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ECTOPIC PREGNANCY IN NDUTH, OKOLOBIRI- 5 YEAR CASE RETROSPECTIVE REVIEW

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Abstract

Objective: To access the incidence of ectopic pregnancy, the risk factors, presentation in respect to maternal morbidity and mortality in NDUTH Okolobiri, Bayelsa State.

Method: Retrospective review of patients with proper hospital records admitted and treated in our centre for ectopic pregnancy was carried out. The review was taken from January 2009 to December 2013.Analysis was carried out using Epi-info 2007 version 7.1.4.0.

Results: A total of 130 women were admitted with EP during the study period. The rate of ectopic pregnancy was 4.62% for a total of 2815 life deliveries, and 39.88% of all gynecological surgeries. No maternal death due to EP, risks factors found in 66.92% of the patients. The mean age of women was 29.2±5.7 year std. with the range of 17-45 years. Most of the ectopic pregnancies occurred in the age bracket of 24-34 years group (68.5%).There was one case of abdominal pregnancy. The commonest mode of diagnosis was through physical examination findings. The most common presenting symptom was abdominal pain 115(88.46%). A total of 113(87.60%) women presented with ruptured ectopic, 122(93.85%) women had blood transfusion, 86(67.72%) of the women where haemodynamically unstable on admission. Conclusively open abdominal surgery was performed in all the 130 cases, none of the patients benefited from less invasive laparosc opic surgery, conservative expectant management, or medical treatment of methotrexate.

Introduction

An ectopic pregnancy, or eccysis, is a complication of pregnancy in which the embryo implants outside the uterine cavity. With rare exceptions, ectopic pregnancies are not viable. Furthermore, they are often present as an acute emergency dangerous for the mother when ruptured, since internal hemorrhage is a life-threatening complication. Most ectopic pregnancies occur in the Fallopian tube (so-called tubal pregnancies), but implantation can also occur in the cervix, ovaries, and abdomen. An ectopic pregnancy is a potential medical emergency, and, if not treated properly, can lead to death[1]. It is the leading cause of maternal morbidity, and mortality in the 1st. trimester, and account for 10-15% of all maternal deaths mainly in the developing world.[1]In a normal pregnancy, the fertilized egg enters the uterus and settles into the uterine lining where it has plenty of room to divide and grow.

About 1% of pregnancies is in an ectopic location with implantation not occurring inside of the womb, and of these, 98% occurs in the Fallopian tubes, which is line with the result from this study. It has been recorded to have directly or indirectly contributed to about 10% of maternal mortality worldwide for all pregnancies [1,2]. Many publications have shown an increase of two to four folds in some part of the world, most particularly where adequate medicare is not available, although lesser increase has also been recorded in the developed world including European countries, North America, Australia etc. Increase figures of 19.7 per 1000 pregnancies were reported in the United States in 1992 [1,3]. While the increase in incidence of ectopic pregnancy is universal, life threatening emergencies are on the decrease in the developed countries due to enhanced diagnostic capabilities, and patients awareness of their health

