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MANAGEMENT OF ECTOPIC PREGNANCY

SUMMARY

Key words: ectopic pregnancy, laparoscopic management

Introduction. The reason that EP is important it's carries significant morbidity and mortality worldwide if the EP erodes through the FT, there is damage to the tube itself and a potential rupture of the adjacent blood vessels, which can lead to massive hemorrhage, infertility, or even maternal death.

Objective of the study. The aim of the study is to analyze the management that was made by different studies and literature and guidelines, to provide the best recommendation from them.

Materials and methods: The literature search involved review of mainly two online data bases, PubMed and Google scholar. The total number of retrieved articles for further review was 76 articles.

The retrospective study was as an observational, descriptive, case series study design, hospital based study. It was calculated in total a size of 226 medical records.

Results. We had analyzed and study a different clinical management of EP between the following countries: United Kingdom, United State, Romania, and Israel, in comparison between each other and on the other hand the study that we analyzed in hospital nr1 in Republic of Moldova.

Conclusions:1) Ectopic pregnancy continues to be an important cause of maternal morbidity and mortality of the first trimester of pregnancy world-wide.2) According to the protocols of United Kingdom, the United States, Romania and Israel, the patient has the right to decide the method of management for their ectopic pregnancy. 3) Laparoscopy is the gold standard for further surgical treatment.

РЕЗЮМЕ

МЕНЕДЖМЕНТ ВНЕМАТОЧНОЙ БЕРЕМЕННОСТИ

Ключевые слова: внематочная беременность, лапароскопия

Актуальность. Причина, по которой тема внематочной беременности до сих пор остается актуальной, является высокая заболеваемость и смертность во всем мире. В случаях разрыва маточной трубы, возможны такие осложнения как массивное кровотечение, бесплодие, или даже материнская смерть.

Цель работы. Целью исследования является анализ различных тактик ведения пациентов в различных странах, с выявлением наилучших практических рекомендации.

Материал и методы исследования. Материалы литературы собраны на основании двух баз данных PubMed и Google scholar. Общее количество проанализированных статей на заданную тему 76. Ретроспективное описательное исследование заключается в анализе 223 клинических случаев.

Результаты. Было проанализировано и изучено различное ведение пациентов с внематочной беременностью в следующих странах США, Великобритании, Израиле, Румынии, полученные данные, были сравнены с данными по Республике Молдова, собранными в ходе нашего ретроспективного исследования в Городской Клинической Больнице 1.

Выводы. 1) Внематочная беременность по-прежнему является важной причиной материнской заболеваемости и смертности в первом триместре беременности во всем мире. 2) Согласно протоколам Великобритании, Соединенных Штатов, Румынии и Израиля, пациент имеет право принимать решение о методе ведения их внематочной беременности. 3) Лапароскопия является золотым стандартом для дальнейшего хирургического лечения.

REZUMAT

MANAGEMENTUL SARCINII ECTOPICE

Cuvintele cheie: sarcina extrauterina, tratament laparoscopic

Actualitatea Motivul pentru care tema sarcinii ectopice este încă relevantă este morbiditatea și mortalitatea ridicate la nivel mondial. În cazurile când SE e asociată cu ruptura a trompei uterine, sunt posibile complicații precum hemoragia masivă, infertilitate sau chiar și deces matern.

Scopul studiului este analizarea diferitelor tactici de conduită a pacienților din diferite țări, cu identificarea celor mai bune recomandări practice.

Material și metode Material a fost colectat din două surse de date PubMed și Google School. Numărul total de articole analizate pe subiect dat este 76 publicații științifice. Un studiu descriptiv retrospectiv constă în analiza a 223 de cazuri clinice din Republica Moldova

Rezultate Managementul diferit al pacienților cu sarcină ectopică a fost analizat și studiat în următoarele țări SUA, Marea Britanie, Israel, România, datele obținute au fost comparate cu datele din Republica Moldova colectate în cadrul studiului nostru retrospectiv din Spitalul Clinic Municipal Nr. 1.

Concluzii 1) Sarcina ectopică rămâne o cauză importantă a morbidității și mortalității materne în primul trimestru de sarcină la nivel mondial. 2) Conform protocoalelor din Marea Britanie, SUA, România și Israel, pacientul are dreptul să alege metoda de tratament a sarcinii sale ectopice. 3) Laparoscopia este standardul de aur pentru tratamentul chirurgical a pacienților cu sarcină ectopica.

