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Management of Ectopic Pregnancy

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Abstract:
Ectopic pregnancy is a complication in which fertilized ovum implants outside the uterus. The site of implantation is Fallopian tube in about 95% cases. This is the reason that ectopic pregnancies are commonly called "tubal pregnancies." Ruptured ectopic pregnancy is one of the leading causes of maternal mortality in the first trimester. As the data available is mostly of Western countries so a retrospective study was conducted with an aim to evaluate the rate of occurrence of ectopic pregnancy, Diagnostic facilities,implementaion of Pharmaceutical care to improve patient quality of life and awareness in general public about the ectopic pregnancy in under developed countries. A total of 25 patients with complaints of ectopic pregnancy were observed in Public sector Hospitals of Lahore, Pakistan (Sir Ganga Ram Hospital, Lady Wellington Hospital, Jinnah Hospital, Fatima Memorial Hospital) with special considerations of Emergency Departments and Gynae Units. A well designed and approved Performa was used to collect and evaluate Patient data, Ultrasonographic reports, ß hcg levels. The patients Data revealed that the ratio of occurrence of ruptured Ectopic pregnancy is 99% in Public sector hospitals. And only treatment choice is Laparotomy. In majority of the patients the awareness about the symptoms, pre disposing disease factors and treatment options was minimum so that's why the incidence of ruptured ectopic pregnancy was very high in Public sector Hospitals of underdeveloped areas and the only option left was to choose the surgical procedures such as Laparotomy which resulted morbidity, increased hospital stay and lower chances to conceive further**.**

Key Words: Ectopic Pregnancy, Laparotomy, Methotrexate, ß hCG value, Ultrasonography

INTRODUCTION:

Ectopic pregnancy is any pregnancy in which the fertilized ovum implants outside the intrauterine cavity. Because none of these anatomic sites can accommodate placental attachment or a growing embryo, the potential for rupture and hemorrhage always exists. A ruptured ectopic pregnancy is a true medical emergency. It is the leading cause of maternal mortality in the first trimester and accounts for 10 to 15 percent of all maternal deaths [1] when the ß-hCG level is higher than 1,500 mlU per mL (1,500 IU per L) and transvaginal ultrsonography results in absence of intra uterine gestational sac then a patient is suspicion of ectopic pregnancy.[2]

]The Diagnosis of Ectopic Pregnancy is difficult and symptoms are often confused with miscarriage. Usually only Physical examination cannot leads to diagnosis of Ectopic Pregnancy. A woman of Child bearing age having Amenorrhea for more than a month and presenting with symptoms like Abdominal Pain and Vaginal pain can be a suspect of Ectopic Pregnancy. The treatment consisted of an open Laparotomy and salpingectomy; current laparoscopic techniques for unruptured ectopic pregnancy emphasize tubal preservation. Other treatment options include the use of methotrexate therapy for small, unruptured ectopic pregnancies in haemodynamically stable patients Ectopic pregnancies usually present after a woman has been amenorrheic for7 (SD 2) weeks. The diagnosis can be difficult unless the condition is suspected, and ectopic pregnancies produce lower concentrations of hCG than normal pregnancies [3] Between 40 and 50 percent of ectopic pregnancies are misdiagnosed at the initial visit to an emergency department. After a careful history and physical examination, ancillary studies may include a urine pregnancy test and determination of the serum progesterone level and serum quantitative ß-hCG levels.[4] Ultrasonographic evaluation, uterine evacuation, or laparoscopy can be used to

confirm the location of the pregnancy. If the diagnosis of ectopic pregnancy is made early, conservative surgical treatment (salpingostomy or salpingectomy) or medical therapy with methotrexate will avert complications, including rupture, emergency surgery, and associated illness and death. Earlier diagnosis has made medical management of ectopic pregnancy an option In gestations longer than 5.5 weeks, a transvaginal Ultrasonographic examination should identify an intrauterine pregnancy with almost 100% accuracy [5] In determining whether a patient is a candidate for medical therapy, a number of factors must be considered. She must be hemodynamically stable, with no signs or symptoms of active bleeding or hemoperitoneum.[6]

