"Randomised Control Trial Of Vaginal Hysterectomy And Abdominal Hysterectomy"

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ABSTRACT
BACKGROUND: Hysterectomy is the most common operation performed by gynaecologists, next to caesarean section[1].Aim of this study is to compare the Operative complications and morbidity of Vaginal and Abdominal hysterectomy in moderately enlarged uterus due to benign conditions and Postoperative hospital stay and Recovery
METHOD: Randomized Prospective Comparative study carried out at Department of Obstetrics and GYNAECOLOGY, at GMERS Medical college and Sola Civil Hospital from sept 2020 to sept 2022. A total of 100 cases admitted to GYNAECOLOGY ward requiring hysterectomy for enlarged uterus due to benign diseases recruited for this study with consent.

INTRODUCTION

Hysterectomy is the most common operation performed by gynaecologists, next to caesarean section[1].The first abdominal hysterectomy was performed by Charles Clay in Manchester in 1843 while Vaginal hysterectomy dates to ancient times.
Advances in anesthesia, transfusion services, surgical techniques and availability of antibiotics led to hysterectomy becoming the most common non-pregnancy related major surgical procedure in women[2].
Comparing Abdominal, Vaginal and Laparoscopic routes for hysterectomy; Vaginal hysterectomy should be the route of choice.
Evidence supports Total Abdominal Hysterectomy (TAH) only when documented pathologic conditions preclude the vaginal route[3]. Abdominal route is preferred for moderately enlarged uterus but with different techniques like bisection, morcellation even vaginal route has become easier for enlarged uterus.[4] By using Vaginal route postoperative morbidity can be reduced and faster recovery can be ensured[5].
American College of Obstetrics and Gynaecology (ACOG) also acknowledges that the choice of approach should be based on the surgical indication, the patient's anatomical condition, data supporting the approach, informed patient preference and surgeon's expertise and training.
This study was performed to evaluate the appropriate route of Hysterectomy (Abdominal or Vaginal) in our hospital population for women with benign disease by comparing operative time, Perioperative and Post-operative complications, Post-operative pain and Hospital stay.

MATERIALS AND METHODS

STUDY DESIGN

A hospital-based randomised Prospective Comparative study was conducted from September 2020 to September 2022 at GMERS Medical College and Hospital, Sola, Ahmedabad.

Study Population:
All patients with enlarged uterus upto 16 weeks with benign diseases, visiting sola civil hospital for elective surgery.
Following cases were excluded from our study :- Cases with uterine prolapse,Associated adnexal pathology,History of Previous Abdominal surgery or Pelvic organ surgeries unrelated to uterus,Uterus size less than 8 week and more than 16 weeks

DATA COLLECTION:

A total of 100 cases admitted to GYNAECOLOGY ward requiring hysterectomy for enlarged uterus due to benign diseases recruited for this study with consent. These 100 cases were randomly allocated into two groups on the basis of serial number they chose between 1 to 100.After obtaining written informed consent, cases were subjected to proper pre-operative evaluation with clinical history, examination, Diagnosis of

surgery and routine blood investigations including complete blood count, blood grouping and Rh typing, blood sugar, urea, creatinine, urine analysis, HIV, HbsAg, ECG, Chest X-ray, USG abdomen and pelvis and Pap smear. Dilatation and Curettage and Cervical punch biopsy were done if indicated. These 100 cases were randomly allocated into two groups on the basis of serial number they chose between 1 to 100.

Group-A -50 patients underwent Vaginal hysterectomy

Group-B -50 patients underwent Abdominal hysterectomy

STATISTICAL ANALYSIS

The information was collected and analyzed using Microsoft Excel and Epi Info 7 software. With all these details comparison was made between Vaginal and Abdominal hysterectomies. Results are reported as the Mean and Standard deviation. Comparisons of means were carried out using the student T-test. Categorical variables were compared using Chi-square test. The p value <0.05 was considered significant and p value <0.01 was considered highly significant.

RESULTS

1) PATIENT FACTORS :-Majority of the women belonged to age group between 36-45 years.Majority of women who underwent Hysterectomy are Multi - Para.Majority of patients has uterine size of 10-12 weeks.Majority of patients were in normal to overweight BMI category. The most common Indication for Hysterectomy in both the groups was Fibroid uterus (54%) followed by Adenomyosis (29%).

2) OPERATIVE FACTORS :-More decline in Hb in AH group might be due to blood loss during opening of abdominal cavity in layer wise manner.
AH required more time than VH might be due to Opening and closure of abdomen in layers.Mobilization was delayed in AH Group due to more pain during Post op period compared to VH. Patients who underwent vaginal hysterectomy were discharged early.). As Abdominal Hysterectomy being an open surgery, intra-op difficulties was more than in VH group.

3)POST OPERATIVE FACTORS :-

Postoperatively, 1 case develop Burst abdomen, 1 case develop Rectus sheath hematoma in AH Group. 4 out of 6 cases of wound gap in AH Group belonged to overweight category concluding that obesity is contributing factor in wound complications. VH being a scar-less surgery avoided those complications.Paralytic ileus was more common in AH Group due to intra-op handling of bowels. 8% patients complained about febrile events in VH compared to 20% in AH. Only 1 case of Re-laparotomy noted after Abdominal Hysterectomy. Overall, Postoperative complications observed in AH were more than VH.

