



A Review Article on Ectopic Pregnancy

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ABSTRACT

An ectopic pregnancy is a potentially dangerous condition in which an egg that has been fertilized implants outside of the uterus, usually inside the fallopian tube. There are major hazards associated with this improper implantation for both the mother and the developing embryo. About 1% to 2% of pregnancies end in ectopic pregnancies, which call for immediate medical attention. The clinical manifestation, risk factors, and methods of diagnosis related to ectopic pregnancies. Transvaginal ultrasonography is one example of how medical imaging advances have significantly improved early diagnosis, allowing for prompt management options. The attachment and expansion of a fertilized egg outside the normal uterine site, usually within the fallopian tube, is what is known as an ectopic pregnancy. Frequently occurring risk factors include a history of pelvic inflammatory disease, previous ectopic pregnancy cases, fallopian tube surgery, and assisted reproductive technologies. Treatment options include medical intervention with a drug called methotrexate, which inhibits cell division and promotes trophoblastic tissue regression. A different option for eliminating the ectopic pregnancy is surgery using open or minimally invasive laparoscopic techniques.

Key words: - Ectopic pregnancies, Methotrexate, fallopian tube.

INTRODUCTION

zygote implantation outside of the uterus (endometrial cavity). Ectopic pregnancy is the term used to describe pregnancy that develops outside of the uterus or at an abnormal location. Stated differently, an ectopic pregnancy happens when fetal tissue attaches to an aberrant or scarred part of the uterus or implants outside the uterus [1]. An implantation of the product of conception outside of the endometrial cavity is known as an ectopic pregnancy. The condition known as ectopic pregnancy (EP) poses a serious health risk to women who are fertile. If ectopic pregnancies are not recognized or preserved rapidly, they have important rates of morbidity or mortality. Indications of an ectopic pregnancy can include pain, vaginal bleeding, or less specific symptoms feeling like sickness or

vomiting. The exercise determination go over the causes of ectopic pregnancy or look at several methods of treatment. The professional team's playing a role in diagnosing or treating patients by ectopic pregnancies will be discussed in this activity [1]. One ectopic pregnancy affects 1000 pregnant women out of 1000 (1:1000). They are all responsible for maternal deaths. if a first-trimester pregnant woman exhibits amenorrhea, lower abdominal pain, and vaginal bleeding, these symptoms may indicate an ectopic pregnancy. Confirming the diagnosis of an ectopic pregnancy requires an elevated level of HCG above the discriminatory zone (2000 mIU/ml) on a transvaginal ultrasound when the uterus is empty. Ectopic pregnancy is treated medically with methotrexate or surgically with a laparoscopy or laparotomy [10]. Beyond the uterus, the fertilized egg is incapable of surviving. If allowed to spread, it could harm surrounding organs and result in potentially fatal blood loss. the assessment of the best EP management techniques, such as the use of methotrexate and surgery (laparotomy and laparoscopy). significant gynecological emergency that puts pregnant women at risk for illness or even death. An explanation of the most reliable techniques for detecting pregnancy, such as blood tests for progesterone and beta-hCG, medical histories, and ultrasounds For women who are fertile, the EP poses a serious health risk because it accounts for 1.2-2.4% of all pregnancies that are reported [2]. About 4–10 % of pregnancies expiries have been reported in the west [3, 4].Pelvic inflammatory diseases (PIV) are the primary cause of EP.1.3% to 2.4% of pregnancies are thought to result from extrauterine pregnancy. 90% of cases are tubules, 70% are ampulas, 3% are ovarian, 11% are isthmus, 10% are fimbrias, 1% are abdominal, 1% are cervical, and 2% are cesarean scars.