Methotrexate is used to Avoids the growth of fetal or embryonic cells which are left behind after the surgery to end the ectopic pregnancy. and It also ends the early ectopic pregnancy[6] The single-dose regimen uses an intramuscular (IM) injection dose of 50 mg/[m.sup.2] of methotrexate without leucovorin. In the multidose regimen, IM injections of 1 mg/kg of methotrexate are given followed by leucovorin (0.1 mg/kg) after 24 hours. [beta]-hCG levels are checked every other day. . [Beta]-hCG levels are then repeated weekly until undetectable.[7] Surgical treatment may involve removing the affected fallopian tube (salpingectomy) or dissecting the ectopic pregnancy with conservation of the tube (salpingostomy). Laproscopy is cost-effective and is the preferred surgical approach. Laparotomy is reserved for patients with extensive intraperitoneal bleeding, intravascular compromise, or poor visualization of the pelvis at the time of laproscopy. [8]] Methotrexate can also be used to Prevent the growth of any embryonic or fetal cells that are left behind after surgery to end an ectopic pregnancy. During treatment; patients are required to avoid alcohol and foliate-containing vitamins. Sexual intercourse or pelvic examinations could potentially rupture the tubal hematoma commonly noted on ultrasound after methotrexate treatment and therefore should be avoided. Patients are also requested to avoid cabbage, onions, leeks, and other potential gas-producing foods to avoid the gastrointestinal distress from excess intestinal gas production that seems to be common following methotrexate treatment.[9]. One hundred sixteen laparoscopically documented EPs, the majority (90%) of whom were symptomatic, were diagnosed from an Emergency Department population [10] Upon clinical examination haemodynamically stable patients can be categorized as high, intermediate, or low risk for ectopic pregnancy based on clinical examination finding. In most of cases the Clinical examinations are not diagnostic because about30 percent of patients with ectopic pregnancies are presented with no vaginal bleeding, 10 percent come with a palpable adenexal mass, and up to 10 percent posses negative pelvic examinations. So the overall possibility of ectopic pregnancy is 39 percent in a patients complaining abdominal pain and vaginal bleeding but having no other risk factors This probability of disease increases to 54 percent if the patient has other risk factors like history of tubal surgery, ectopic pregnancy, or pelvic inflammatory disease etc. A thing to remember that no combination of physical examination findings can exclude chances of ectopic pregnancy [11]

MATERIALS AND METHODS:

A total of 25 patients with complaints of ectopic pregnancy were observed. These patients were presented in the Gynae units of Sir Ganga Ram Hospital, Lady Wallington Hospital, Jinnah Hospital, Sheikh zaid Hospital and Fatima memorial Hospital Lahore between the period of 15June2010 to 11July2010.All the 25 patients came in emergency situation and they were haemodynamically unstable. All of them were subjected to surgical treatment such as Laparotomy. In all the cases prior to the surgery the, patient Urinary Pregnancy Test was done and ß HCG test was performed. The informed consent was taken and then patient is subjected to Surgery. The post operative management includes antibiotics and analgesics.

RESULT:

Table 1: Educational Level

Educational Level	*Percentages*
Illiterate	60%
Middle	20%
Secondary	18%
Graduate	2%

Table 2: Stage at which ectopic pregnancy diagnosed

Stage of Duration	*Percentages*
First two weeks of pregnancy	11%
Second two weeks of pregnancy	32%
Third two weeks of pregnancy	57%