state, this has not been noticed in the underdeveloped countries mostly in Africa, Asia alike; e.g. Nigeria, Guinea, Pakistan etc, which is in line with our review where more than a quarter of the patients were admitted as an emergency, due to late presentation with ruptured forms. [2,4] The possible causes of increase in incidence are increased rate of PID related complications, increased use of contraceptives, and increased rate of tubal surgical procedures[5]. Other possible factors are induced abortion followed by infection, dilation and curettage in illegal criminal abortion, use of ovulatory agents.[6] The most common site is the tube (95%) the uterus (intramural, angular, cervical or rudimentary horn), the ovary, broad ligament or elsewhere in peritoneal cavity [1,7] There are numerous factors predisposing to ectopic pregnancy. The basic mechanism is interference with or prevention of normal mechanism by which conceptus is transported, through the fallopian tube into the endometrial cavity [1,8] In ectopic pregnancy, trophoblasts invade the tissue of implantation which in majority of cases is the fallopian tube. When development reaches 12 weeks or more, the final fate of dead fetus may be skeletinization, mummification, adipose degeneration, infection or abscess formation [1,9]. The major diagnostic methods commonly available are, patient history, serum B-HCG, culdocentesis(paracentesis), ultrasound, laparoscopy and laparotomy. Unfortunately in our centre and most centers in Nigeria including other Sub-Saharan Africa, ultrasound and laparoscopy are rarely available [1,10]. Hence an emergency explorative laparotomy was performed in almost all the cases for a definitive confirmatory diagnosis in this review. Whereas, the main treatment of choice is laparoscopic surgery in the developed countries [11].Reasons: laparoscopic treatment of tubal pregnancy offers numerous advantages, by reducing operating time, blood lost, complication with surgery, hospital stay and improves cosmetic result[1,11]. The techniques includes, salpingostomy, salpingectomy, salpingo-opherectomy, corneal resection, were laparoscopy is not available in this review, laparatomy was opted with it's increase cost, hospital stay and other implications and complications involved in it usage. Conservative approach have also been attempted, including linear salpingotomy, resection of involved segments with end to end anastomosis, laser salpingectomy or even medical treatment of chronic ectopic without laparotomy has been done successfully[1,2,11]. In this part of the world nearly 100% of these cases are treated by open laparotomy [2,12]. Tubal ectopic pregnancy rate increases steeply after age of 30 years and especially after 35 years[13,28], which is similar to what is obtained in this study with mean age of 29.04 ±5.4 years. Ectopic pregnancy stands as one of the major causes of fetal wastage, increases the risk of recurrence and impairment of subsequent sub-fertility. The subsequent intrauterine pregnancy rate after tubal conservative surgery is reported to be 45 - 70 % and results are comparable between laparoscopy and laparotomy, with laparoscopy with a better outcome in terms of hospital stay, cost and morbidity by Bajekel et al., 2000; Zovues et al., 1992. The outcome is influenced by the extent of surgery performed, maternal age and degree of tubal disease [9,13]. Ruptured ectopic pregnancy is a severe medical emergency: most un-ruptured ectopic can mimic different intra-abdominal conditions, while some may be asymptomatic, it has caused great health problem in our region. The aim of the study is to determine the incidence, clinical presentation, and the economic impact to the patients. Also to evaluate some of the risk factors associated with ectopic pregnancy in those patients, to take steps, and recommendations on the interventions necessary to reduce life threatening incidences in the south-south Nigeria.

Method

A retrospective study of all cases of ectopic pregnancy admitted and treated, from 1st. January 2009 to 31st.December 2013, at the department of obstetrics and gynecology of Niger Delta University Tertiary Hospital, Okolobiri NDUTH. Most of the patients were admitted through the hospital emergency unit, while few through the gynecologic outpatient clinics. Although medical records in our hospital still have some shortcomings, all the information in this study is based on the available records at the time. In our centre, most of the cases presented as an emergency, patients were predominantly severely ill, still on admission patient history was generally taken, sometimes through family members. The 130 cases who presented with ectopic pregnancy were reviewed, and for incidence, presentation on admission, history, investigation carried out includes pregnancy test, ultrasound in some cases, physical examinations, and culdocentesis or paracentesis. After which, provisional diagnosis was made: other investigations includes full blood count, blood group, retroviral screening, urine analysis, clothing parameters, before surgical procedure was performed, specimen usually sent for histopathological examination. All these cases were treated by open abdominal surgeries (Laparatomy) since laparoscopic interventions has not been in place for now. Also a follow up for one month was carried out post operatively. Due to patient attitude, a long term follow up was not visible, and was not carried out so that outcome of future pregnancy or any complication is not known.