Bilateral Ectopic Pregnancy:

This type of ectopic pregnancy is known as rear rest. One bilateral ectopic pregnancy, ranging from 1:725 to 150 ectopic pregnancy, occurs for every 200000 spontaneous pregnancies [7].95% of pregnancies take place in the fallopian tube. It will b discovered at the index case, which involved bilateral ectopic pregnancy [EP] to the ampulla of together fallopian tubes, ampulla is the most common location [8]. The isthmus, fimbria, interstitium, ovary and abdominal cavity, or scar from a cesarean section are additional sites. The normal danger factors for ectopic pregnancy [EP] contain pelvic inflammatory disease, prior ectopic pregnancy, conception after ovulation induction or assisted reproductive technology, multiple sexual partners, past of infertility, abnormalities of the fallopian tube, or exposure to diethylstilbestrol in utero[8]. Individuals between the ages of 15 and 44 are typically diagnosed as having an ectopic pregnancy risk. The patient who is considered to be at a high risk of an ectopic pregnancy is referred to a tertiary care center. It was estimated that the EPs rose with age; amongst girl or women ages 15 to 19, they were 0.3%, and among women aged 35 to 44, they were 1%.In [9]

Etiology

The term "ectopic pregnancy" describes an embryo that has been implanted external of the uterus, usually in fallopian tubes. fallopian tubes facilitate the passage of an egg and embryo through smooth muscle contraction and ciliary beat. Damage to the fallopian tubes, typically resulting from inflammation, is the cause of tubal dysfunction and can lead to the retention of an egg or embryo. Inflammation can be brought on by a wide range of local factors, such as hormonal, immunologic, infectious, and toxic ones. Following numbers of tubal damage and pro-inflammatory cytokine are the elevated, which inspires embryo implantation, invasions, and angiogenesis inside to the fallopian tubes. Chlamydia trachomatis infection induces tubal epithelial cells to secrete interleukin 1, which is a crucial marker for embryo implantation in the endometrium. Downstream neutrophil recruitment via interleukin 1 (il1) also plays a role in fallopian tube damage. Both infections and cigarette smoking lower the frequency of ilia beats. It has also been demonstrated that the frequency of cilia beats is influenced by hormonal variations that found during menstrual cycle. Anywhere in the body, including the cervix, uterine cornea, myometrium, ovaries, abdominal cavity, and so forth, can experience ectopic implantation. Women who have undergone tubal ligation and the other post-surgical modifications to their fallopian tubes are danger for ectopic pregnancies [EP], because the native purpose of the tubes has been altered. Heterotopic pregnancies happen when an ectopic pregnancy coexists with an intrauterine pregnancy. [23] Any element that results in the fertilized ovum's tube transit being delayed. An ectopic pregnancy in the tubal mucosa can result from the fallopian tube's preference for implantation. Factors can be acquired or congenital.

Epidemiology and Demographics

Ectopic pregnancies [EP] reason 1-2% of pregnancies worldwide.

- In developing nations, [EP] ectopic pregnancies reason for 0.4% of pregnancies overall in regions like the Middle East and India and over 4% in some African nations like Ghana.
- The occurrence of ectopic pregnancy [EP] in developed nations, like the US, is 197 new cases per 100,000 people.
- It is estimated that up to 4% of pregnancies involving assisted reproductive technology end up ectopic.[44]

Symptoms

Pelvic and abdominal pain, amenorrhea, vaginal bleeding, dizziness, fainting, syncope, shoulder and tip pain, and urinary symptoms such as a frequent urge to urinate are common symptoms of EP.

- Urine that stinks.
- A burning or painful feeling when urinating.

- Pee that is murky, black, or bloody.

- Colds or fever.

- Weakness.

- Sickness.

- Sore muscles.

