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Dr. Suman Khatana
Senior Resident, Department of
Obstetrics and Gynecology,
Rajkiya Mahila Chikitsalaya,
J.L.N. Medical College &
Associated Group of Hospitals,
Ajmer, Rajasthan, India

Dr. Suchitra Narayan
Associate Professor, Department of
Obstetrics and Gynecology J.L.N.
Medical College & Associated
Group of Hospitals, Ajmer,
Rajasthan, India

Dr. Purnima Pachori
Senior Professor, Department of
Obstetrics and Gynecology,
Rajkiya Mahila Chikitsalaya,
J.L.N. Medical College &
Associated Group of Hospitals,
Ajmer, Rajasthan, India

Dr. Chhitar Mal Yadav
Senior Resident, Department of
Obstetrics and Gynecology,
Rajkiya Mahila Chikitsalaya,
J.L.N. Medical College &
Associated Group of Hospitals,
Ajmer, Rajasthan, India

Corresponding Author:
Dr. Chhitar Mal Yadav
Senior Resident, Department of
Obstetrics and Gynecology,
Rajkiya Mahila Chikitsalaya,
J.L.N. Medical College &
Associated Group of Hospitals,
Ajmer, Rajasthan, India

Rising trends of ectopic pregnancy during COVID-19 pandemic: 1 year observational study

Dr. Suman Khatana, Dr. Suchitra Narayan, Dr. Purnima Pachori and Dr. Chhitar Mal Yadav

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Abstract

Purpose: To evaluate the effect of the COVID-19 pandemic state on ectopic pregnancies.

Methods: An observational study conducted at RMC, AJMER during the period one year period from April 2020 to March 2021.

Results: It was observed the incidence of ectopic pregnancies was significantly higher during the pandemic from April 2020 to March 2021 in comparison to the April 2019 to March 2020 period (192/14443;1.3% vs.110/14985; 0.73%). Majority of women presented late with ruptured ectopic pregnancy with hemoperitoneum and laparotomy was done in 93.75% cases.

Conclusion: The COVID-19 pandemic Environment had deleterious effect on women health of reproductive age group. We found a higher rate of ruptured ectopic pregnancies in our institution during the COVID-19 Pandemic.

Keywords: Ruptured ectopic pregnancy, COVID-19, hemoperitoneum, laparotomy, medical abortion, lock-down

Introduction

Coronavirus Disease 2019 was spread exponentially worldwide. Corona virus-SARS COV-2 also known as COVID-19. On March 11, 2020, WHO declared this a pandemic situation. Several preventive measures were implemented to reduce its transmissibility. It included restriction on outpatient visit during lockdown period. The restrictive measures and disruption in healthcare services due to pandemic had deleterious effect on women health. During the lockdown period there was a spontaneous conception even in subfertile couples. Due to unwanted pregnancy there was increase in the incidence of rise of emergency contraceptive pills and medical abortion kit (MMA KIT) that leads to high number of women attended casualty with failed medical abortion and few of them had ectopic pregnancy. All were managed at our institute (RMC, AJMER).

Material and Method

This observational study was conducted at the tertiary care centre Rajkiya Mahila Chikitsalaya, Ajmer (RAJ).

We observed the rising trends of ectopic pregnancy during the 1 year period from April 2020 to March 2021. These cases were traced out through the register kept in causality, gynaecology wards and OT records. The labour register was used to determine the total number of deliveries during this period. The data of each patient was obtained from their case records kept in the medical records department. All the relevant information was recorded in the form of demographic profile, clinical features, risk factor and treatment modality provided to all ectopic pregnancy in a structured performa.

Here we compared to times other than the COVID-19 pandemic.

Result

It was observed that the proportion of ruptured ectopic pregnancy was significantly higher during the 1 year period in comparison to Pre-COVID period. (192/14443(1.3%) vs 110/14985(0.73%) p value- <0.05). Majority of women presented late with hemoperitoneum, and underwent emergency laparotomy was done.

Table 1: Baseline Characteristics of Study Population.

Age	No. of Patients	Percentage
<20 YEARS	35	18.22
21- 24 YEARS	42	21.87
25-29 YEARS	60	31.25
>30 YEARS	55	28.64

As shown Majority of women (31.25%) were within the age group 25-29 years.

Table 2: Distribution According To Parity.

Parity	No. of patients	percentage
0	28	14.58
1	25	13.02
2	30	15.62
3	45	23.43
>3	64	33.33

A significant proportion (33.33%) woman was multiparous and 13.02% were primiparous.

