

Original Article

Comparison of Efficacy of Medical Versus Surgical Abortion

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Abstract

Objective: To compare clinical efficacy and rate of complications in surgical versus medical abortion.

Methodology: This cross-sectional study was conducted in Liaquat University medical and health sciences Hyderabad from January 2023 to March 2023. One hundred women, who were at least eighteen years old, who had disclosed or been referred to research settings for first-trimester pregnancy termination including treatment of incomplete pregnancy termination for whatever cause or legal abortions were eligible participants.

Results: The mean age and gestational age of the cases was 25.92 ± 3.89 , and 11.40 ± 1.07 in medical abortion respectively while mean age and gestational age in surgical abortion was 26.16 ± 3.93 and 11.34 ± 1.06 respectively. From the total 30 (60%) medical abortions and 29 (58%) surgical abortions were of first pregnancy. There were 9 (18%) women in medical abortion group and 6 (12%) in surgical abortion group were having history of previous abortions. There comparison of pain scale, composite complication and pelvic infection showed significant p-value 0.011, < 0.001 and 0.014 respectively.

Conclusion: The results of this study indicate that, as compared to the medical method used for abortion, the surgical procedure is far safer, more effective, and has been linked to improved clinical outcomes in the first trimester of pregnancy. Consequently, it is advised that surgical abortion be the first choice and a component of any plan to enhance first-trimester abortion services.

Keywords: Medical Abortion, Surgical Abortion, Pregnancy

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Introduction

The surgical and medicinal options available for the management of pregnancy termination procedures are deemed acceptable in practical application. However, they exhibit variations in terms of clinical effectiveness and incidence of complications, hence posing challenges in determining the most optimal treatment approach. Throughout the world, induced abortion and pregnancy termination are highly common forms of intervention. When performed by a properly qualified practitioner, according to the World Health Organization's recommended protocol, and in accordance with the gestational age of the pregnancy, it is safe. The decision to terminate a pregnancy and the problems that arise from it can still result in maternal fatalities and morbidities. They can also cause physical

and mental health issues, as well as financial and social difficulties for women, their communities, and health care systems.¹

Around 60% of unintended pregnancies lead to an induced abortion, with an approximate annual count of 73 million, representing a 30% increase since 1999. Roughly 45% of all abortions occur under hazardous circumstances, with 97% occurring in developing countries. Asia, particularly South and Central Asia, accounts for over 50% of all unsafe abortions. Although pregnancy-related maternal mortality is often misclassified, abortion and its repercussions contribute to 2.3% of mother fatalities in Iran.² The absence of availability to secure, prompt, affordable, and dignified abortion care is a significant concern for both public health and human rights.^{3,4}

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The usual therapeutic technique for pregnancy termination and induced abortion has traditionally been uterine aspiration, also known as aspiration curettage, suction curettage, dilatation and curettage (D and C), dilatation and evacuation, or surgical abortion. Over the past decade, there has been a predominant emphasis on medical approaches in the pursuit of alternate options for terminating pregnancies. In recent times, there has been a growing preference for medical abortion using prostaglandins, such as mifepristone alone, mifepristone mixed with prostaglandins, and methotrexate combined with prostaglandins, as a noninvasive alternative. The provision of safe, effective, and universally accepted abortion and post-abortion services is of utmost importance in guaranteeing access to these procedures.^{5,6,7}

Presently, both surgical and medicinal alternatives are deemed acceptable in practical application, however they vary in terms of clinical effectiveness, expenses, and patient satisfaction. Determining the optimal approach is often ambiguous.⁸ Consequently, the present study was established with the aim of comparing the clinical effectiveness and incidence of complications between surgical abortion and medicinal abortion.

Methodology

This comparative study was conducted in Liaquat University medical and health sciences Hyderabad from January 2023 to March 2023. Participation in this study was voluntary, and each woman provided informed consent upon recruiting. The study included 100 women who were 18 years old or older and were hospitalized or referred to study settings for the purpose of terminating their first trimester pregnancy. This included legal abortions or therapy for incomplete pregnancy termination, regardless of the reason for the termination. The study excluded patients who had pre-existing medical illnesses such as diabetes, hypertension, thyroid disorders, and neoplasms.