- tissue passage,

Defecation-related pressure or pain in therectum,

- Hypotension in posture

Types of ectopic pregnancy

Extra uterine (EP)

Uterine EP-:

(a) Cervical ectopic pregnancy-:

The gestational sac implants in the cervical canal in this kind of ectopic pregnancy. Cervical pregnancy occurs less frequently than 1% of ectopic pregnancies. On the other hand, if cervical pregnancy is not treated appropriately, there is a significant chance of potentially fatal hemorrhage. If the excessive bleeding problems in this type of pregnancy are not treated in a timely manner, the risk of cervical EP increases. Prior endometrial curettage, a prior cesarean section, intrauterine device use, and assisted reproductive technologies are risk factors. The most typical sign of this was vaginal bleeding without pain. Delays in diagnosis can result in severe bleeding or even hypovolemic shock. An uncommon kind of ectopic pregnancy happens after pregnancy implants the endocervical canal, known as cervical ectopic pregnancies. Fewer than 1 percent of all ectopic pregnancies are caused by it. most typical symptom is vaginal bleeding, which can be heavily and painlessly expressed. One of the clinical signs is a soft, very large, or barrel-shaped cervix. The differential diagnosis includes incomplete abortion and pregnancy implanted in a scar from a caesarean section or hysterotomy. A transvaginal ultrasound is essential to the diagnosis. peritrophoblastic Doppler blood flow to the cervix, an enlarged barrel-shaped cervix, an empty uterus, a gestational sac entirely within the cervical canal with or without cardiac activity, and the absence of the "sliding sign"—the

intracervical sac failing to slide along the cervical canal when light pressure is applied to the cervix—are all considered sonographic criteria. Less than 0.01 percent of pregnancies are reported to have ectopic cervical pregnancy, which happens when a fertilized ovum implants in the endocervical canal below the levels of internal os. Even with improved diagnostic techniques and a decline in the current rates of maternal death, cerebral palsy (CP) is still a potentially lethal condition [13]

(b) Angular Ectopic pregnancy:-

Angular pregnancies arise from eccentric implantation along the fundus of the endometrial cavity and the lateral upper angle, or cornua, of the uterus. There are situations when "cornual pregnancy" and "angular pregnancy" are used interchangeably.

This leads to some confusion, and the latter is best saved for a pregnancy inside a uterus that is congenitally anomalous, like one of the horns on a bicornuate or the primitive horn on a unicornuate. It's an uncommon kind of pregnancy that has a high risk of placenta accreta, uterine rupture, and spontaneous abortion. Angular pregnancy develops when the blastocyst is inserted at the lateral angle of the endometrial cavity, medial to the uterotubal junction and round ligament. On the other hand, interstitial ectopic pregnancy is located more laterally within the Fallopian tube's interstitial section, which passes through the myometrial wall. The difference is important because while the developing embryo ovum of an interstitial pregnancy develops in the uterine wall, the developing embryo ovum of an angular pregnancy develops eccentrically within the endometrial cavity and may be constrained within the cornua [14]. Angular pregnancies are categorized as intrauterine implantation because they occur more medially than interstitial tubal pregnancy. The implantation of the embryo in the lateral angle of the uterine cavity, directly medial to the utero tubal junction, was the original definition of angular pregnancy given by American physician Howard Kelly in 1898. The embryo position distinguishes angular pregnancy from interstitial pregnancy. In an angular pregnancy, the rounded ligament is displaced rising or outward by lateral uterine expansion, whereas in an interstitial tubal pregnancy, the round ligament is positioned lateral to the pregnancy. While there are no clear anatomical boundaries between angular and normal pregnancies, the likelihood of visual asymmetries, symptoms, and unfavorable outcomes increases with proximity to the uterine lateral angle. Risky and likely to cause problems both during and after pregnancy, angular pregnancy can result in things like uterine rupture, spontaneous abortion, persistent pelvic pain and bleeding, retained placenta and placenta accreta, or severe form of bleeding necessitating a hysterectomy. A cornual pregnancy is defined to be a pregnancy in the primitive horn of the septate and bicornuate uterus [15]. An angular pregnancy, embryo may grow inside the uterus or abort [16]. Contrary to interstitial pregnancy, angular pregnancy is capable of being carried to term [16–18]. A doctor should suspect angular pregnancy if patient present at progressive gestational age and has a thicker placenta present in an asymmetrically constricted surface of the uterine position [19]. In the 2nd or 3rd trimesters, placenta can only be visible to the uterine angle. Making a diagnosis can be difficult, and many cases may go unreported. The placenta may only be visible at the uterine angle during the 2nd or 3rd trimesters.