Importance The reason that EP is important it's carries significant morbidity and mortality worldwide, if the EP erodes through the FT, there is damage to the tube itself and a potential rupture of the adjacent blood vessels, which can lead to massive hemorrhage, infertility, or even maternal death [1,2]. Early diagnosis and management is important because it's reduce mortality, but will result in an increase in the reported incidence, however, traditionally, most women with EP have only presented when acute symptoms are apparent and so it is seen as a gynecological emergency [3,4]. Ectopic pregnancy according to WHO was recorded as the cause in less than 1% of deaths in developing countries and almost 5% in developed countries [5].

In the Developed countries the number of maternal deaths was 2823, the cause of 138 deaths around (4.9%) was EP. which is a high number comparing with other countries, in Africa was reported 4508 maternal death, 22 patients (0.5%) dead in cause of EP, in Latin America and the Caribbean also (0.5%) of 11777 maternal deaths was due EP about 59 patients.[1,9] Asia has the highest number 16089 maternal deaths, although of this high number the incidence of EP death was the lowest one (0.1%) around 16 patients. Deaths were characterized by a marked delay between onset of symptoms and both presentation and diagnosis [6,7,8].

Researchers found that 85% of EP related deaths were due to hemorrhage, with abdominal and interstitial pregnancies presenting later and, therefore, being more

likely to result in death, they concluded that more prompt diagnosis and management might have prevented half of deaths related to EP, and the woman seeking medical attention at an earlier stage might have prevented one third. Ectopic pregnancy also associated with long-term morbidity: infertility and recurrence of EP [9,10]

What can be seen from the data above on maternal deaths related to EP is that many of them might be avoided by increased awareness of the condition amongst women of childbearing age [11,12].

In addition, increased awareness, and guidelines for the diagnosis and management of EP, amongst the professionals who are responsible for the care of these women, is needed if the number of deaths is to be reduced to a minimum [13,14].

Material and research methods

The present work was carried out at the Nicolae Testemițanu State University of Medicine and Pharmacy, Gynecology and Obstetrics department Hospital Nr. 1 Chisinau.

The study conducted as an observational, descriptive, case series study design, hospital based study. The study was based on collecting of medical records data, retrospective study from the point of view of temporality. The data from patient's files were captured in a Microsoft Excel. It was calculated in total a size of 226 medical records.

The study was designed to map the management of patients in the hospital Nu 1 reflected from medical records and reporting of patients on ectopic pregnancy

measures. The target population comprised women who were diagnosed and managed with EP in from the 1st January 2018 to 31st December 2019.

Include criteria: female, patients with age range from 18-43 years old, patients that were diagnosed with EP, patients who were managed in hospital nr. 1.

Exclude criteria: patients less than 18 years old, patients where were diagnosed with other pathology, patients who managed in another hospital.

