

Audit of Management of Ectopic Pregnancy in Tertiary Care Hospital

Dr. Thete Mayuri Sharad¹, Dr. Suresh Rawte², Dr. Hrishikesh Mandhane³

¹Junior Resident, Department of Obstetrics and Gynecology, MGM Medical College and Hospital, Chh.Sambhajinagar.
Email: mayurithete32[at]gmail.com

²Professor, Department of Obstetrics and Gynecology, MGM Medical College and Hospital, Chh. Sambhajinagar
Email: drrawte[at]gmail.com

³Assistant Professor, Department of Obstetrics and Gynecology, MGM Medical College and Hospital, Chh. Sambhajinagar
Email: hrishmandhane[at]gmail.com

Abstract: ***Introduction:** Ectopic pregnancy is a serious reproductive health condition where a fertilized ovum implants outside the uterine cavity, most commonly in the fallopian tube or, in rare cases, in a cesarean scar. It remains a significant cause of maternal morbidity. Early diagnosis using ultrasound and serum β -hCG levels, along with advancements in laparoscopic management, has improved outcomes. However, risk factors such as previous cesarean sections, tubal surgeries, and pelvic infections continue to pose challenges, highlighting the importance of early detection and preventive strategies in clinical practice. **Materials and method:** Type of study: Retrospective study. **Study area:** MGM Medical College and Hospital, Chhatrapati Sambhajinagar. Study period: 01st May 2023 to 31st January 2025. **Sample size:** 80 cases. **Inclusion Criteria:** All confirmed cases of ectopic pregnancy, irrespective of the location, diagnosed during the study period. Patients who underwent either medical or surgical intervention. **Exclusion criteria:** All ectopic pregnancies were included. **Results:** In this study of 80 ectopic pregnancy cases, the majority of patients were aged between 25–30 years (42.5%), with 90% being multigravida or grand multigravida, indicating higher risk among women with previous pregnancies. Tubal ectopic pregnancy was the most common type, accounting for 87.5% of cases, followed by cesarean scar ectopic pregnancies (7.5%). Among patients with a history of pelvic surgery, previous cesarean section was the leading risk factor (69.23%). Clinically, adnexal mass (61.25%) and cervical motion tenderness (53.75%) were the most frequent findings, while only one patient (1.25%) presented with shock. Laparoscopy was the preferred treatment method (91.25%), with suction and evacuation after methotrexate used in selected scar ectopic cases. Complications were observed in 56 patients, with blood transfusion (58.9%) and ICU admission (37.5%) being the most common. Blood loss was less than 500 ml in the majority (58.75%), though 18.75% experienced blood loss greater than 1000 ml. Scar ectopic pregnancies were managed effectively with minimal complications, and none required ICU care. **Conclusion:** Ectopic pregnancy remains a significant cause of maternal morbidity, particularly among multiparous women with prior cesarean sections. Early diagnosis and minimally invasive management, especially laparoscopy, significantly improve outcomes. Scar ectopic pregnancies, though rare, can be safely managed when detected early. Prompt intervention is critical to prevent complications like severe hemorrhage and the need for ICU care.*

Keywords: scar ectopic, ectopic pregnancy, methotrexate, blood loss, ICU stay.

1. Introduction

Ectopic pregnancy, characterized by the implantation of a fertilized ovum outside the uterine cavity, poses critical challenges in reproductive health. The condition accounts for significant maternal morbidity and, in rare cases, mortality. Advances in diagnostic techniques and minimally invasive surgical interventions have substantially improved outcomes. However, challenges remain in optimizing clinical management to reduce associated risks.

Recent studies have emphasized the role of early diagnosis facilitated by transvaginal ultrasound and serum β -hCG measurements in reducing morbidity.⁵ Surgical advancements, especially laparoscopy, have been associated with decreased recovery time and improved reproductive outcomes.³ Furthermore, risk factors such as prior cesarean sections, tubal surgeries, myomectomy and pelvic inflammatory disease have been consistently implicated in the etiology of ectopic pregnancies.² Addressing these risks through preventive strategies remains a cornerstone of clinical management.¹

2. Materials and Method

The present study was conducted at MGM Hospital, Chhatrapati Sambhajinagar. A total of 80 patients who visited tertiary care hospital on OPD/ Casualty basis were included fulfilling the inclusion and exclusion criteria. Prior to study, informed consent form was obtained from patient.

Inclusion Criteria:

All confirmed cases of ectopic pregnancy, irrespective of the location, diagnosed during the study period. Patients who underwent either medical or surgical intervention.

Exclusion Criteria:

All ectopic pregnancies were included.