A rigid uterine angle shape must be adopted by the placenta in an angular pregnancy, in contrast to the normal pattern of placental growth.

We believe that these include the uterine asymmetry, non-vertex fetal performance, condensed placenta, localized muscular faintness due to placental growth within the constricted, relatively sharp boundaries of the uterine angles. In a thin patient, this asymmetry can be palpated and revealed by an abdominal examination. In the second and third trimesters, only the uterine angle may reveal the placenta. A rigid uterine angle must form on the placenta in an angular pregnancy, in contrast to the normal pattern of placental growth. We believe that placental growth in the constricted, relatively sharp edges of the uterine angle is the cause of the asymmetric uterine appearance, non-vertex fetal presentation, thickened placenta, placental adhesion anomalies, and muscular weakness of the area. An examination of the abdomen can palpate and reveal this asymmetry in a thin patient. Since ultrasound cannot see the important anatomic feature (the round ligament), it is challenging to accurately diagnose an angular pregnancy and differentiate it from other aberrant implantations[22]. Contrarily, endovaginal sonography is able to correctly identify angular pregnancy, particularly in the initial weeks of the pregnancy. On the other hand, 3-D ultrasound and magnetic resonance imaging can be aid in analysis and reduce the likelihood of the failure, assess placenta implantation defects, or forecast the risk of uterine ruptures. [18, 19, 20]. Angulous pregnancies either terminate on their own or go to term. If the placenta is not correctly separated, even spontaneous termination may be difficult. As far as we are aware, no studies have covered the entire normal progression of the angular pregnancies, to initial detection through deliveries.

(c) Caesarean scar ectopic pregnancy:-

A rare pregnancy complication that can arise from uterine manipulation, in vitro fertilization, or any previous hysterotomy is ectopic pregnancies caused by scars from a caesarean section. As more caesarean sections are performed globally, it has become more typical. Thankfully, more of these pregnancies are being identified and treated early thanks to the application of first-trimester ultrasound imaging [24]. About one in every 2000 pregnancies is affected by the uncommon pregnancy complication known as ectopic pregnancy due to a scar from a cesarean section [25, 26]. Alongside the rise in primary and repeat cesarean sections, its prevalence is also rising. 18.6% of births worldwide occur via primary caesarean section [27]. An hysterectomy scar ectopic pregnancy[EP] also described after the myomectomy and the uterine evacuation, prior abnormally adherent placentation an manual placenta removal or metroplasty, hysteroscopy, and in vitro fertilization [28]. Ectopic pregnancies caused by hysterotomy scars can be classified into two categories. Whereas type 2 starts in the myometrium and moves exophytically toward the uterine serosa, type 1 starts in the myometrium o move towards the uterine cavity[28]. Because type 2 pregnancies can result in spontaneous uterine rupture, hemorrhage, and maternal death, their prognosis is bleak. Here is a option of the losing fertility if a hysterectomy is required due to a significant bleeding. Symptoms of the first trimester include vaginal bleeding and pelvic pain. When they are diagnosed, many women have no symptoms. The recommended examination is transvaginal ultrasound (TVUS), which can be paired with a