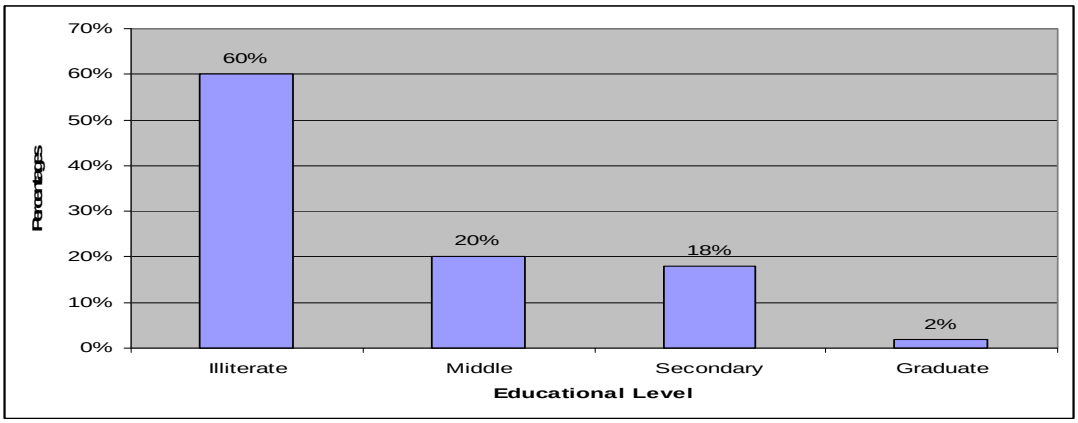

Figure 1

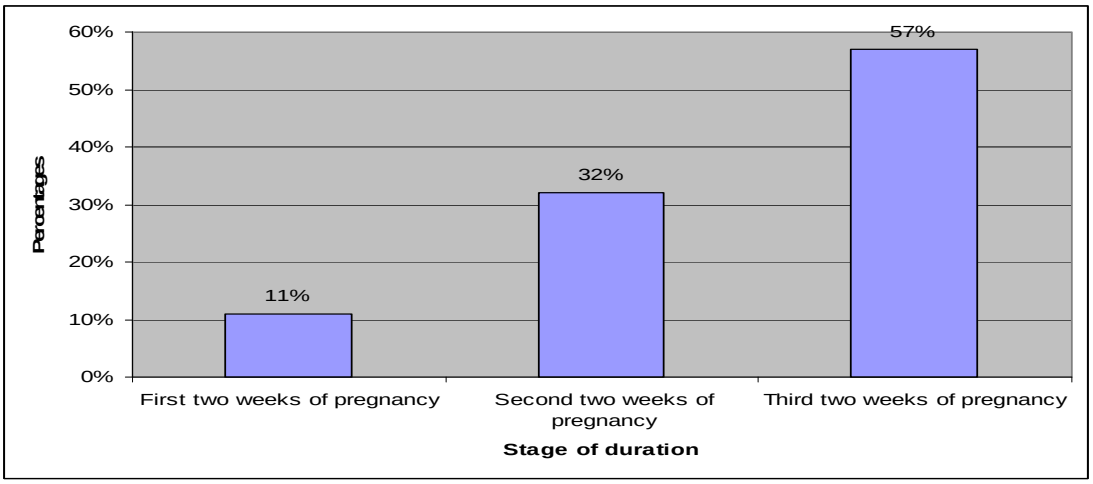

Figure 2

Table 3 Facility availed to treat Ectopic Pregnancy:

Hospital Faculty availed	*Percentages*
Emergency Department	87%
Indoor Patient Department	10%
Out door patient Department	3%

Table 4 Routine follow-up during pregnancy

Have Routine follow up	*Percentages*
Yes	1%
No	99%

Note: as about 99% patients were unaware about their pregnancies so, the ratio of routine follow up is minimum.