Result

During the study period of 2009-2013 a total of 130 cases of ectopic pregnancy were treated. There were 2815 deliveries during the period; the incidence of ectopic pregnancy was 4.62% as compared to the number of deliveries at this given period: the mean average age of the patients was 29.04± 5.6 years. The higher incidence may be attributed to the fact, that the hospital is a tertiary referral hospital. Table-1.Shows the socio-demographic natures of the patients of which majority of the patient were of the age above 24-34 years (68.5%), those between 31-50 years account for (36.96%). We observed also that, more than ½ of the patients (58.46%) were married, while less than ⅓ (30.00%) were single. There was a great disparity in the level of education compare to some other parts of the country with only (22.31%) of the patients with higher or tertiary education, (69.23%) have primary and secondary level of education, while (8.46%) had no formal education in table-1. Amenorrhea was present in (91.53%) of patients; Previous obstetrics history shows that (20.0%) had never had babies, while (80.0%) of the patients have had at least one or more babies (delivery) in table-3. Among the patients less than ¼ (22.31%) had never had abortion previously, while (77.7%) of the patients have had abortion once or more in table-3. PID was recorded in less than ⅔ of the patients (63.85%) in table-3. Previous ectopic pregnancy was recorded in (5.38%), while previous pelvic surgery was noted in (30.0%) of the patients in table-3. Abdominal massage was recorded from history of (65.45%) of the patients in table-3. In Table -4 Adenexal tenderness was presented in 35 cases (26.9%), adenexal mass was found in 40 cases (30.77%), abdominal distension was demonstrated in 100 cases (76.9%), abdominal tenderness was demonstrated in 115 (88.5%) and while Cervical excitation was present in 20 (15.4%). While Table-5 shows the nature of presentation with unset acute 98 (75.46%), while 24 (18.48%) of cases presented with chronic unset. Whereas table-6 shows the symptom with which the patient presented: abdominal pain either mild or severe was the most common feature presented in (96.9%) of the cases, Irregular uterine bleeding was present in 85 (65.38%) of patient. Shock was also found in 22 cases (16.92), Table-7; Ruptured tubal ectopic pregnancy on admission was (87.6%) in table-7, Position dominance was also observed to be 78 (60.0%) of cases affected the right side, while the left side had 51 (39.2%) cases, with 1 (0.77%) case of abdominal implantation. Salpingectomy with or without tubal ligation, ophorectomy, adhaesiolysis was performed in 123 (94.7%), whereas, 5 (3.85) cases of salpingostomy and 1 (0.77%) case of Evacuation of abdominal pregnancy and 1 (0.77%) case of hysterectomy was recorded; no medical treatment was done. The ampullary region was the commonest site with 91(70.07%) and abdominal pregnancy the least with 1(0.77%) occurrence. The most common complication encountered after the surgeries was anemia 113 patients (87.01%) fever, 73 patients (56.21%), while wound dehiscence was found in 9 patients (4.6%), Injuries to other organs like the ovary, uterus was recorded in 8 (6.16%.), while re-operation was done in 4 (23.08%) of the cases, while anesthetic problem was recorded in 1 (0.77) case.

There was no incidence of maternal death, due to ectopic pregnancy in this review. The yearly incidence of ectopic pregnancy was slightly similar, except of 2012, when there was a remarkable reduction on the number of ectopic pregnancy. Reasons were; the Hospital was shut down for 4 months due catastrophic flood in this part of the country.

Discussion

Ectopic pregnancy remains one of the most common and serious life threatening gynecological emergencies in women all over the world: much literature had shown that irrespective of advancement in the investigative technology, there still is a slow increase in incidence worldwide.[14] on like most advanced countries most of the cases are discovered and treated on time. Factors involved are improved socio-economic state, better individual medical awareness, free medicare in some countries, provision and availability of the investigative procedures and cost [1,15]. Hence, most of these cases could be treated either conservatively or with minimum invasive organs preserving surgeries[15]. Early diagnosis and treatment have greatly reduced the cost, the morbidity and as well as better fertility outcome of individuals.[16] The results from this study has shown that the benefits enjoyed by patients from the developed countries cannot be attained in our environment, hence the outcome more detrimental to the patient.[17,18] Furthermore, the socio-economic and health effect cannot be overemphasized as it can result to death, increase morbidity and of great negative impact on fertility.[2,18] Ectopic pregnancy was first clearly described in 936 A.D by Abulcasis (Abul Qasim), a famous Arabic writer on surgical topics[1,2]. It was a potentially fatal condition till approximately 100 years ago when Lawson tait became the first surgeon to operate deliberately and successfully on a patient with ruptured tubal ectopic pregnancy.[1,19] Experiences have shown that, women who have had ectopic pregnancy have fertility rate at least 50 % below normal.[20] Ectopic pregnancy is the leading causes of maternal death