transabdominal scan to offer a panoramic picture. In cases where the diagnosis is unclear, magnetic resonance imaging (MRI) can support or contradict it [25]. The circumstances of the case dictate the available treatments. Women have received treatment in a number of ways, such as through surgery, medication with methotrexate, and prenatal care [25–29]. The ectopic scar can be surgically removed by hysteroscopy, laparoscopy, or laparotomy, as well as by vacuum aspiration [30]. The purpose of this case report is to clarify a diagnostic conundrum that doctors might run into. Ectopic pregnancies brought on by scars from cesarean sections are an uncommon occurrence that can be challenging to identify and manage. The diagnosis of uterine scar ectopic pregnancies is difficult, necessitating that radiologists and clinicians who work with women who have risk factors keep an open mind when doing imaging and follow-up. Maternal death, severe bleeding, and uterine rupture can occur from an overlooked diagnosis and treatment delay. Equipment and training for transvaginal scanning should be easily accessible, even in environments with limited resources. A protocol for referring equivocal cases to MRI and a screening tool for assessing at-risk patients should be available at the point of care [24]. There are five main treatment pathways for CSEP that have been identified: combination approach, uterine artery embolization, medical therapy, surgical intervention, and expectant management. The greatest risk of adverse outcomes, including bleeding, uterine rupture, and premature birth, is associated with expectant management. Often, medical management calls for further care, like medication or surgery. Numerous surgical techniques have been studied, including hysterectomy, dilation and curettage, laparoscopic, vaginal, or laparotomic surgical removal, and uterine artery embolization. The success rate of each technique varies and is based on the surgeon's proficiency and the patient's appearance. Any technique that eliminates the pregnancy and scar to lower morbidity and increase future fertility is supported by recent research. More research is required to determine the optimal approach for treating CSEP, even though laparoscopic and transvaginal approaches are options [32]. Pelvic and abdominal pain, amenorrhea, vaginal bleeding, dizziness, fainting, syncope, shoulder and tip pain, and urinary symptoms such as a frequent urge to urinate are among the symptoms and signs of EP.

Urine with an unpleasant smell. Urinate with pain or a burning sensation. Urine that is dark, murky, or bloody.

- ❖ Smelly urine.
- ❖ Feel like Discomfort and red-hot feeling during you urinate.
- ❖ Dark urine and urine color like bloody rose.
- ❖ Temperature high in body and cold.
- ❖ Tiredness.
- ❖ Sickness.
- ❖ Muscle constrict.
- ❖ passage of tissue,
- ❖ rectal pressure or pain on defecation,
- ❖ postural hypotension

Diagnosis:

- **Patient History-:**

Ectopic pregnancies occur in the fallopian tube almost invariably (> 95% of the time), with the ampulla (distal region) accounting for 70% of cases. (7) The middle part of the isthmus (12%) and the fimbria (11%) have lower rates of tubal pregnancies.[37]. The cervix (1%), abdomen (1%), or ovary (1%) can all become pregnant.10 and 11. All women of reproductive age should have a thorough history taken, with menstrual or obstetrical past, in order to estimate gestational age or analyzing the risk factors. The most common signs of an ectopic pregnancy are either vaginal bleeding, abdominal pain, or both.[36] But these are miscarriage symptoms, and the most common reason for a misplaced pregnancy and/or abnormally elevated b-hCG levels is miscarriage. Both intact and ruptured ectopic pregnancies can present with hemodynamic instability or an acute abdomen that needs immediate operating intervention for stop the bleeding.(37) The initial workup consists of a transvaginal ultrasound to locate the pregnancy and approval of pregnancy (by urine and serum b-hCG testing).[36]

- **Laboratory investigations**

It is possible to ascertain whether or not the current pregnancy is ectopic through serial quantitative serum b-hCG testing. During the first four weeks of a typical pregnancy, the b-hCG level rises quickly. After that, it rises gradually until the tenth week, at which point it plateaus. In [12] The b-hCG level typically rises by 65–100% every 48 hours in most typical intrauterine pregnancies; in rare instances, a brief plateau in b-hCG is normal.[36] It is advisable to conduct consecutive b-hCG readings in the same laboratory to minimize the potential for inter-assay variability, which may vary between 5% and 10%.(37) Although declining b-hCG levels powerfully imply to a deteriorating pregnancy, they are not pinpoint the area of the problem. [EP] ectopic pregnancy can break with low b-hCG levels, if there is any no intrauterine pregnancies has been established, woman should be carefully checked. It is not recommended to use discriminatory b-hCG stages to predict once an intrauterine pregnancy should show up on sonography. Indication in the 1980s recommended that b-hCG levels between 1000 and 2000 IU/Litre could be considered ectopic if there was no visible pregnancy.[38]. Although declining b-hCG levels are a strong predictor of an unsuccessful pregnancy, they do not identify the exact cause of the problem. The woman should be closely monitored if there is no indication of an intrauterine pregnancy because an ectopic pregnancy can rupture even when b-hCG levels are very low. When it comes to deciding when an intrauterine pregnancy should show up on ultrasound, using discriminating b-hCG levels is not advised. There was evidence in the 1980s that suggested b-hCG levels of 1000–2000 IU/L could be an indication of an ectopic pregnancy when there was no visible pregnancy. [38].