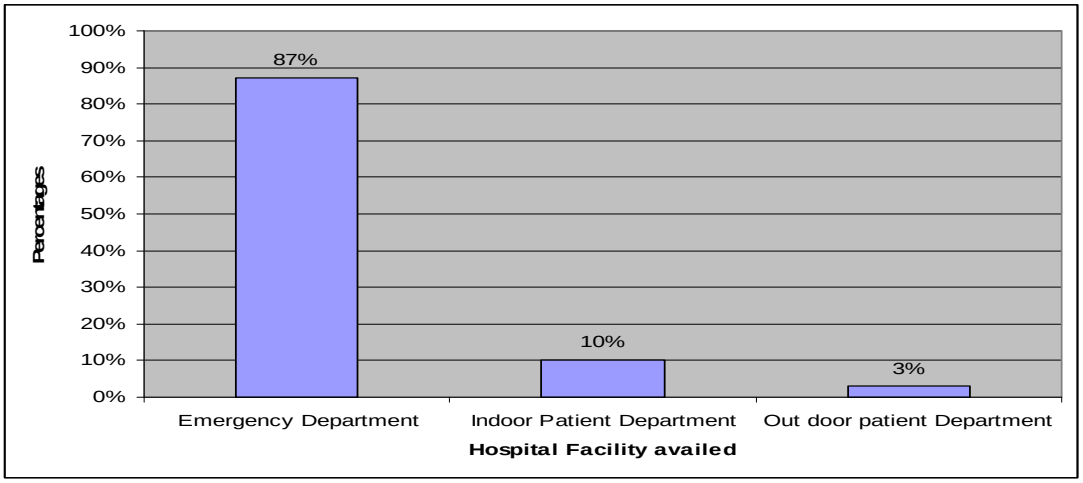

Figure 3

Figure 3 shows that 87% of patients were carried to the hospital in the emergency situation, this shows that people are not aware about the problems and risks associated with ectopic pregnancy.

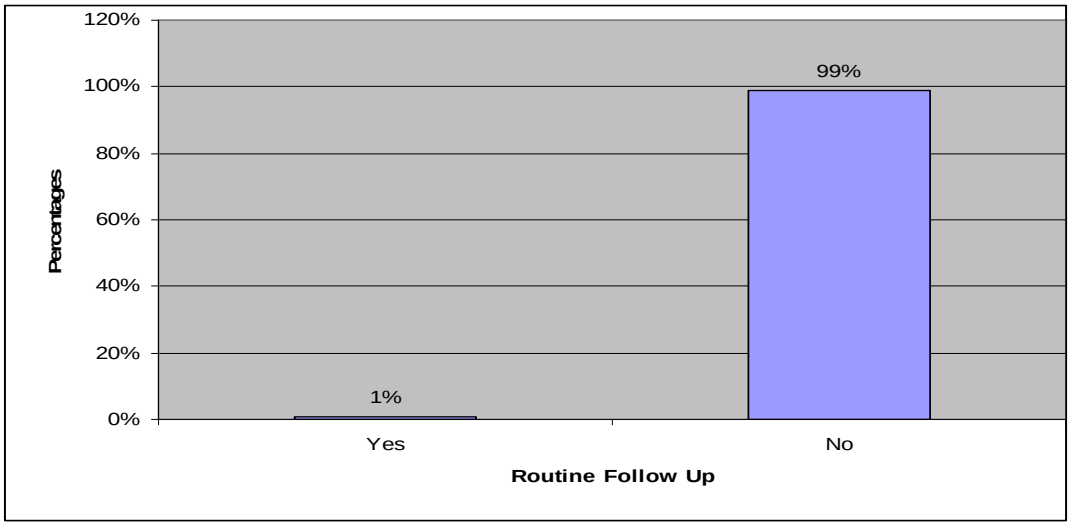

Figure 4

Table 5: Awareness level of Patients and relatives about Ectopic Pregnancy

Awareness	***Percentages***
Not at all	1%
After experiencing it	90%
To some extent	9%

Table 6 Conditions Reported

Condition of ectopic	***Percentages***
Ruptured Ectopic Pregnancy	100%
Un ruptured Ectopic Pregnancy	0%

Table 7 Fertility Medicines Used (By male partner)