in first trimester and accounts for 9.1% of all direct maternal deaths [5,18,21]. From 1985 to 1987, 16 women died in United Kingdom from this condition (Report on confidential enquiries into maternal death in United Kingdom 1985-87)[6]. The number of women who died from tubal pregnancy has dropped steadily in England since 1970[6]. Mortality rate for tubal pregnancy used to be approximately 1 to 7% in 1970 but declined to 0-3% in 1980; [6, 7, 8] so, it is a source of unpreventable fetal loss and preventable maternal loss. [9, 22] As the diagnosis of ectopic pregnancy is elusive, a high index of suspicion is the only safe guard against misdiagnosis and disastrous delay in surgery. Early use of plasma B-HCG, ultrasonography and laparoscopy decreases the morbidity and mortality associated with ectopic pregnancy, which also allows conservative tubal surgery when indicated [1,23]. The incidence of ectopic pregnancy in this retrospective review was 4.62% which is similar to study which was carried out in Kano, Nigeria with a prevalence of 4.26% by Yakasai I a et al., but differs from other studies done in countries like Pakistan, South Africa, Sweden etc.[2, 5, 8, 24, 31]. However, it is also higher compared to studies done in other parts of Nigeria. 2.19-3.0% in Calabar, 2.31% in Benin, 1.74 % in Jos, 1.3% in Nnewi, 2.1% in Abakaliki , all in Nigeria, and about 1-3% in other African studies[2,25,32]. This relatively high incidence in this study could be attributed to many factors, ranging from poverty, patients attitude to seeking health care services, socio-cultural, traditional beliefs, low uptake of modern contraceptive methods, importance attached with patients seeking traditional medical alternatives before considering conventional medical attention.[2,7,8] Also lack of adequate women empowerment, education, early sexual activities, early marriage, socio-economic, inadequate professional expertise and financial backing of our health institutions in this region, Nigeria, and the Sub-Sahara all contributes to the higher incidence of the emergency cases of the ectopic pregnancy, mainly aggravated by constant patronage of abdominal massage in this locality.[13,18.] Other reasons for the high incidence of the acute abdomen, caused by ruptured ectopic in the review is because, the hospital is a tertiary referral hospital, where most patients are referred very late.

We also found co-relationship between pelvic inflammatory diseases (PID) with 83(63.8%) cases from medical history and from intra-operative findings. Abortions were recorded in 101(77.7%) of the cases, much higher than those recorded in other studies [5,31,32] and patient advanced age 58 (44.6%) for age between 30-50 years of age, with those above 31 years accounting for more than ⅓ that is 48 (36.96%) which is in line with other studies done in the region [2,5,7,26]. However, the socio-economic status, educational background as risk factors influencing the severity and prevalence of the ectopic pregnancy among our patients cannot be overemphasized. Majority of the patients are in low economic status, no provable source of livelihood with low or no educational qualification 101 (77.7%). None of our patient had medical treatment for the ectopic pregnancy as compared to other studies were medical treatment were used in some cases [1,3] reasons: lack of adequate monitoring facilities and due to late presentation as 113 (87.6%) came with ruptured ectopic pregnancy [3,13] ; there was one abdominal pregnancy, which was discovered accidentally during a routine medical check-up at about 16 weeks of gestation and was terminated, no heterotrophic pregnancy was seen. [1,27] Due to the hemodynamic state of most patients blood ,transfusion was required in 122 (93.8%) as a result of severe haemoperitonium. Anemia was recorded in 118 (90.8%) among the patients, antibiotics prophylaxis and therapeutic treatment was also included in the management reasons; due to environmental factors, febrile illness before and after surgery and presence of intra-abdominal adhesions encountered during the surgery which necessitates the option. [5,12,28] However only few patients about ¼ required intensive resuscitative care [9,16,29]. All patients admitted for ectopic pregnancy during the study period did undergo laparatomy, of which 89 (68.5%) was emergency and the other 41(31.6%) had explorative laparatomy closely similar to other studies done in the country [10,8]. The right sided tubes, ovaries, appendices and other structures were more involved 78(60.0%), while the left sided tubes, ovaries, appendices and other structures accounts for 51 (39.23%) similar pattern of involvement with other studies.[11,13,16,17] Infection was the other leading complications after anemia with 48(36.96%). One of the major reasons of the severe anemia, shock, infection, ruptured ectopic pregnancy and late presentation was of the fact that more than ½ of the patients 85(65.45%) prior to presentation have visited traditional birth attendant and majority the patient admitted on account of ruptured ectopic had once, or more episode of abdominal massage.[8] Although, in this review; majority of the patients have had successful deliveries, with a mean of 2.59±2.18 babies, were 104(80.08%) are parous, with 26(20.0%) nulliparous patients. The mean abortion rate was 1.45±1.17 with 101(77.7%) of the patients, while 29 (22.3%) of patients had never had abortions. In the study, we recorded 122 (93.94%) transfusion rate, with a 2.97±1.44 mean unit of blood which is higher than other centers.[2,14,26] , which is also an indication of the extent of damage incurred and subsequent need for babies, the mean duration of stay in the hospital was 7.7±2.38 days.[4,5,16] Ectopic pregnancy has enormous socio-economic burden, coupled with the other medical, and psychological trauma to patients.[1,3,15] There was no record of

maternal death in this period of study in the institute as a result of ectopic pregnancy maybe, those fatal cases never got to the centre before the incidence, as compared to pathological findings in a neighboring state, such as Rivers state were maternal death was recorded to be 38 (3.1%) cases in a period between 1990-2001[4,8,]