- **Transvaginal ultrasound Scan (TVS):-**

It is highly well-liked in the mid-1980s. It's the best way to find out whether you're pregnant in the 1s trimester. Diagnosis of the EP was verified by the existence of an extrauterine gestational sac with a yolk sac (with or without an embryo). When detecting EP, transvaginal sonography (TVS) is the preferred imaging modality, as it has a sensitivity of less than 90%. The diagnosis is based on the visualization of an ectopic mass rather than the incapacity to visualize an intrauterine pregnancy. An extra uterine pregnancy should be visualized positively in order to establish an EP diagnosis. The woman should be labeled as having a "pregnancy of unknown location" and monitored until the ultimate pregnancy outcome is known if neither an extrauterine nor an intrauterine pregnancy is visible on TVS. In EP, the diagnosis is a choice. Not only is it expected in the twenty-first century, but TVS ultrasound diagnosis of EP must be the gold average for all unit involved in early pregnancy ultrasound. Early ultrasound detection of EPs lowers mortality and operating interventions while enabling the administration of conservative, non-surgical treatments. Laparoscopy is not necessary to the current managing of women with the EP as a diagnostic tool. The preferred and new gold standard for diagnosing all forms of EP, tubal and nontubal, is TVS. TVS as a single, stand-alone test can reliably diagnose the great majority of women with EP [42].

- **Elevation of creatin kinase:-**

An increase in creatin kininase is beneficial when assessing ectopic pregnancy. It is a crucial instrument for EP diagnosis. increased creatine kinase (CK) as an EP diagnostic agent. Usually, the trophoblast penetrates the muscle layer and breaks down the mother blood vessels, which permits the entry of muscle cell products like CK into the bloodstream. Therefore, elevated serum CK levels are typical during EP. Total serum CK levels were found to be significantly higher in the EP group compared to the controls (p0.001) in a study involving 40 women by Saha et al.[39], suggesting that this test could be used as an indicator for EP. Similar findings were made by Katsikis et al.[40]. study 40 women with EP and found that CK concentrations were significantly higher in EP women than in controls or women who had intrauterine abortions, suggesting that CK concentrations could be used as a predictor of EP[41].

- **Radio graphic evaluation-**

Hysterosalpingography (Hsg) is the radiographic assessment of the fallopian tubes and uterus after a radio opaque medium has been injected through the cervical canal. When the Hsg was initially employed in 1910, it was regarded as a distinct radiologic technique. A correctly executed Hsg can reveal the width of the cervical canal and the shape of the uterine cavity. The ampullary and cornua isthmic sections of the tubes will be highlighted and the extent of spillage will be shown with a second injection of contrast medium [41]. While tubal permeability observed after the examination does not rule out tubal pathology because it does not evaluate its function, the high specificity of Hsg suggests a high likelihood of tubal obstruction. Moreover, HSG is the most economical technique for studying the fallopian tubes EP; it is a low-risk and safe procedure.

- Letting the pregnancy progress naturally under the careful supervision of a doctor until the symptoms have subsided clinically, a urine pregnancy test comes back negative, or the serum b-hCG level is negative.
- (Bimanual examination and using a scope have limited diagnostic value and may yield results that are not accurate.) Some of the conclusions are: One side of the uterus may be sensitive to uterine or cervical motion, and a palpable adnexal mass may be present. The uterus is slightly enlarged and soft, with less uterine enlargement than would be expected for the length of a pregnancy. Because of endometrial lining shedding brought on by an ectopic pregnancy, uterine contents may be found in the vagina.

