16].

Every woman is to be suspected for the incidence of ectopic pregnancy having an abdominal pain, vaginal bleeding and amenorrhea whether with risk factors or without risk factors[17]. Intra operative results were same as the USG results as observed in various research studies. The incidence of fallopian tube in observed as the repeated most ectopic pregnancy site (98.75%)[18]. Ampulla was also common as (42.5%), same as observed by the Shetty nearly (45.2%). Ovarian was observed in one case as (1.25%). Our research observed amenorrhea classical triad, vaginal bleeding and abdomen pain abdomen was observed in (71.25%) cases, ruptures tubal pregnancy (55%), unruptured tubal pregnancy (10%) and one bilateral ectopic pregnancy case[19]. Mainstay treatment method was applied for Salpingectomy (86.25%); same has been observed by many of the other authors in their research studies. There was also an

involvement of the left and right-side tube as found by Porwal and his colleagues[20]. Pre-operatively a case of bilateral ectopic pregnancy was also observed which forces the examination of the tubes in the course of operation, even when there is a presence of adhesions for the diagnosis of the bilateral ectopic. We observed above fifty percent cases of ruptured ectopic pregnancies, which forces the early diagnosis for the better treatment of the disease[21]. We also observed that most of the cases went through laparotomy as the presentation was unstable. Few research studies also reflected poor treatment as a result of poor laparoscopy expertise in the absence of supervisors as the result of an increased laparotomy. We observed in our research no case of mortality; whereas, maternal mortality is observed in the range of 0 – 1.3 percent in numerous other research study. Fundamental clinical and surgical skills can control the rate of mortality[22].

## CONCLUSION

One of the major challenges in the pregnancies is an ectopic pregnancy. Mostly our country is observed with tubal rupture which requires an essential treatment through surgical methods. Maternal morbidity and fertility future can be saved through an early diagnosis, treatment and surgery. A delayed diagnosis leads to the increased chance of morbidity and also affects the fertility process. Awareness and safe practice of abortion is required in order to promote the cause and MTP use in the absence of supervision need discouragement.

## REFERENCES

1. Tuli, A.G., et al., Ectopic pregnancy: a five year retrospective study in a tertiary care hospital. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 2017. 4(5): p. 1400-1403.
2. Bhalla, S., et al., Self administered medical abortion pills: evaluation of the clinical outcome and complications among women

- presenting with unsupervised pill intake to a tertiary care hospital in Malwa region of Punjab, India. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 2018. 7(4): p. 1537-1542.
3. Kharat, D., P.G. Giri, and M. Fonseca, A study of epidemiology of ectopic pregnancies in a tertiary care hospital of Mumbai, India. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 2017. 6(9): p. 3942-3946.
  4. Johnson, I., A retrospective review of the surgical management of tubal ectopic pregnancies at a tertiary Hospital in the Western Cape. 2017.
  5. Shukla, D.B., et al., Study of ectopic pregnancy in a tertiary care centre. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 2017. 6(3): p. 975-979.
  6. Regmi, R.P., et al., Profile of Ectopic Pregnancy at Western Regional Hospital. *Journal of College of Medical Sciences-Nepal*, 2017. 13(4): p. 397-400.
  7. Zafar, S.M.A., et al., Total Laparoscopic Hysterectomy at Tertiary Care Hospital: Minimal Risk of Complications; Cross Sectional Study. *Journal of the Society of Obstetrics and Gynaecologists of Pakistan*, 2017. 7(2): p. 61-64.
  8. Qadir, M. and S. Amir, ECTOPIC PREGNANCY: A CLINICAL STUDY IN A TERTIARY INSTITUTE. *KJMS*, 2017. 10(2): p. 195.
  9. Mohan, S. and M. Thomas, Ectopic pregnancy: reappraisal of risk factors and management strategies. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 2017. 4(3): p. 709-715.
  10. Mpiima, D.P., et al., Association between Prior Chlamydia trachomatis Infection and Ectopic Pregnancy at a Tertiary Care Hospital in South Western Uganda. *Obstetrics and Gynecology International*, 2018. 2018.
  11. Bhuria, V., et al., A retrospective analysis of ectopic pregnancy at a tertiary care centre: one year study. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 2017. 5(7): p. 2224-2227.
  12. Madan, A., et al., Ectopic Pregnancy: A life threatening emergency. *Int. J. Curr. Res. Med. Sci*, 2017. 3(7): p. 144-151.
  13. Pusuloori, R. and K.D. Arora, A comparative study of ectopic pregnancy at a tertiary care centre. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 2018. 7(2): p. 694-699.
  14. Islam, A., et al., ANALYSIS OF TWO YEARS CASES OF ECTOPIC PREGNANCY. *Journal of Ayub Medical College Abbottabad*, 2017. 29(1): p. 65-67.
  15. Shrivastava, M., H. Parashar, and J.N. Modi, A clinical study of ectopic pregnancy in a tertiary care centre in Central India. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 2017. 6(6): p. 2485-2490.
  16. Agarwal, K., et al., Obstetric admissions to the critical care unit: a one year experience at a tertiary care referral centre of the developing country. *International Journal of Medicine*, 2017. 5(1): p. 113-119.
  17. Sindhura, M., et al., Trends in ectopic pregnancy: a retrospective clinical study of 79 cases. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 2017. 6(7): p. 3009-3013.
  18. Kumari, R., et al., Mortality and morbidity associated with illegal use of abortion pill: a prospective study in tertiary care center. *International Journal of Research in Medical Sciences*, 2017. 4(7): p. 2598-2602.
  19. Goodman, D.M., et al., The third delay: understanding waiting time for obstetric referrals at a large regional hospital in Ghana. *BMC pregnancy and childbirth*, 2017. 17(1): p. 216.
  20. Sheelaa, W.G., et al., Adolescent gynaecology problems in rural South India: a

- review of hospital admission in a tertiary care teaching hospital in Ammapettai, Tamil Nadu, India A review of hospital admission in a tertiary care teaching hospital in Ammapettai. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 2017. 6(5): p. 1920-1923.
21. Yadav, S.T., S. Kaur, and S.S. Yadav, Ectopic pregnancy an obstetric emergency: retrospective study from medical college Ambala, Haryana, India. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 2017. 5(7): p. 2210-2214.
  22. Herklots, T., et al., Severe maternal morbidity in Zanzibar's referral hospital: Measuring the impact of in-hospital care. *PloS one*, 2017. 12(8): p. e0181470.