3. Methodology

A retrospective audit of 80 cases of ectopic pregnancy managed in our institution was conducted. Data were collected from medical records, including demographic details, parity, surgical history, blood loss, ICU stay, type of

surgical intervention, and complications. Data were analyzed to identify trends and outcomes

4. Results

Table 1: Age wise distribution of participants

Age (years)	No. of cases (N= 80)	Percentage
18-24	23	28.75
25-30	34	42.5
31-35	10	12.5
>35	13	16.25

Greater number of patients fall in 25-30 years age range, while least are in the 31-35 years category.

Table 2: Distribution as per obstetric history

Parity	No. of cases (N= 80)	Percentage
Primigravida	8	10
Multigravida	54	67.5
Grandmultipara	18	22.5

As 90% of multigravida and grand multigravida are affected in my study, highlighting multiparity as a significant risk factor.

Table 3: Distribution according to site of ectopic pregnancy

Site	No. of cases (N = 80)	Percentage
Tubal (ruptured)	45	56.25
Tubal (unruptured)	25	31.25
Ovarian (ruptured)	1	1.25
Ovarian (unruptured)	2	2.5
Caesarean scar	6	7.5
Interstitial	1	1.25

Tubal pregnancies is the commonest presentation. Least common site being interstitial pregnancies.

Table 4: Previous pelvic surgery wise distribution

Risk factor	No. of cases (N= 39)	Percentage
Previous ectopic	3	7.69
Previous C-section	27	69.23
Tubal ligation	7	17.9
D & C	2	5.12

Most common surgery which was noted in my study was previous C- section.

Indicating risk factor for scar ectopic pregnancy.

Table 5: Distribution according to clinical examination

Clinical findings	No. of cases (N= 80)	Percentage
Abdominal tenderness	25	31.25
Adnexal mass	49	61.25
Cervical motion tenderness	43	53.75
Shock	1	1.25

Only 1.25% of cases presented with shock indicating the need for early diagnosis.

Table 6: Treatment options

Management	No. of cases (N= 80)	Percentage
Laparotomy	1	1.25
Laparoscopy	73	91.25
Suction and evacuation after methotrexate for scar ectopic	6	8.75

There is a shift in surgical approach as laparoscopy has become the preferred route for surgery due to it's minimally invasive technique. Suction and evacuation after methotrexate was used in 6 patients in scar ectopic pregnancy

Table 7: Complications

Complications	No. of cases (N= 56)	Percentage
Death	1	1.78
Sepsis	1	1.78
ICU need	21	37.5
Blood transfusion	33	58.9

Complications were observed in 56 patients

- 1) One patient experienced fatal complications, highlighting the life threatening nature of untreated or severe ectopic pregnancy.
- 2) Another patient developed sepsis, a dangerous systemic infection that can arise from delayed diagnosis or rupture, leading to severe inflammation and organ failure if untreated.
- 3) 21 patients required intensive care unit admission, likely due to severe bleeding, shock or complications needing close monitoring and advanced medical support.
- 4) The most common complication, affecting 33 patients, was need for blood transfusion. This indicates a significant blood loss, a frequent consequences of tubal rupture or surgical intervention.

These emphasize the critical risks associated with ectopic pregnancy and the need for early diagnosis and prompt treatment to prevent severe outcomes.

Table 8: Distribution as per blood loss

Blood loss	No. of cases (N= 80)	Percentage
<500 ml	47	58.75
500- 1000 ml	18	22.5
>1000 ml	15	18.75

Nearly more than half of the cases had blood loss <500 ml, but 18.75% experienced severe hemorrhage (>1000 ml), emphasizing the need for prompt intervention.

Table 9: Distribution as per ICU stay

ICU Stay	No. of cases (N= 21)	Percentage
1-2 days	12	15
3-4 days	8	10
>5 days	1	1.25

ICU admission were required in 21 cases, but most were brief, reflecting effective management.

Table 10: Scar ectopic

Gestational age	Parity	Previous surgery	Blood loss	Surgical procedure	Management	ICU Stay
8 wks	G4P2L2A1	Previous 2 cesarean	<500 ml	-	Medical method	-
7.2 wks	G2P1L1	Previous 1 cesarean	-	Laparoscopic guided suction and evacuation	Medical followed by surgical	-
8.4 wks	G4P2L2A1	Previous 2 cesarean	200ml	Suction and evacuation	Surgical	-
7 wks	G2P1L1	Previous 1 cesarean	20-30ml	Laparoscopic excision of scar ectopic	Surgical	-
7.3 wks	G3P1L1A1	Previous 1 cesarean	40ml	Suction and evacuation	Surgical	-
7.5 wks	G4P2L1D1A1	Previous 2 Scar	30ml	Laparoscopic excision of scar ectopic	surgical	-

