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# Total laparoscopic hysterectomy versus Total abdominal hysterectomy in Benign Gynaecological Conditions: A Tertiary Care Hospital-Based Study.

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**ABSTRACT**

**Background**: Hysterectomy is a common surgical procedure for benign gynecological conditions, with open total abdominal hysterectomy (TAH) and total laparoscopic hysterectomy (TLH) being two widely used approaches. This study aims to compare the perioperative outcomes of TAH and TLH in benign gynecological conditions.

**Methods**: A retrospective cohort study was conducted at a Tertiary care hospital, involving patients who underwent either TAH or TLH for benign gynecological conditions over a period of 2 years w.e.f January 2021 to January 2023. Baseline characteristics, indications for surgery, intraoperative parameters, postoperative outcomes, and surgical complications were compared between the two groups.

**Results**: Baseline variables including age, BMI, previous cesarean sections, and indications for surgery were similar between the TAH and TLH groups. Fibroids was the most common indication for surgery in both groups. TLH resulted in significantly less intraoperative blood loss compared to TAH. TLH was also associated with shorter durations of hospitalization, lower postoperative pain scores, and reduced analgesia requirements. Surgical complication rates were comparable between the two groups.

**Conclusion**: TLH offers advantages over TAH in terms of reduced intraoperative blood loss, shorter hospitalization durations, and improved postoperative pain control in benign gynecological conditions. Both TAH and TLH are safe procedures with comparable complication rates. Clinicians should consider these findings when selecting the optimal approach for hysterectomy.

**Keywords**: hysterectomy, total abdominal hysterectomy, total laparoscopic hysterectomy, benign gynecological conditions, and perioperative outcomes.

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## INTRODUCTION

Hysterectomy, the surgical removal of the uterus, remains one of the most commonly performed gynaecological procedures worldwide (1). With advancements in surgical techniques, the choice between open and laparoscopic approaches has become a subject of significant debate and research, particularly in benign conditions.

In recent years, laparoscopic hysterectomy has gained popularity due to its perceived advantages such as shorter hospital stays, faster recovery times, and reduced postoperative pain compared to traditional open surgery (2). Several studies have highlighted the benefits of laparoscopic hysterectomy, including lower rates of wound complications and shorter postoperative ileus duration (3).

However, the evidence supporting the superiority of laparoscopic hysterectomy over the open approach in benign conditions remains inconclusive, with studies reporting conflicting outcomes (4). While some studies suggest that laparoscopic hysterectomy is associated with lower rates of surgical site infections and decreased blood loss compared to open surgery (5), others have found no significant differences in complication rates between the two approaches (6).

Furthermore, factors such as surgeon expertise, patient characteristics, and hospital resources may influence the choice of surgical approach and subsequent outcomes (1). Therefore, it is essential to conduct robust comparative studies within specific clinical settings to elucidate the optimal approach for hysterectomy in benign gynecological conditions.

This research paper aims to contribute to the existing body of knowledge by conducting a comprehensive comparative analysis of open versus laparoscopic hysterectomy specifically in the context of benign gynaecological conditions. Our study focuses on outcomes such as surgical complications, operative time, and length of hospital stay, postoperative pain, and patient satisfaction, within the setting of a tertiary care hospital.

By elucidating the comparative effectiveness and safety profiles of these two surgical approaches, this study seeks to provide valuable insights that can inform clinical decision-making and optimize patient outcomes in the management of benign gynecological conditions requiring hysterectomy.

## AIMS AND OBJECTIVES

1. To compare the intraoperative outcomes, including operative time and estimated blood loss, between open and laparoscopic hysterectomy in benign gynecological conditions.
2. To evaluate the postoperative outcomes, including length of hospital stay, postoperative pain scores, and analgesic requirements, following open and laparoscopic hysterectomy.
3. To assess the incidence of surgical complications, such as wound infections, urinary tract injuries, and postoperative ileus, associated with open and laparoscopic hysterectomy.

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## MATERIALS AND METHODS

Study Design: This study was conducted as a retrospective cohort study involving patients who underwent hysterectomy for benign gynecological conditions at a tertiary care hospital over a period of 2 years w.e.f January 2021 to January 2023.

Study Setting: The study was conducted in the department of obstetrics and gynaecology of Government Medical College, Doda, J&K which serves as a referral centre for gynecological surgeries in the region.

Inclusion Criteria:

1. Patients aged 35 years and above.
2. Patients who underwent hysterectomy for benign gynecological conditions (e.g., fibroids, AUB, adenomyosis, endometrial polyp, benign ovarian tumours) between January 2021 to January 2023
3. Patients who underwent either open or laparoscopic hysterectomy.

Exclusion Criteria:

1. Patients with a history of malignancy or preoperative suspicion of malignancy.
2. Patients who underwent emergency hysterectomy.
3. Patients with incomplete medical records or missing data.

Data Collection: Data was extracted from medical records, surgical databases, and patient charts.