However, the information obtained from this retrospective study does not truly reflect the actual incidence of morbidity, and mortality of women in the region, since the center is a newly established tertiary institution. In addition,, there are several private and public medical institutions in the locality offering similar services. Due to medical negligence in our environment, most of the fatal incidences occur in the orthodox medical places. The actual maternal morbidity and mortality as a result of ectopic pregnancy could not be ascertained correctly. Hence, if well established, it will eventually reflect on the overall maternal morbidity, and mortality negatively as compared with other regions of the world[18, 30]. Finally, In order to reduce prevalence in morbidity, more rigorous health related enlightenment campaigns, improvement in Medicare, increase in female child education, abolishment of child marriages, and consequent illegal abortions coupled with the need of early diagnosis will improve the situation. Screening of high risk patients should also be encouraged giving an early diagnosis and intervention before tubal integrity is lost. Whenever a patient comes with an ectopic pregnancy, heterotopic pregnancy also should be excluded because early intervention is mandatory to salvage viable intra uterine pregnancy.

TABLES:

Table 1. Sociodemographic characteristics of patient with EP

AGE	Frequency	Percent	Cum. Percent
≤ 20years	7	5.38%	5.38%
21-25	26	20.00%	25.38%
26-30	46	35.38%	60.76%
31-35	31	23.85%	84.60%
≥36	20	15.38%	100.00%
EDUCATION			
Higher	29	22.31%	22.31%
No formal	11	8.46%	30.77%
Primary	30	23.08%	53.85%
Secondary	60	46.15%	100.00%
Divorced	15	11.54%	11.54%
Married	76	58.46%	70.00%
Single	39	30.00%	100.00%
OCCUPATION			
Applicant/Applicant	20	15.38%	15.38%
Business/Trader	53	40.77%	56.15%
Civil Servant	10	7.69%	63.84%
House wife/Farmer	33	25.39%	89.23%
Manager/Professional	14	10.77%	100.00%

Table 2 Duration of amenorrhea with EP

Duration	Frequency	Percent	Cum. Percent
≤ 7 weeks	57	47.99%	47.99%
8-12 weeks	55	46.22%	94.21%
≥ 12 weeks	7	5.88%	100.00%
Total	119	100.00%	100.00

Table 3: Obstetrics history /Risk factors of EP (N: 130)

No.of Pregnancy			
0	00	0.00%	0.00%
1-3	41	31.54%	31.54%
4-7	65	50.00%	81.54%
≥8	24	18.46	100.00%
No.Abortion			
0	29	22.31%	22.31%
1-3	95	73.15%	95.46%
4-5	6	4.62%	100.00%
No.of Delivery			
0	26	20.00%	20.00%
1-2	44	33.88%	53.88%
3-4	34	26.18%	80.06%
≥5	26	20.02%	100.00
Previous Ectopic			
0	123	94.62%	94.62%
1	7	5.38%	100.00%
Total	130	100.00%	100.00%
No.of PID			
0	47	36.15%	36.15%
1-3	80	61.60%	97.75%
4-5	3	2.31%	100.00%
previous surgery			
No	91	70.00%	70.00%
Yes	39	30.00%	100.00%

Abd.massage yes	100	77.00%	77.00%
Abd. massage No	30	23.10%	100.00%

Table 4 Clinical examination findings of EP

Presentation	Frequency	Percent
Abdominal distension	100	76.92%
Abdominal Mass	15	11.54%
Abdominal Tenderness	115	88.46%
Vaginal Bleeding	85	65.38%
Adnexal Tenderness	35	26.95%
Cervical Excitation	20	15.38%

Table 5 Clinical nature of presentation of EP

Nature of Presentation	Frequency	Percent	Cum. Percent
Acute	98	75.46%	75.46%
Accidental diagnosis	8	6.16%	81.62%
Chronic	24	18.48%	100.00%
Total	130	100.00%	100.00%