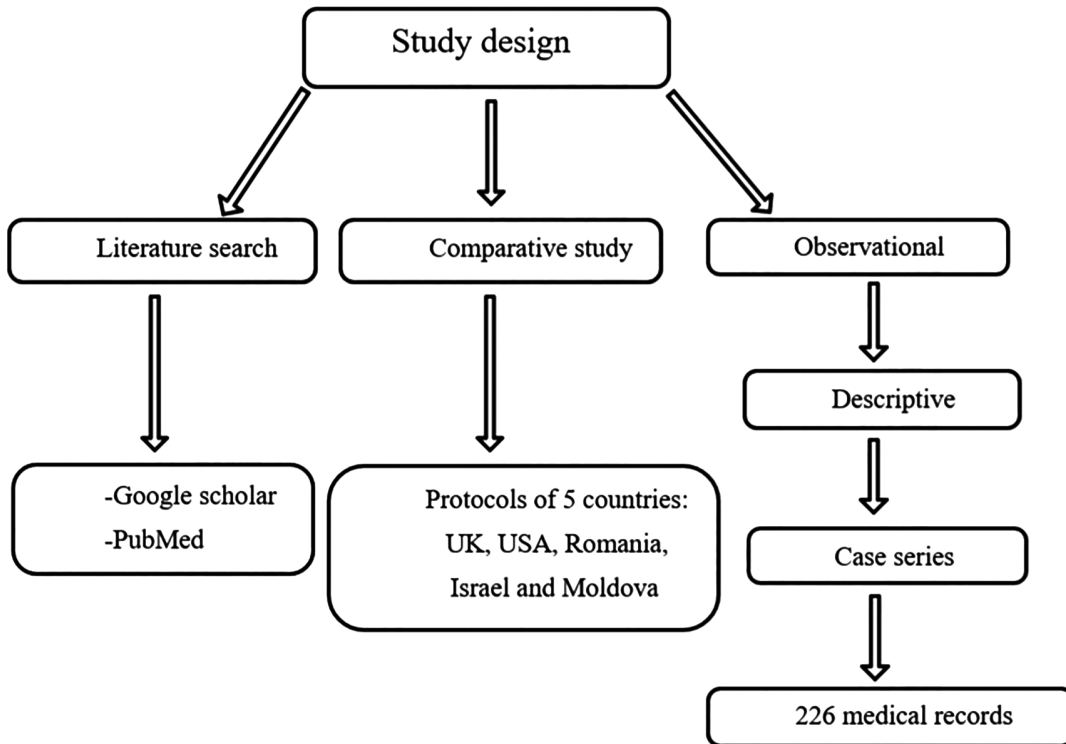
Data that collected from the patient's medical records:

Date of administration of the patient, Date of exertion of the patient, Patient age, Hospitalization period, Pre-sumptive diagnoses, Final diagnosis, Medical manage-

A Comparative study was performed that allowed us to analyze the management of EP defined according to the guideline protocol of the hospital nu1 of Moldova in comparison with other four countries protocols which are: United Kingdom, United States of America, Romania and Israel.

Results and discussion

After studying and analyzing the protocols of management of ectopic pregnancy in five different countries (UK, USA, Israel Romania and Israel) including the protocol and study we analyzed in the hospital in Republic of Moldova, was found that there are many similarities and



ment (surgical/pharmacological), Last menstrual period, Gravida and parity of the patient, History of gynecological diseases, Data of TVS investigation, Amount of blood loss during surgical intervention, Antibiotic prophylaxis management.

differences that exists among the protocols used in these five countries.

In this study were analyzed 226 patients, from various ages they were admitted to the hospital between the years 2018 and 2019, the diagnosis, management, and

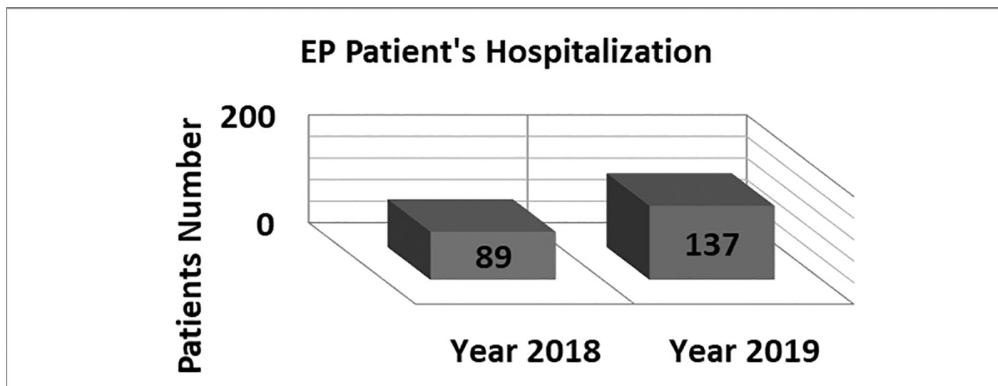


Figure 1. Year in which participant experienced their Ectopic pregnancy.

prognosis were different. The patient's age is range from 18 to 43 years old, with median age 31 years. In the hospital of Gynecology and Obstetrics Nr.1 in Chisinau, was admitted 89 patients in the year 2018 where in 2019 were admitted 137 patients with an increase by 21.23% of the incidence of EP cases in this hospital, it may be related to the increasing to various risk factors

of abdominal pain, irregular vaginal bleeding and amenorrhea that occur between 6 and 10 weeks of gestation, is consider to be a fine tool even that in many patients EP is confirmed with no symptoms. The final diagnosis of the patients has shown a very slight difference from the presumptive diagnosis, in the final diagnosis were found 131 patients with right EP, 93