Based on the inclusion criteria 100 patients were included in the study. Out of these 50 patients (Group 1) had undergone total abdominal hysterectomy (TAH) and 50 patients (Group 2) total laparoscopic hysterectomy (TLH) by the same surgeon. Both groups had been subjected to same pre-operative preparation, pre and post-operative antibiotic prophylaxis.

TAH was done through pfannensteil abdominal incision followed by standard steps of open hysterectomy. TLH was done using 10 mm supraumbilical camera port, two 5mm operating ports on left side and one 5mm assistant port on right side with harmonic and bipolar energy source. Vault closure in both the groups was done with no.1 polyglactin 910. The following variables were collected:

1. Baseline characteristics (age, parity, BMI, previous cesarean section).
2. Preoperative diagnosis and indication for hysterectomy.
3. Surgical approach (open vs. laparoscopic).
4. Intraoperative variables: Operative time, estimated blood loss, peri operative haemoglobin levels.
5. Postoperative outcomes: Length of hospital stay, postoperative pain scores (e.g., visual analogue scale), analgesic requirements.

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6. Incidence of surgical complications (e.g., wound infections, urinary tract injuries, postoperative ileus)

Data Analysis: Statistical analysis was performed using appropriate SPSS, SAS. Descriptive statistics was used to summarize patient characteristics and outcomes. Continuous variables were compared using independent t-tests, while categorical variables were compared using chi-square tests or Fisher's exact tests.

Ethical Considerations: Ethical approval was obtained from the institute's ethical committee before commencing data collection. Patient confidentiality was maintained, and data was anonymized to ensure privacy.

**RESULT**

- **Baseline Variables:** like age, BMI, previous cesarean sections and indications for surgery were comparable in both the groups with no significant statistical difference. The most common indication for surgery in both the groups was fibroids followed by AUB and adenomyosis. (**Table 1)**

| **VARIABLE** | **TLH (group 1) N=50** | **TAH (group 2) N = 50** | **P value** |
|---|---|---|---|
| Mean Age(yrs.) | 47.62±4.5 | 48.39±6.2 | 0.25 |
| BMI | 25.23±2.39 | 24.16±2.21 | 0.50 |
| Previous cesarean section | 6 (9.2%) | 4 (9.1%) | 1.0 |
| **Indications for surgery.** | | | |
| Fibroids | 18 (36%) | 19 (38%) | |
| AUB | 10 (20%) | 11 (22%) | |
| Adenomyosis | 7 (14%) | 6 (12%) | |
| Benign adnexal masses | 5 (10%) | 5 (10%) | |
| Chronic PID | 4 (8%) | 5 (10%) | |
| Endometrial polyp | 6 (12%) | 4 (8%) | |

**Operative variables:** Pre-operative haemoglobin was comparable in both the groups. Mean Operation time was longer in TLH group and this was statistically significant (128.49±40.48 versus 76.36±33.02, P value 0.001). Post-operative haemoglobin was also more in TLH group (104.88±93.96v versus 143.18±48.98, p value 0.03) which was statistically significant. However blood loss was more in the TAH group and the differences were statistically significant ( **Table 2)**

| **VARIABLE** | **TLH (group 1) N=50** | **TAH (group 2) N = 50** | **P value** |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| Operation time(min) | 128.49±40.48 | 76.36±33.02 | 0.001 |
| Preoperative Haemoglobin(g/dl) | 12.5±0.8 | 12.9±1.8 | 0.38 |
| Pot operative Haemoglobin(g/dl) | 11.6±0.7 | 10±0.5 | 0.05 |
| Blood loss(ml) | 104.88±93.96 | 143.18±48.98 | 0.03 |

- **Post-operative variables:** Duration of hospitalization (2.36± 0.5 versus 4.28± 1.4, p value <0.001), post-operative pain score (2.96± 1.6 versus 3.85±1.2, p value 0.03) and analgesia requirement (2.36±0.8 versus 5.34±0.23, p value 0.001) was significantly less in TLH group compared to TAH group (Table 3).

| **VARIABLE** | **TLH (group 1) N=50** | **TAH (group 2) N = 50** | **P value** |
|---|---|---|---|
| Mean hospital stay(days) | 2.36± 0.5 | 4.28± 1.4 | < 0.001 |
| Post-operative pain score | 2.96± 1.6 | 3.85±1.2 | 0.03 |
| Post-operative analgesia | 2.36±0.8 | 5.34±0.23 | 0.001 |

- Surgical complications: The surgical complications in both groups were comparable with no statistically significant difference. There was no case of vault dehiscence, abscess formation, bowel injury, bladder injury and dyspareunia.

| **COMPLICATION** | **TLH (n %) N=50** | **TAH (group 2) N = 50** | **P value** |
|---|---|---|---|
| Bladder or ureteric injuries | 1(2%) | 1(2%) | |
| Bowel injuries | 0 | 0 | |
| Vascular injuries | 0 | 0 | |
| Febrile event | 2(4%) | 3(6%) | |
| Wound infection | 4(8%) | 6(12%) | |
| Bleeding or hematoma | 1(2%) | 3(6%) | |
| Urinary retention | 2(4%) | 1(2%) | |
| Ileus | 0 | 2(4%) | |
| UTI | 3(6%) | 1(2%) | |
| Surgical emphysema | 2(4%) | | |
| | | | |
| Total complications | 15 | 17 | 0.48 |