Results

Above table showed that the mean age and gestational age of the cases was 25.92 ± 3.89 , and 11.40 ± 1.07 in medical abortion respectively while mean age and gestational age in surgical abortion was 26.16 ± 3.93 and 11.34 ± 1.06 respectively. From the total 30 (60%) medical abortions and 29 (58%) surgical abortions were of first pregnancy. There were 9 (18%) women in medical abortion group and 6 (12%) in surgical abortion

group were having history of previous abortions. (Table I)

There comparison of pain scale, composite complication and pelvic infection showed significant p-value 0.011, < 0.001 and 0.014 respectively. (Table II)

Table I: Participants baseline characteristics

| Characteristics | Medical Abortion | Surgical Abortion | |
|--|------------------|-------------------|----------|
| Age (Mean \pm S.D) | 25.92 \pm 3.89 | 26.16 \pm 3.93 | |
| Birth Order | First Pregnancy | | |
| | 30 (60%) | 29 (58%) | |
| | Second Pregnancy | | |
| | 7 (14%) | 9 (18%) | |
| | Third Pregnancy | | |
| | 9 (18%) | 8 (16%) | |
| | Forth or more | | |
| | 4 (8%) | 4 (8%) | |
| Gestational Age | 11.40 \pm 1.07 | 11.34 \pm 1.06 | |
| Previous Abortion | Yes | 9 (18%) | 6 (12%) |
| | No | 41 (82%) | 44 (88%) |

Table II: Comparison of Complications.

| Characteristics | Medical Abortion | Surgical Abortion | P-Value | |
|-------------------------------|-------------------|-------------------|----------|-------|
| Bleeding Scale | No Bleeding | | 0.124 | |
| | 33 (66%) | 43 (86%) | | |
| | Mild Bleeding | | | |
| | 6 (12%) | 3 (6%) | | |
| | Moderate Bleeding | | | |
| | 7 (14%) | 2 (4%) | | |
| | Severe Bleeding | | | |
| | 4 (8%) | 2 (4%) | | |
| Pain Scale | No Pain | | 0.011 | |
| | 23 (46%) | 39 (78%) | | |
| | Mild Pain | | | |
| | 17 (34%) | 6 (12%) | | |
| | Moderate Pain | | | |
| | 7 (14%) | 3 (6%) | | |
| | Severe Pain | | | |
| | 3 (6%) | 2 (4%) | | |
| Composite Complication | Yes | 20 (40%) | 3 (6%) | < |
| | No | 30 (60%) | 47 (94%) | 0.001 |
| Pelvic Infection | Yes | 10 (20%) | 2 (4%) | 0.014 |
| | No | 40 (80%) | 48 (96%) | |

Discussion

The findings of this study have unveiled significant disparities between surgical and medicinal approaches in the management of pregnancy termination operations. The clinical results of patients in the surgery group were found to be significantly improved. This conclusion was supported by distinct statistical methodologies and demonstrated across diverse clinical outcome measures, including estimated bleeding, perceived pain intensity, and symptoms of pelvic infection. In this study the mean age and gestational age of the cases was

25.92 ± 3.89, and 11.40 ± 1.07 in medical abortion respectively while mean age and gestational age in surgical abortion was 26.16 ± 3.93 and 11.34 ± 1.06 respectively. These results are consistent with the findings of Barghazan et al, (2023).⁹ From the total 30 (60%) medical abortions and 29 (58%) surgical abortions were of first pregnancy. There were 9 (18%) women in medical abortion group and 6 (12%) in surgical abortion group were having history of previous abortions. There comparison of pain scale, composite complication and pelvic infection showed significant p-value 0.011, <0.001 and 0.014 respectively. The findings of this study exhibit many similarities to the research conducted by Westfall et al.¹⁰, Kim et al.¹¹, and Niinimäki et al.¹², which also showed promising results regarding the safety and efficacy of surgical abortion procedures when compared to medical treatments. Moreover, our findings align closely with the Cochrane cooperative review study, which determined that the use of prostaglandins alone appears to be less efficacious and more distressing when compared to surgical approaches for first trimester abortion.¹³ Similarly, Barghazan et al, 2023 reported statistically significant differences between symptoms of pelvic infection (p-value = 0.002), pain scale (p-value= < 0.001) and composite complications (p-value= <0.001).⁹

The findings of this investigation should not be misconstrued as undervaluing the advantages of medical abortion procedures. The utilization of medical abortion methods offers viable alternatives to hazardous operations, enhances the accessibility and affordability of treatments in resource-constrained environments, and expands the array of choices available to women.¹³ Research has demonstrated that the introduction of a combination of misoprostol with other prostaglandins, such as mifepristone, can lead to improvements in clinical efficacy, acceptability, and patient experiences in medical procedures of abortion.^{7, 14, 17}

Conclusion

The results of this study indicate that, as compared to the medical method used for abortion, the surgical procedure is far safer, more effective, and has been linked to improved clinical outcomes in the first trimester of pregnancy. Consequently, it is advised that surgical abortion be the first choice and a component of any plan to enhance first-trimester abortion services.

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