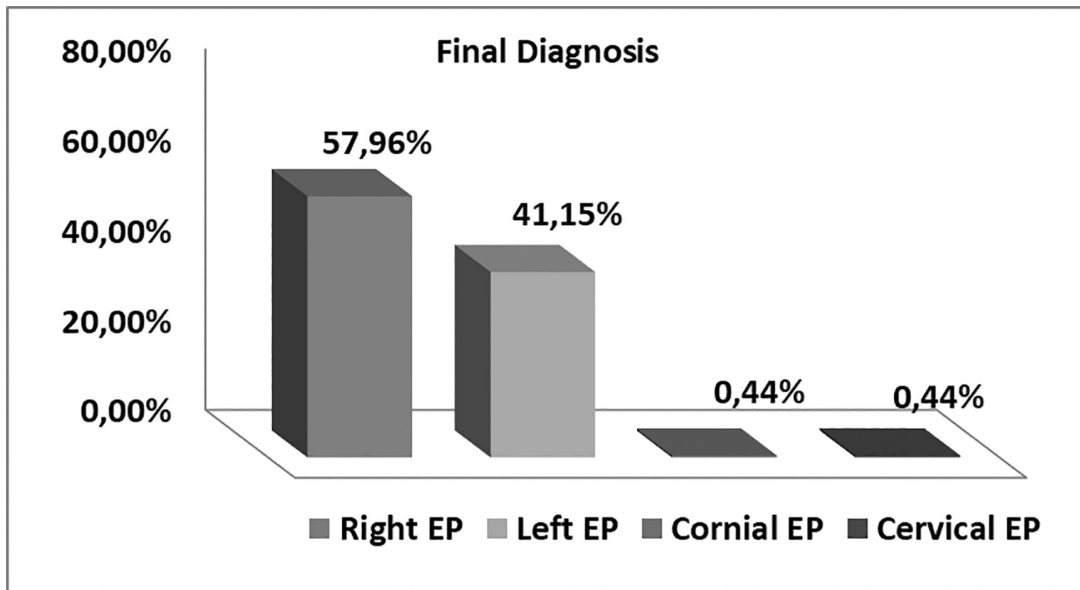


Figure 2. The final diagnosis

that we had discuss in the first chapter, which correlated with the increase in incidence of EP with other countries we had discussed above.

However, the incidence is increase, many literature shows mortality rate decreased which may be explained by early diagnosis and sufficient management, with regard to this hospital the mortality rate for EP was 0 in the period of those 2 years.

Specific abdominal symptoms in reproductive patients may accentual the diagnosis with EP, Classical triad

patients with left EP, one corneal EP and one cervical EP. Right side is the most common place for implantation of EP as we show in many literature and studies the cause is not fully known, in our patients we can see clearly that the right side is the dominated one with 57.96% in ratio, which correspond with the literatures.

The changes between presumptive diagnosis and final diagnosis were as the flowing: one case of rupture EP had a final diagnosis of right EP, in presumptive diagnosis the case of intra uterine pregnancy was finally diagnosed as