Risk Factors:

• There are only observable risk factors for half of all ectopic pregnancy cases in women.^{33]} Therefore, care should be taken when treating in the least woman of reproductive phase who exhibits amenorrhea, stomach discomfort, unbalanced vaginal flow of blood, and a past of ectopic pregnancy [EP] [34]. The pretest chance an ectopic pregnancy rises when several risk factors are raised during a history, which may help in the early diagnosis process. A prior ectopic pregnancy is the greatest good-established risk issue of an ectopic pregnancy[EP]. Compared to the general population, women who have previously experienced an ectopic pregnancy are ten times more likely to experience another one. A woman who has experienced two or more ectopic pregnancies is more likely to experience a recurrence, with a 10% to 15% chance after the first occurrence. The congenital tubal imbalance, acquired tubal injury from pelvic inflammatory illness, and prior the tubal surgery are altogether potential cause of recurrence. Fitz-Hugh-Curtis syndrome, and a difficulty of pelvic inflammatory illness, makes women double as likely to experience another ectopic pregnancy as healthy women. These women also have perihepatic adhesions. Ectopic pregnancy is twice as likely to occur in smokers, even in "light" smokers who smoke one to nine cigarettes a day. A history of infertility, previous tubal surgery, being older than 35, and having pelvic inflammatory disease confirmed by a lab or laparoscopy are other well-known risk factors for ectopic pregnancy. Moreover, endometriosis, dysmenorrhea, and genital surgery to be documented as a important risk factor. Researchers Jacob and colleagues also discovered that women with a diagnosis of a mental health condition, such as somatoform disorder, adjustment disorder, depression, or anxiety, had an increased risk of an ectopic pregnancy by 1.8 times (95 percent confidence interval 1.54–2.09). Due to the bigger rates of psychiatric disorders in women by a past of infertility and long-lasting pelvic pain, endometriosis, repeated miscarriages, or other factors, this finding may only be an association [35]. Women with the past of pelvic inflammatory illness (PID) are more likely to have EP, and over 50% of those infected are not aware that they have had PID. Additionally, it is because it is challenging to ascertain the impact of chlamydial infection in the female genitalia. Previous induced abortions; prior pelvic surgeriesIt is uncommon to become pregnant while wearing an intrauterine device (IUD). If you do become pregnant while wearing an IUD, it is more likely to be an ectopic pregnancy. A permanent birth control technique called tubal ligation, sometimes referred to as "having your tubes tied," also increases your risk of getting pregnant after the

procedure. Using cigarettes: The chance of an ectopic pregnancy rises with increased cigarette use. Cigarette smoking just before pregnancy raises the risk of EP. DES exposure while a baby Although most pregnant women exposed to in-utero DES have normal pregnancies, there is evidence of an increased risk of spontaneous abortions in the first and second trimesters, ectopic pregnancies, and preterm deliveries. Diethylstilbestrol is a synthetic nonsteroidal estrogen. and raised the likelihood of EP Salpingitis isthmica nodosa, also known as genital tuberculosis, is a major contributing factor to ectopic pregnancy in India (11). adenomyosis of the tube, fundal fibroid, transperitoneal ovum migration, Infection and inflammation- Inflammation in the tubes caused by sexually transmitted infections like chlamydia and gonorrhea may raise the risk of EP.

Challenges in Management of Ectopic Pregnancy:

Excessive internal bleeding and spontaneous rupture have been related to conservative management of large interstitial pregnancies. Clinicians should be informed that ruptures in interstitial pregnancies can happen earlier than 12 weeks. The best course of action is laparoscopic management prior to a rupture. Planned laparotomy is an option for patients whose surgeon finds laparoscopic management challenging. Of all ectopic pregnancies, interstitial pregnancies make up 2-4 percent. The potential for rupture makes interstitial ectopic pregnancies potentially lethal. The duration of an interstitial pregnancy can range from 8 to 16 weeks. Eccentrically located intrauterine pregnancies can be distinguished from interstitial

ectopic pregnancies using three-dimensional ultrasonography. For interstitial pregnancies, laparoscopy, hysteroscopy, or methotrexate are examples of conservative treatment. Hemostatic agents must be used if laparoscopic surgery is performed [43].