TABLE 1 - PATIENT FACTORS

PARAMETERS	VAGINAL HYSTERECTOMY (N=50)	ABDOMINAL HYSTERECTOMY (N=50)	PVALUE
1) AGE DISTRIBUTION	43.2 (± 5.20)	41.42(± 5.55)	0.30
2) NULLIPAROUS	1	3	0.59
3)UTERINE SIZE	21(10-12 wks)	19 (10-12wks)	0.68
4)BODY MASS INDEX	25(18.5-24.9)	23(18.5-24.9)	0.83
5)INDICATION FOR SURGERY			
• ADENOMYOSIS	17	12	
• ENDOMETRIAL POLY	4	5	
• FIBROID	24	30	
• HYPERPLASIA	5	3	

TABLE 2- OPERATIVE FACTORS

PARAMETERS	VAGINAL HYSTERECTOMY (N=50)	ABDOMINAL HYSTERECTOMY (N=50)	PVALUE
1) DECLINE IN HB	0.90(±0.31)	1.16(±0.35)	<0.0002
2)DURATION OF SURGERY	69.8(±32.77)	92.6(±26.58)	<0.001
3)NUMBER OF HOURS OF AMBULATION	21.16 (±1.50)	29.14(±1.67)	<0.0001
4)PAIN SCORE ON DAY 3	2.84(±1.36)	5.74(1.60)	<0.0001
5) DURATION OF HOSPITAL STAY	3.52(±0.50)	5.94 (±0.76)	<0.0001
6)INTRA-OP DIFFICULTY			0.62
• Difficulties in separating Bowel and Peritoneal Adhesion	3	1	
• Difficulty in Bladder dissection	3	0	
• Difficulty in Removal of Uterus	5	1	
• Difficulty in pedicle Ligation	3	2	
• Slipping of Pedicle	2	0	

TABLE 3- POSTOPERATIVE COMPLICATIONS

PARAMETERS	VAGINAL HYSTERECTOMY (N=50)	ABDOMINAL HYSTERECTOMY (N=50)	
I. Febrile events	4	10	
II. Vault Hematoma	1	0	
III. Wound infection	-	6	
IV. Vault infection	2	-	
V. Burst Abdomen	0	1	
VI. Rectus sheath	0	1	Hematoma
VII. Paralytic ileus	1	4	
VIII. Need for Laparotomy	0	1	

DISCUSSION

The study was conducted in OBGY dept, GMERS hospital sola, ahmedabad for a period of 2 years to study the role of vaginal hysterectomy in non-descent uterus and to compare it with abdominal hysterectomy. 50 patients underwent vaginal hysterectomy and 50 patients underwent abdominal hysterectomy.In our study, Fibroid uterus was the most common indication for hysterectomy in both the groups with 48 % in VH and 60 % in AH group. There was not much difference in the number of patients regarding the indications for surgery between two groups. In our study, Operative time was significantly lower for vaginal route as compared with abdominal route. Duration was prolonged in AH due to opening and closure of abdomen in layer-wise manner.In our study, the fall in Hemoglobin was higher in Abdominal Hysterectomy (1.16 g /dl) in comparison to Vaginal Hysterectomy (0.90 g/dl).Ambulation was delayed after Abdominal Hysterectomy than vaginal Hysterectomy most probably due to post-operative pain experienced in AH.It showed that Vaginal group experienced less pain on post operative day 3 than Abdominal hysterectomy.Patients who underwent Abdominal hysterectomy had more post-operative complications when compared to the Vaginal hysterectomy. Abdominal hysterectomy was commonly associated with wound related complications like wound infection and wound gaping.Being a scar-less surgery, Vaginal hysterectomy has the advantage of avoiding these complications.Febrile events were more common in AH than VH.Patients in Vaginal hysterectomy group were fit for discharge as early as 3-4 days. Abdominal hysterectomy patients were usually discharged between 7-9 days.

CONCLUSION

Hysterectomy is traditionally regarded as a crucial tool in arsenal of gynecological operations. Despite the fact that hysterectomy is the most frequently performed surgery, the final choice of route is determined by the patient's preferences, the size of uterus, the availability of equipment and surgeon's skill.

The Present study was conducted to provide objective evidence to help Gynecologist choose the most appropriate method of Hysterectomy.

From our study, it was concluded that Vaginal Hysterectomy is safe and better choice even in moderately enlarged uterus with use of bulk reducing techniques like Bisection, Myomectomy and wedge Resection.

Though Intra operative difficulties encountered during Vaginal Hysterectomy are more than Abdominal Hysterectomy in moderately enlarged uterus, Good surgical skill seems to negate the difference. It has been concluded from our study that Vaginal hysterectomy is associated with less intraoperative blood loss and early mobilization with fewer intraoperative and postoperative complications than Abdominal hysterectomy.

Vaginal hysterectomy is a less invasive technique as uterus is removed through natural orifice. Vaginal Hysterectomy is a cost-effective procedure as it is associated with a shorter hospital stay and faster recovery than Abdominal Hysterectomy.

Minimal manipulation during surgery and avoidance of abdominal scarring are significant advantages of Vaginal Hysterectomy especially for obese older adults.

Any surgeon's goal is to adopt the least invasive, fastest, least complicated and most effective operative techniques necessitating early ambulance and shortest hospital stay at the lowest cost. Therefore, As being scar-less surgery, Vaginal Hysterectomy should be chosen as the preferred method of hysterectomy, whenever feasible.

ACKNOWLEDGEMENT

We extend our gratitude to the Department of Obstetrics and Gynaecology, GMERS Medical College & Hospital, Sola, Ahmedabad, for their support in conducting this study. We also thank the participating women for their cooperation.

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