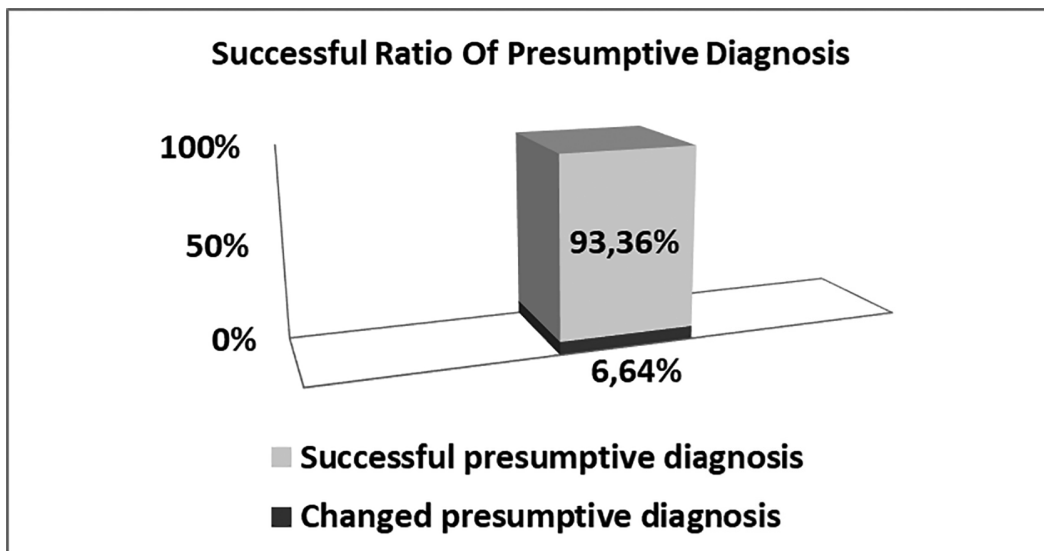


Figure 3. The ratio success of presumptive diagnosis

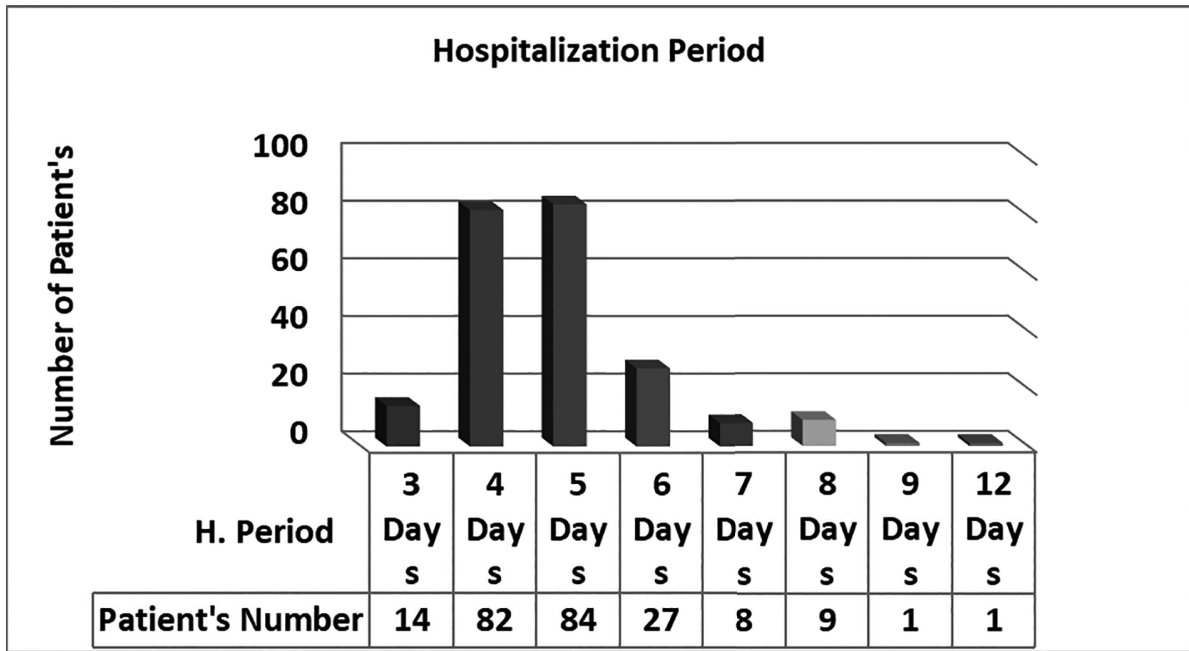


Figure 4. Length of total hospital stays, for patients with Ectopic pregnancy.

right EP, one case right EP was found in final diagnosis corneal EP, 8 presumptive right EP were finally diagnosed in left side and 4 cases of left EP were diagnosed in final diagnosis in the right side.

The majority of patients had been hospitalized for 4 and 5 days, which represent 166 patients in number, 82 patients of them were hospitalized for 4 days and they represent 36.28% of total number of 226 patients, the remaining 84 patients representing 37.17% were hospitalized for 5 days long.