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## DISCUSSION

Our study provides a detailed comparison of open total abdominal hysterectomy (TAH) and total laparoscopic hysterectomy (TLH) in benign gynecological conditions, focusing on various perioperative outcomes. Baseline characteristics such as age, BMI, previous cesarean sections, and indications for surgery were found to be comparable between the two groups, ensuring a balanced comparison. This strengthens the validity of our findings and indicates that any differences observed in outcomes are likely attributable to the choice of surgical approach rather than patient characteristics or indications for surgery.

Intraoperatively, TLH was associated with a significantly longer mean operation time compared to TAH. This finding is consistent with previous studies that have reported longer operative times for laparoscopic procedures due to the technical complexity and time required for laparoscopic dissection and suturing (2). Despite the longer operation time, TLH resulted in significantly higher postoperative haemoglobin levels compared to TAH, suggesting reduced intraoperative blood loss with the laparoscopic approach. This finding underscores the potential benefits of TLH in minimizing perioperative blood loss and preserving haemoglobin levels, which are crucial considerations in reducing the need for blood transfusions and postoperative anaemia.

Furthermore, our study revealed several advantages of TLH over TAH in terms of postoperative outcomes. TLH was associated with significantly shorter durations of hospitalization, lower postoperative pain scores, and reduced analgesia requirements compared to TAH. These findings align with the growing body of evidence supporting the benefits of laparoscopic surgery in terms of faster recovery, decreased postoperative pain, and improved patient satisfaction (4). The shorter hospitalization durations observed with TLH also have implications for healthcare resource utilization and may contribute to cost savings and improved bed availability.

Importantly, the incidence of surgical complications was comparable between the two groups, with no statistically significant differences observed. This suggests that both TAH and TLH are safe procedures with similar complication rates in the context of benign gynecological conditions. Our study did not identify any cases of major complications such as vault dehiscence, abscess formation, or bowel or bladder injuries in either group, further supporting the safety of both surgical approaches.

While our study contributes valuable evidence to the existing literature on hysterectomy approaches, it is essential to acknowledge its limitations. These include its retrospective design, potential selection bias, and reliance on data from a single tertiary care hospital. Additionally, the study may have been underpowered to detect rare complications or subtle differences in outcomes between the two groups. Future research should aim to address these limitations through larger prospective studies conducted across multiple centres.

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## CONCLUSION

In conclusion, our study demonstrates that TLH is associated with longer operative times but offers advantages over TAH in terms of reduced intraoperative blood loss, shorter hospitalization durations, and improved postoperative pain control. Importantly, both TAH and TLH are safe procedures with comparable complication rates in the management of benign gynecological conditions. Clinicians should consider these findings alongside patient preferences, surgical expertise, and healthcare resource utilization when selecting the optimal approach for hysterectomy. Further research is warranted to validate these findings and explore long-term outcomes associated with different surgical approaches.

## REFERNCES

1. Keshavarzi, F., Zakeri, M., & Haghighi, F. (2020). Comparison of open versus laparoscopic hysterectomy in terms of perioperative outcomes. International Journal of Women's Health and Reproduction Sciences, 8(4), 460-465.
2. Aarts, J. W., Nieboer, T. E., Johnson, N., Tavender, E., Garry, R., Mol, B. W., & Kluivers, K. B. (2015). Surgical approach to hysterectomy for benign gynaecological disease. Cochrane Database of Systematic Reviews, (8), CD003677.
3. Brummer, T. H., Jalkanen, J., Fraser, J., Heikkinen, A. M., Kauko, M., Mäkinen, J., & Härkki, P. (2011). FINHYST, a prospective study of 5279 hysterectomies: complications and their risk factors. Human Reproduction, 26(7), 1741-1751.
4. Janda, M., Gebski, V., Brand, A., Hogg, R., Jobling, T. W., Land, R., & Obermair, A. (2018). Quality of life after total laparoscopic hysterectomy versus total abdominal hysterectomy for stage I endometrial cancer (LACE): a randomised trial. The Lancet Oncology, 19(7), 994-1003.
5. Walker, J. L., Piedmonte, M. R., Spirtos, N. M., Eisenkop, S. M., Schlaerth, J. B., Mannel, R. S., ... & Pearl, M. L. (2018). Laparoscopy compared with laparotomy for comprehensive surgical staging of uterine cancer: Gynecologic Oncology Group Study LAP2. Journal of Clinical Oncology, 27(32), 5331-5336.
6. Nieboer, T. E., Johnson, N., Lethaby, A., Tavender, E., & Curr, E. (2009). Surgical approach to hysterectomy for benign gynaecological disease. Cochrane Database of Systematic Reviews, (3), CD003677.