Fertility medicines used	***Percentages***
Yes	19%
No	81%

Table 8 Symptoms experienced by Patients

Symptoms	***Percentages***
Lower abdominal Pain With Pelvic Bleeding	55%
Pain but no bleeding	20%
Misdiagnosed and undergone D&C	25%

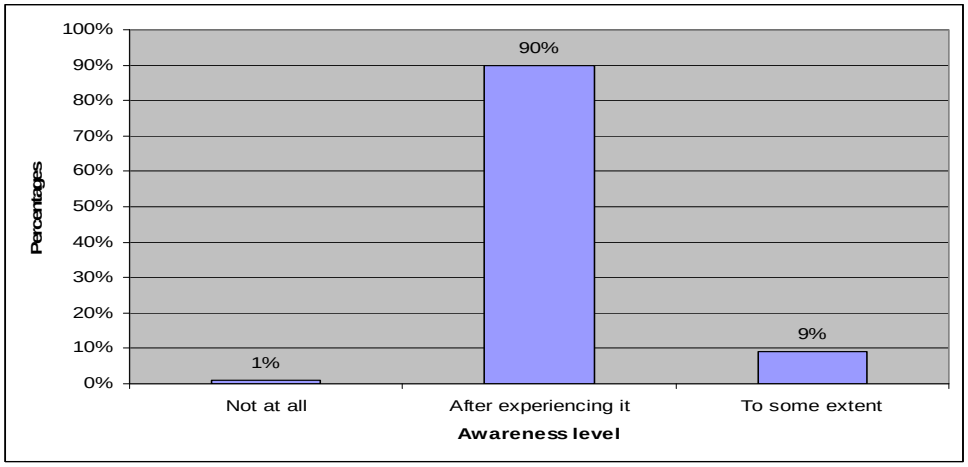

Figure 5

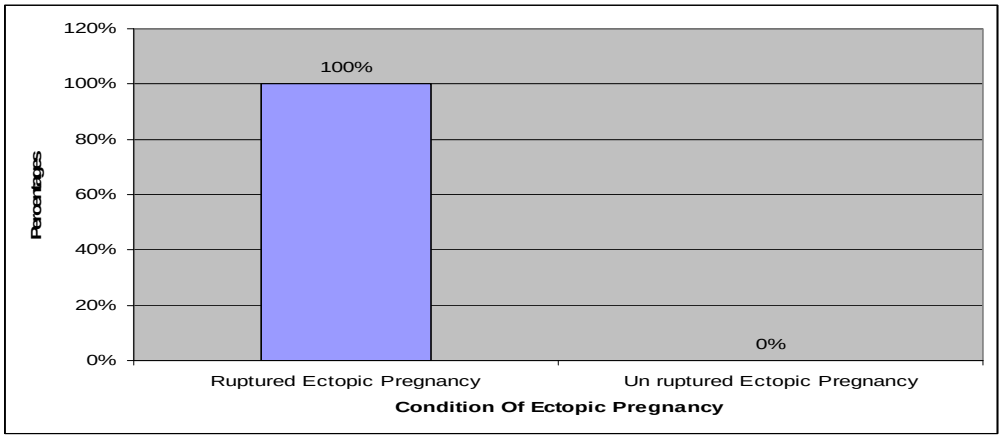

Figure 6

As shown in above data in 52% of patients Ectopic Pregnancy was diagnosed in the third two weeks. And in the third two weeks of ectopic pregnancy the tube is ruptured and the patient is then carried to the hospital in the emergency conditions. Figure 6 shows that 100% of ectopic patients were carried to the hospital with ruptured ectopic pregnancy.so, all the patients undergone laparoyomy.