The majority of the cases we analyzed hospitalization stays is until 5 days which are corresponding to the literatures, in some individual patients the period is more than normal as we see in 9 and 12 days for 1 patient for each one of them that's related to the stability of patients and the needed of them to stay in the inpatients for more follow up their own condition.

The majority of the 226 patients were treated surgically with a small number 7 patients that representing 3.10% were treated pharmacologically with MTX, in contrast to other counters USA, UK, Romania and Israel that preferred the pharmacological treatment with MTX as the first choice with the patient is response to their criteria.

Pharmacological treatment MTX was used in 7 patients, of those patients 6 cases were treated successfully ratio of 85.71% and just one case needed to be further treated laparoscopically salpingectomy ratio of 14.29%.

Laparoscopic management is the gold standard, for further investigation or treatment due to reduction of the time of the surgery, the reduction of the amount of blood loss, fewer analgesics for the patient in the post-surgery and less duration of hospitalization, in 217 patients were operated laparoscopically they representing 98.64% of

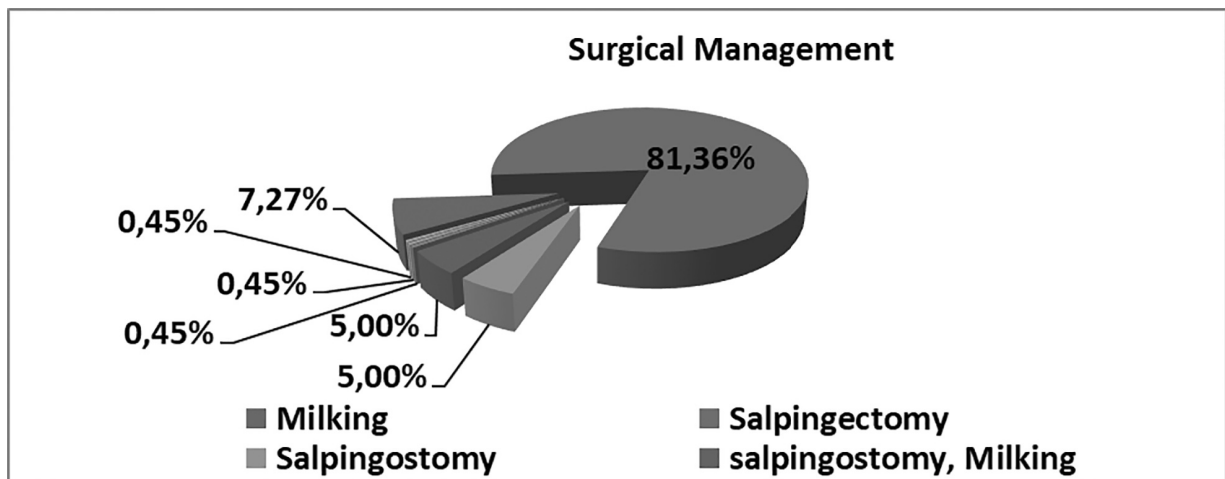


Figure 5. The surgical that Ectopic pregnancies were managed with.

the 220 patients that have a surgical management, just in two cases laparotomy was performed which represent the ratio of 0.91%, and a single case of cervical EP was preformed vacuum aspiration that represent 0.45% in ratio.

Surgical management was the first choice of majority of EP, 220 patients had done various surgical treatments, and majority of those patients 179 in number that represented 81.36% in ratio treated Salpingectomy, other group with 16 patients in number done milking they represent 7.27% in ratio, two groups with same number of patients done (Salpingostomy) and (Salpingostomy, Milking) with 11 patients in number for each one of them and they representing 5.00% for each one of them, the remain 3 patients had done cornual resection, ovarian resection, cervical Aspiration and each one of them represent 0.45% in ratio.

measure serum β hCG levels until a negative result, patients may need a further treatment, trophoblast resistance and the most important is the recurrence of EP. In the 220 patients that were treated surgically the big numbers of them 179 patients which representing 81.36% in ratio treated with Non-conservative method and the remaining 41 patients which representing 18.64% were treated with conservative method.

For any surgical management present the risk of bleeding, the amount of bleeding in our patients were quantified, just in 159 patients was determined the bleeding amounts, the lowest amount was 80ml for one patient which represent 0.63% and largest amount which was detected in one patient 2000ml that represent 0.63%, in majority of those patients that were analyzed 149 patients had an amount of blood loss of quantity until 500ml and they represent 93.71% of the 159 patient.