Table 6 Clinical presentation of EP

Presentation	Frequency	Percent
Abdominal pain	126	96.92%
Amenorrhea	119	91.53%
Bleeding per vaginam	60	46.2%
Spotting Bleeding	25	19.23%
Vomitting	6	4.62%
Fainting attack/Collapsus	79	60.77%
Shock	22	16.92%

Table 7 Operational findings and Side of EP

Tubes (Ruptured)	Frequency	Percent	Cum. Percent
No	15	11.54%	11.54%
Yes	113	88.46%	100.00%
SIDE OF ECTOPIC			
Left side	51	39.23%	39.23%
Abdominal	1	0.76%	39.99%
Right side	78	60.00%	100.00%

Table 8 Site/location of EP

Site/location of ectopic pregnancy	Frequency	Percent	Cum. Percent
Abdominal	1	0.77%	0.77%
Ampulary	91	70.07%	70.84%
Cornia	13	10.01%	80.85%
Fimbrio-ovary	6	4.62%	85.47%
Interstitial	3	2.31%	87.78%
Isthmus	16	12.32%	100.00%
Total	130	100.00%	100.00%

Table 9 Intraoperative and postoperative complications

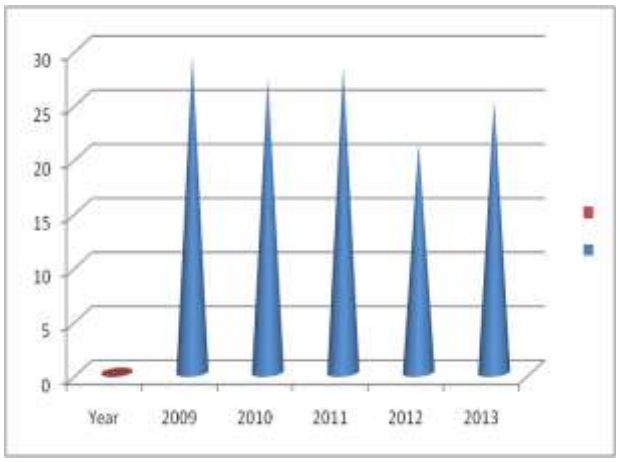
Pre-operative-postoperative complications	Frequency	Percent
Injury to other organs	8	6.16%
Wound breakdown	9	6.93%
Reoperation	4	3.08%
Fever	73	56.21%
Anemia	113	87.01%
Anesthestic problems	1	15.38%

Table 10. Type of operation for EP patients

TYPEOFOPERATION	Frequency	Percent	*Cum. Percent*
Salpingectomy unilat	84	64.68%	*64.68%*
Salpingectomy +tub.lig.	10	7.70%	*72.38%*
Salpingoophorectomy	15	11.55%	*83.93%*
Salpingoophorectomy+tub.lig.	8	6.16%	*90.09%*
Abdominal Preg.evacuatio	1	0.77%	*90.86%*
Salpingectomy+Adhaesiolysis	5	3.85%	*94.71%*

Salpingostomy	6	4.62%	99.33%
Hysterectomy	1	0.77%	100.00%
Total	130	100.00%	100.00%

Graph 1 Distribution of ectopic pregnancy by year (N:130)



Conclusion

Ectopic pregnancy remains one of the leading acute gynecologic emergencies in this referral hospital, with majority of patients presenting with heamodynamically unstable life threathnening condition. We observed that majority ectopic pregnancies in our environment are associated with previous genital infections and abortions. We also noticed some relationship with the level of education, and increase in age. Most of the surgical intervention, were not conservative, since majority of the patients 115(88.46%) presented with an acute life threatening emergencies, who also required blood transfusion and intensive care with longer days of hospitalization. The main handicap in this environment was due to late referrals, socio-cultural beliefs and socio-economic state. Reasons due to poverty, lack of good medical enlightenment, inadequate investigative procedures like ultrasound, laparoscopy etc. Screening of high risk cases, more general public enlightenment on these problems, health education programs, reduction of poverty, better education and more social amenities, provision of early diagnosis and early intervention would reduce the morbidity in ectopic pregnancies.

Conflict of Interest.

Ethical approval was obtained from the teaching Hospital ethical committee and there was no conflict of interest as regard this publication.

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