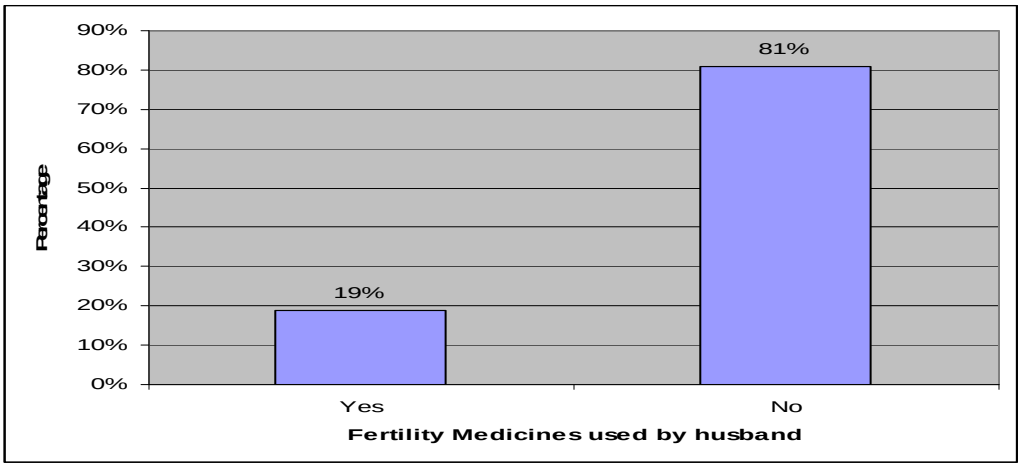

Figure 7

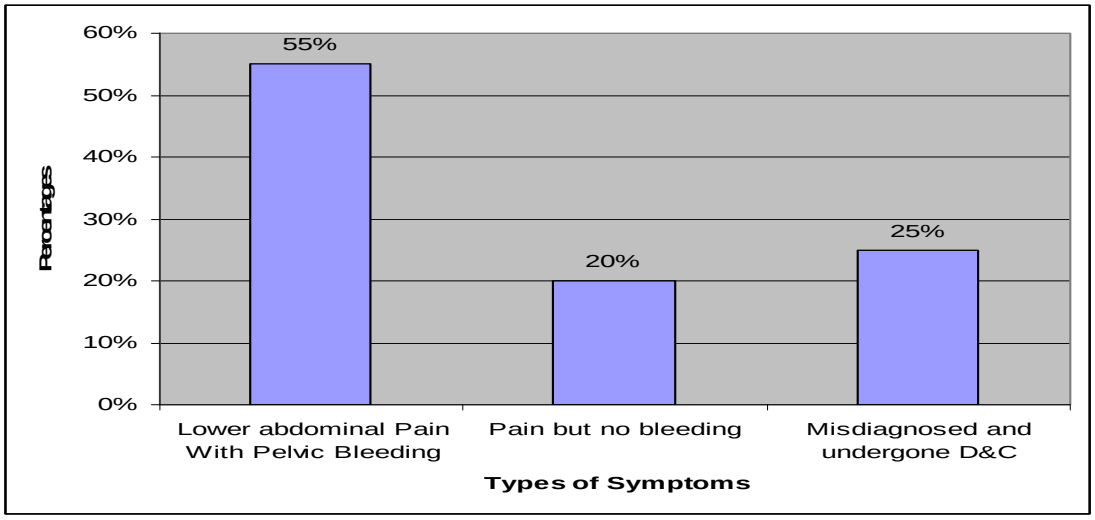

Figure 8

And most of the patients did not know about it before they experienced ectopic pregnancy themselves. The patients whose male partners are on fertility medicines are more prone to Ectopic Pregnancy. The low literacy rate leads to less awareness.