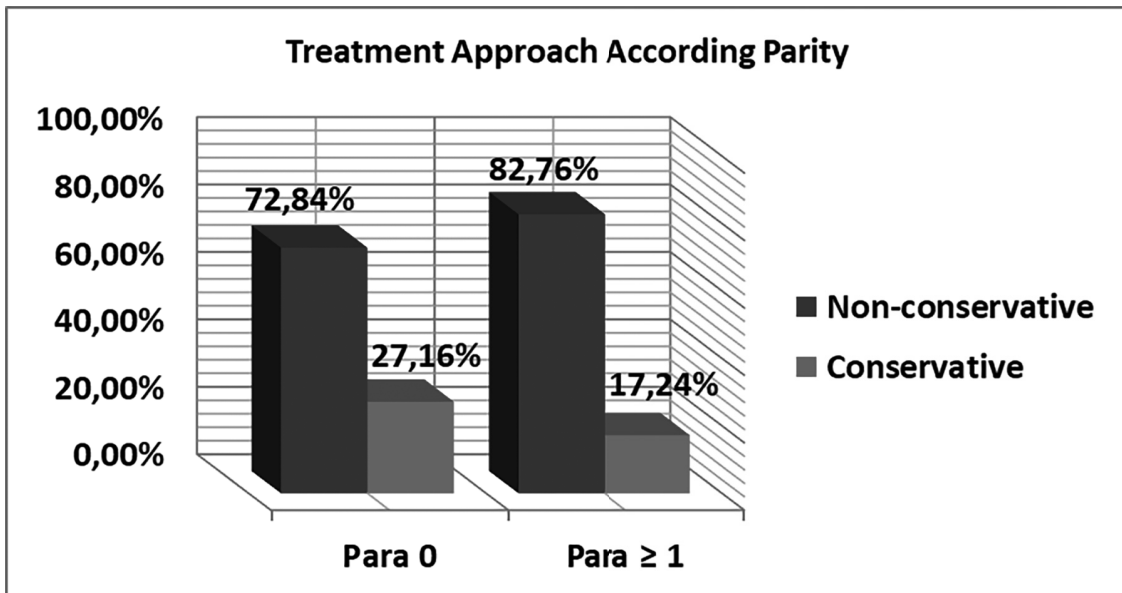


Figure 6. Conservative and Non-conservative approach comparison with parity of the patients, expressed by percentage.

Non-conservative approach is superior to a conservative in the presence of patient with a healthy contralateral tube. As we showed due to many studies in the first chapter that conservative management isn't the preferred management due to the needed follow up weekly and

The graph below show that 81 patients have not given birth yet, 59 patients corresponding to 72.84% have reserved non-conservative treatment (salpingectomy) and 22 patients representing 27.16% have reserved conservative treatment (pharmacological treatment, salpingostomy,

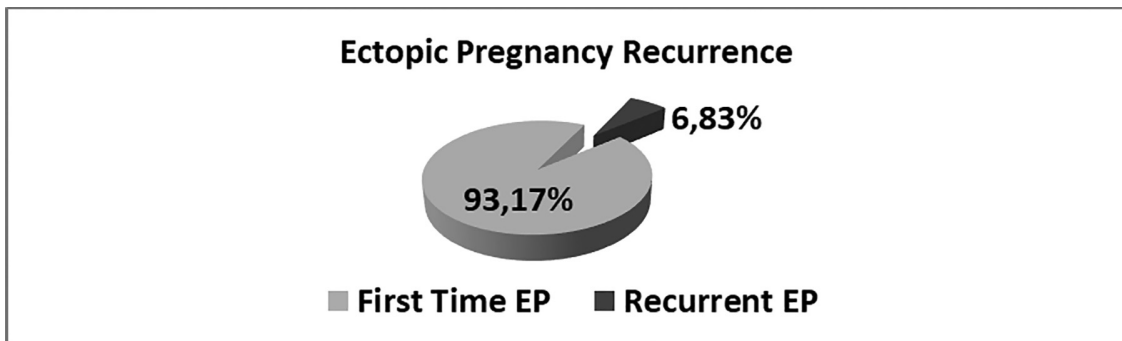


Figure 7. Ectopic Pregnancy Recurrence

milking). In cooperation to patients with one or more parity the conservative treatment represents just 17.24% which is less than patients who didn't give birth yet and non-conservative was higher than patients who didn't give birth and it was 82.76%.