Table 3: Distribution According To Duration Of Amenorrhea.

Duration (weeks)	No. of patients	percentage
<7 weeks	40	20.83
8-10 weeks	98	51.04
>11weeks	54	28.12

We received 51.04% women had Amenorrhea of 8-10 weeks.

Table 4: Distribution According To Clinical Presentation.

Clinical presentation	No. of patients	Percentage
Pain abdomen	52	27.08
Vaginal bleeding	49	25.52
Clinical triad	70	36.45
shock	21	10.93

Clinical triad (Amenorrhea, pain abdomen, vaginal bleeding) present in (36.45%) Women.10.93% women were hemodynamically unstable.

Table 5: Risk Factor For Ectopic Pregnancy In Study Group.

Risk factor	No. of patients	Percentage
H/o PID	42	21.87
H/o IUCD/LS failure	23	11.97
H/o previous ectopic pregnancy	37	19.27
H/o medical abortion pill intake	47	24.47
H/o Infertility	21	10.93
No risk factor	22	11.45

24.47% of women had H/o over the counter use of emergency pills and medical abortion pills (MMA KIT) was the contributing factor, whereas 21.87% women H/o PID.

Table 6: Distribution According To Treatment Modality.

Treatment	No. of patients	percentage
Laprotomy	180	93.75
Laprosopy	7	3.64
Medical management	5	2.6

Laparotomy was done in 93.75% of women.

Table 7: Distribution According To Site Of Pregnancy.

Site	No. of patients	percentage
Ampulla	164	85.41
Isthmus	12	6.25
Fimbria	7	3.64
Interstitial/cornual	5	2.6
Tubo-ovarian	4	2.08

The commonest site of ectopic gestation was the ampullary region while the Tubo- ovarian site had the lowest occurrence.

Statistical Analysis

In our institute total no. of deliveries from April 2019 to March 2020 was 14985 out of which 110 (0.73%) women had ectopic pregnancy. Whereas during the COVID period April 2020 to March 2021 was 14443 out of which 192 (1.3%) with ectopic pregnancy were admitted. so the proportion of ectopic pregnancies was significantly higher during the COVID pandemic. (Fischer's exact test p value- <0.05).

Discussion

Ectopic pregnancies still contribute significantly to obstetric emergencies in the first trimester. In the developed countries, 1 to 2% of all reported pregnancies are ectopic pregnancies. Treatment options include surgery and Medical management. The majority of women (28.64%) in our study belong to the age group of 25-29 years, which is close to the study done by Panchal *et al.* The majority of women (33.33%) were multigravida. The higher incidence may be due to previous miscarriages, resulting in infections, leading to tubal damage.

Out of these women 28.64% had H/o PID. This is correlating to the study done by Gupta *et al.* Endosalpingitis due to PID may entrap the migrating embryo, leading to ectopic implantation and peritubal adhesions, and impaired peristaltic movements may also give rise to inadequate transportation.

IUCD as a risk factor in 9.89% of cases. If a women conceives with an IUCD in situ, the risk of a tubal pregnancy increases.

In our study, majority of women presented with ruptured ectopic pregnancy and only 5 women came in unruptured state with mild pain and were given Methotrexate 50mg/m²BSA, a single dose. Urine for pregnancy test, Serum beta human chorionic gonadotropin(hCG) and trans vaginal ultrasound were the diagnostic tool used to confirm the diagnosis of ectopic pregnancies.

We avoided giving multiple doses of methotrexate, as a higher cumulative dose of methotrexate has the potential for more severe side effects. Methotrexate is more effective in the treatment of ectopic gestation when a quantitative serum hCG level is less than 5000mIU/ml and there is no fetal cardiac activity detected by ultrasonography. Before giving methotrexate to women laboratory investigation, include a blood group, complete blood count, liver function test, serum creatinine.

Laparotomy was done in 93.75% of cases. Unilateral salpingectomy was the mode of treatment in ruptured ectopic pregnancies.

The commonest site of ectopic pregnancy was the ampulla (85.41%) of the fallopian tube. The ampullary part of the tube also commonly involved in a study conducted by swende and jogo. Majority of women late reported with hemoperitoneum and vitally unstable. However, no maternal mortality occurred in our study.

Conclusion

Our data raise serious concerns regarding the potential deleterious consequences of COVID-19 pandemic on women health of reproductive age group. Surgical treatment was done more often because of patients reporting late to the hospital. Screening of high risk cases, early diagnosis and early intervention reduce the morbidity and mortality in ectopic pregnancies.

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