DISCUSSION :

The number of ectopic pregnancies has increased in the past few decades.A ruptured Ectopic Pregnancy is considered as True Medical emergency Ruptured ectopic pregnancy is the leading cause of maternal mortality in the first trimester and accounts for maternal deaths**.[1]** Recent technologic improvements have made it possible to diagnose ectopic pregnancy earlier. ith a b-hCG level of greater than 6,500 mIU per ml suggests the presence of an ectopic pregnancy Once an ectopic pregnancy has been diagnosed, the patient should be reevaluated clinically. Expectant or medical management may be adopted if the patient remains stable [**12].** If the patient's condition deteriorates, surgical management is indicated. Variable-dose, methotrexate regimens have been studied. The laparoscope has virtually eliminated the need for Laparotomy. Currently, Laparotomy is the preferred technique when the patient is haemodynamically unstable, the surgeon has not been experienced in laparoscopy, physical facilities and supplies to perform laparoscopic surgery are lacking or technical barriers to laparoscopy are present**.**The most frequent complications of surgery are recurrence of ectopic pregnancy**.[5, 9]**.. As the retrospective we have conducted was in Public sector hospitals of Lahore where the patients come are from very under developed area having lower financial status, poverty ruled their lives. The treatment followed in all or about 99% cases was Laparotomy/Salpingectomy although in all over world now Salpingostomy and conservative therapies are preferred, the reason of Salpingectomy here is that all patients we have studied were haemodynamically unstable as 99% patients we have studied were of ruptured ectopic pregnancy. As we have previously describes in detail the pre-disposing factors of Ectopic pregnancy in which Fertility drugs are also one so in our studies 19% patient's male partners were on fertility medicines and treatment. From this statistic the increasing ratio of ruptured ectopic pregnancy in under developed countries can be seen. As well as the patient profile of the studied patients were concerned, not even a single patient had the previous history of ectopic pregnancy and 87% of cases were reported in Emergency department. The mostly cases abut 47% are of the age group of 23-27 years. The marriage duration of 50% patients was 5-10 years.

26% of the cases we have studied had this ectopic pregnancy as their First pregnancy.
Duration of Amenorrhea in 45% of cases was 6 to 9 weeks. And about 99% of the patients were even unaware of their pregnancy so the question of routine follow up does not arises. Common symptom seen in majority of patients was severe lower abdominal pain. And about 55% of the patients experienced lowed abdominal pain along with pelvic bleeding. In about 25% of the cases we have studied were misdiagnosed by Miscarriage and undergone D&C. A proper history and physical examination remain the foundation for initiating an appropriate work-up that will result in the accurate and timely diagnosis of an ectopic pregnancy.

CONCLUSION:

In majority of the patients the awareness about the symptoms and disease is minimum so that why the incidence of ruptured ectopic pregnancy is increased. As the financial conditions of the women in under developed countries is so bad so they are not intended in their health care issues. As mostly of them had no concept of Ectopic pregnancy until they experienced that.Due to very low literacy rate in lower middle class and poor women of Pakistan, the morbidity rates due to the respective clinical condition is high.
We suggests following recommendations.

- Every woman of child bearing age should be educated about the signs, symptoms and predisposing factors of Ectopic Pregnancy.
- Diagnostic procedures should be adapted as per internationally applicable.In patients with vaginal bleeding or pain and detectable levels of hCG, pelvic ultrasonographic examination should be performed to look for an intrauterine or extrauterine gestation. When findings are nondiagnostic, serial quantitative hCG tests and repeat ultrasonographic examination are useful in determining potential viability.
- Pharmacists can play active role regarding educating patients about disease and play role in drug utilization review in conservative medical treatment .
- All the married women having amenorrhea for more than 4 weeks should perform the Urine Pregnancy tests abruptly and in case of any pain should contact their health care providers.
- Informed Consent should be in detail so that patient;s relatives understands the situation well and made decision wisely.
- Ultrasonographic evaluation, uterine evacuation, or laparoscopy can be used to confirm the location of the pregnancy. If the diagnosis of ectopic pregnancy is made early, conservative surgical treatment (salpingostomy or salpingectomy) or medical therapy with methotrexate will avert complications, including rupture, emergency surgery.
- UN and International Women Health Organizations should conduct some awareness programs about ectopic pregnancies.

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