For the total numbers of pregnancies for all patients even those who end with birth or abortion, we had in total 615 pregnancies for total 226 patients. the cases of previous EP

The doctors provide them with all the options available while highlighting the complications and side effects that can occur due to the different types of management.

The protocols of the four countries are believes in the laparoscopic approach due to reduction of the time of the surgery, the reduction of the amount of blood loss, fewer analgesics for the patient in the post-surgery and less duration of hospitalization.

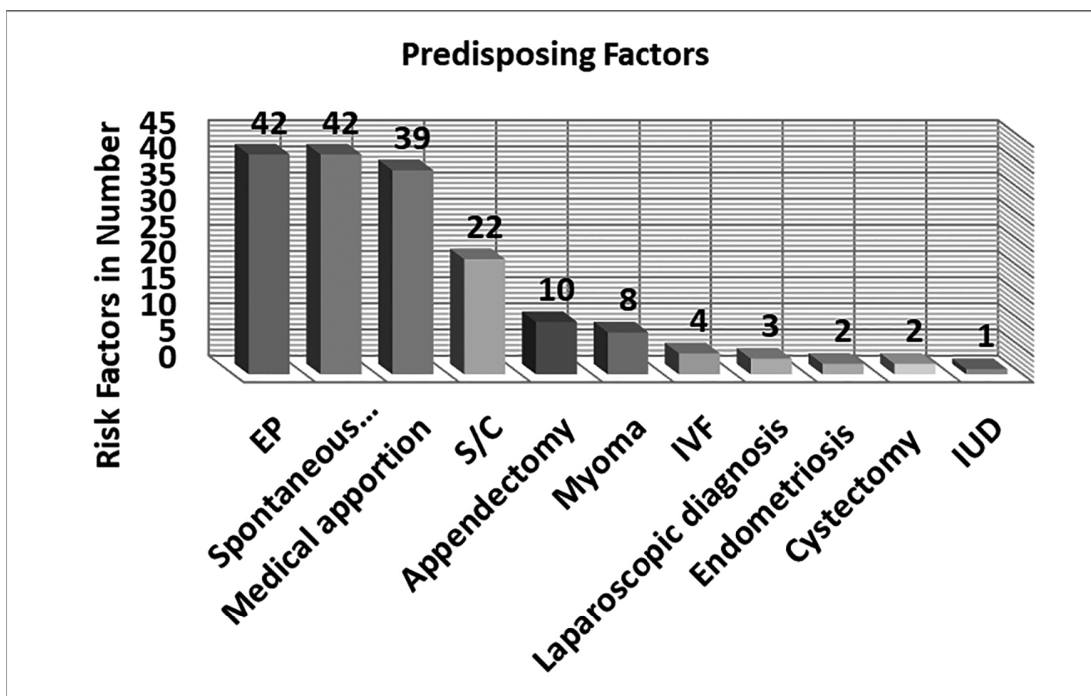


Figure 8. Predisposing Factors

was 42 case in number from all of those 615 pregnancies, the 42 cases were to different patients with various ages and various historical diseases and number of pregnancies, from total number of pregnancies was excluded the number of previous EP, in total 573 pregnancies that they end with birth or abortion of different cause excepting previous EP representing 93.17%, where 42 cases representing 6.83% of the recurrence of EP.

In this graph were analyzed different risk factor for EP and were found that 42 patients have previous EP also 42 patients have spontaneous apportion, in addition 39 patients have medication induced apportion, 22 patient cesarean operation in the past, 10 have undergo appendectomy, in addition to other risk factors mentioned in the graph. **Notably** some patients have more than one risk factor.

Conclusion

Ectopic pregnancy continues to be an important cause of maternal morbidity and mortality of the first trimester of pregnancy world-wide.

According to the protocols of United Kingdom, the United States, Romania and Israel, the patient has the right to decide the method of management for their ectopic pregnancy.

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