Current Medical and surgical management-

Pharmacological management: One injection of methotrexate is commonly used. Blood tests will be done to measure your hCG level and assess the health of your organs prior to starting methotrexate. Another dose of methotrexate may be recommended if the first dose's effect on hCG levels is insufficient. Until there is no longer any hCG in your blood, you will be continuously observed.

- A fertilized egg can only develop normally in the uterus, and in the event of an ectopic pregnancy, it is imperative to remove the abnormal tissue as soon as possible to prevent potentially fatal consequences. The symptoms and the timing of the diagnosis determine the chosen course of treatment, whether it be medication, laparoscopic surgery, or abdominal surgery.

In cases of early ectopic pregnancy that do not result in significant bleeding, methotrexate is a frequently used medication. When injected, methotrexate dissolves existing cells and stops new ones from growing. Before beginning this treatment, it is imperative to confirm that the ectopic pregnancy diagnosis is correct.

- Your doctor will perform a human chorionic gonadotropin (HCG) test after the methotrexate injection to evaluate the efficacy of the treatment and determine whether additional medication adjustments are necessary.
- *Emergency surgery may be required if the ectopic pregnancy is the cause of the heavy bleeding. Procedures involving laparoscopic or abdominal incisions may be used for this. A ruptured fallopian tube frequently requires removal, despite attempts to save it.45]

Guideline for Management of EP –

- NICE guideline [NG126]: Diagnosis and initial management of ectopic pregnancy and miscarriage (Published 17/04/2019).: According to the report, "Mother mortality is estimated to be 0.2 per 1,000 ectopic pregnancies, with an ectopic pregnancy rate of 11 per 1,000 pregnancies." Particularly at risk are women who do not easily obtain medical care, such as newly arrived immigrants, asylum seekers, refugees, or women who struggle with reading or speaking English. Therefore, it is imperative to improve the diagnosis and treatment of early pregnancy loss in order to lower the incidence of the psychological morbidity that goes along with it and prevent women who have ectopic pregnancies from dying needlessly.
- Green-top Guideline No. 21, Diagnosis and Management of Ectopic Pregnancy, RCP (Published 04/11/2016)
- The RCN Pocket Guide to Ectopic Pregnancy, released on February 11, 2020
- Mid Yorkshire Hospitals, July 2013, Early Pregnancy Bleeding Pathway led by nurses
- Addenbrooke's Hospital Guidelines for Ectopic Pregnancy: Handling in the Emergency Room (2009)
- Think Ectopic: RCM Safety Flash (February 2021).
- RCM Discharge Guidelines for Patients Who Attend with Early Pregnancy Pain or Bleeding
- Glasgow Royal Infirmary (2011) advises on discharge for problems related to early pregnancy.
- PV Bleed (January 2013, QMC Nottingham)
- Consent Advice No. 8: Laparoscopic Management of Tubal Ectopic Pregnancy Clinical guidelines from RCOG regarding getting women's consent for laparoscopic salpingectomy or salpingotomy for ectopic pregnancy

- The ASCKS framework, which is the UK consensus guidelines for delivering unexpected news in obstetric ultrasound
- RCN: Handling the Pregnancy Remains Disposal
- HTA - Advice on what to do with pregnancy remains after a pregnancy is lost or terminated
- Updated Guidelines for the Scottish Pregnancy Loss Disposition Up to and Including 23 Weeks and 6 Days of Gestation

The third edition of the 2019 Infant Cremation Code of Practice applies to all pregnancy losses that occur before 24 weeks of gestation. The National Bereavement Care Pathway contains resources related to miscarriage, ectopic pregnancy, and the Molar Pregnancy Pathway (updated on November 2, 2020)

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