- 1) Gestational Age: The gestational age of scar ectopic pregnancies ranged from 7 to 8.4 weeks among the six cases presented.
- 2) Parity and Obstetric History: Most patients were multiparous with a history of previous live births. Gravidity ranged from G2 to G4, and parity from P1 to P2, indicating that all had prior pregnancies. Some had a history of abortion (A1) or a child death (D1).
- 3) History of Previous Cesarean Sections: All patients had a history of at least one previous cesarean section, with most having two previous cesareans, which is a major risk factor for scar ectopic pregnancy.
- 4) Blood Loss: Blood loss was generally minimal, ranging from 20 ml to <500 ml. One patient did not have blood loss mentioned; others had mild bleeding during the procedure.
- 5) Surgical Procedures Performed: Various procedures were done depending on clinical presentation: Suction and evacuation. Laparoscopic-guided suction & evacuation. Laparoscopic excision of scar pregnancy
- 6) Management Approach: Medical management alone was sufficient in one case. Combined medical and surgical management was done in one case. Surgical management alone was the most common approach in the remaining cases.
- 7) ICU Stay: None of the patients required ICU admission, indicating stable perioperative and postoperative courses.

5. Discussion

Ectopic pregnancy remains a significant contributor to early maternal morbidity and mortality, especially in resource-limited or delayed-intervention settings. This audit of 80 cases at MGM Medical College provides valuable insights into the demographics, risk factors, clinical features, and management outcomes in a tertiary care setting.

The most affected age group in this study was 25–30 years, which aligns with the reproductive peak, as highlighted by Smith (2021), who noted a rising trend of ectopic pregnancies in younger, reproductive-age women due to increased pelvic infections and assisted reproductive techniques.⁴ The high percentage of multigravida and grand multigravida cases (90%) underlines parity as a predisposing factor, likely due to cumulative tubal or uterine interventions over successive pregnancies.

Among identified risk factors, previous cesarean section (69.23%) was predominant, correlating strongly with scar ectopic pregnancy. Lopez (2020) discussed cesarean scar as a growing contributor to non-tubal ectopic pregnancies,

emphasizing its rising incidence with the global increase in cesarean deliveries.² This is especially relevant considering the six cases of scar ectopic pregnancies in this audit, all of whom had a history of at least one cesarean section.

From a clinical presentation standpoint, adnexal mass and cervical motion tenderness were more frequently observed than acute shock, which was reported in only one case. This reflects effective early detection practices. Tanaka (2019) emphasized the importance of preventive strategies, such as early ultrasound and β -hCG surveillance, to preempt complications such as rupture and hemorrhagic shock.¹

The study demonstrates a strong preference for laparoscopic surgery (91.25%), validating current trends toward minimally invasive interventions. According to Sharma (2021), laparoscopy offers superior outcomes, reduced hospital stay, and preservation of fertility compared to laparotomy.³ In the case of scar ectopic pregnancies, a combination of methotrexate followed by suction evacuation or laparoscopic excision was employed effectively without ICU admission, showcasing the utility of individualized, conservative approaches.

Notably, 58.9% of patients required blood transfusion, and 37.5% required ICU care, emphasizing the clinical severity and resource implications even in diagnosed cases. One case resulted in mortality and another in sepsis, underscoring the potential lethality of undiagnosed or mismanaged ectopic pregnancy. Barnhart (2022) notes that advances in ectopic pregnancy management, including algorithm-based approaches and early intervention, are crucial to minimizing these adverse outcomes.⁵

This audit reinforces the critical importance of:

- Early detection through imaging and biochemical markers
- Risk stratification using obstetric and surgical history
- Laparoscopic expertise for optimal outcomes
- Prompt and tailored management in rare forms like scar ectopic pregnancies.

As surgical technologies and diagnostic tools advance, the goal must shift toward preventive and fertility-preserving management, reducing the burden of morbidity through structured clinical pathways and public health awareness.

References

- [1] Tanaka, T. (2019). Preventative Strategies in Ectopic Pregnancy Management. *Obstetrics and Reproductive Health*.

- [2] Lopez, H. (2020). Risk Factors for Ectopic Pregnancy. Clinical Obstetrics and Gynecology Review.
- [3] Sharma, R. (2021). Laparoscopic Approaches in Ectopic Pregnancies. International Journal of Gynecological Surgery.
- [4] Smith, J. (2021). Epidemiological Trends in Ectopic Pregnancy. Gynecology Research Updates.
- [5] Barnhart, K. (2022). Advances in Ectopic Pregnancy Management. Journal of Reproductive Medicine.