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MINILAPAROTOMY HYSTERECTOMY IS AN EFFECTIVE OPTION FOR THE TREATMENT OF BENIGN UTERINE PATHOLOGIES: A COMPARATIVE STUDY WITH CONVENTIONAL PFANNENSTIEL AND LAPAROSCOPIC APPROACHES IN DEVELOPING COUNTRIES

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INTRODUCTION

Hysterectomy is the second most frequently performed gynecologic procedure worldwide, second only to caesarean section.[1] Currently gynaecologists have different options for the surgical treatment of benign uterine diseases.[2] Hysterectomy can be performed by a number of different approaches like abdominal, vaginal and laparoscopic approaches. Each with its own merits and demerits. The optimum approach is generally guided by the indication for surgery, surgeons training and performance, uterine size, presence and absence of associated pelvic pathologies and the patient choice. The abdominal hysterectomy technique is still performed in over 80% of operations.

KEYWORDS: ?.

Laparoscopic assisted vaginal hysterectomy (LAVH) has been advocated as a minimally invasive alternative to Pfannenstiel laparotomy. It takes longer, has less post-operative pain and requires a shorter hospital stay as compared to conventional open total abdominal hysterectomy. But it is more costly and is not affordable to all, especially in third world countries. Therefore, in these countries, minimally invasive procedures offer an economic friendly and less traumatizing alternative to the patients who cannot afford the laparoscopic surgery.[3]

OBJECTIVE

- To introduce minilaparotomy hysterectomy, a technical modification in the performance of hysterectomy
- To evaluate the results, in terms of morbidity, obtained following minilaparotomy, Pfannenstiel and laparoscopy approaches for total hysterectomy procedure.

METHODOLOGY

Type of study	Retrospective study
Place of study	Mohammadpur Fertility Services and Training center. Dhaka.
Study period	2016 to 2018
Study population	116 patients who underwent total hysterectomy for benign uterine disease only (fibroid, adenomyosis, dysfunctional uterine bleeding, endometrial hyperplasia, endometrial polyp) during the period.
Sampling technique	Purposive

The study was limited to women having benign disease and a uterine size of up to 12 weeks. All surgeries were done on an elective basis and were performed by a single surgeon only.

The choice of the procedure was based on surgeons and patient's decision according to the preferences.

RESULTS

Table 1 shows the age distribution of the patients where the mean age was 46 years (range 39–66). The following table is given below in detail:

Table 1: Surgical approach of different age group.

Age range	Surgical Approach	Frequency	Percentage (%)
38-65yrs	Minilap	52	44.83
41-66yrs	Pfannenstiel	39	33.62
42-55yrs	Laparoscopy	25	21.55
Total		116	100

In figure-1 shows distribution of the patients according to types of surgery where, 52 (60.3%) patients had undergone minilaparotomy procedure, 39 (45.2%) patients Pfannenstiel, and 25 (29.0%) patients' laparoscopic hysterectomy. The following figure is given below in detail:

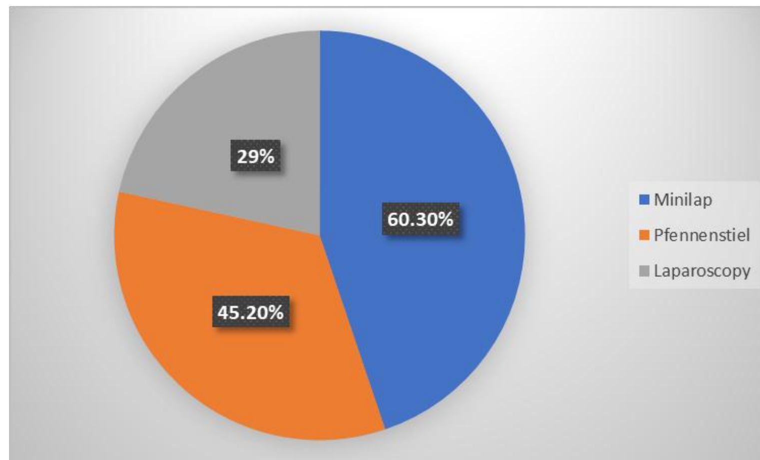


Figure 1: Distribution of the patients according to types of surgery.

In figure-2 shows History of two previous caesarean section, 18 out of 39 minilap hysterectomy, 20 out of 39 Pfannenstiel and 5 out of 25 laparoscopic hysterectomy, the following figure is given below in detail:

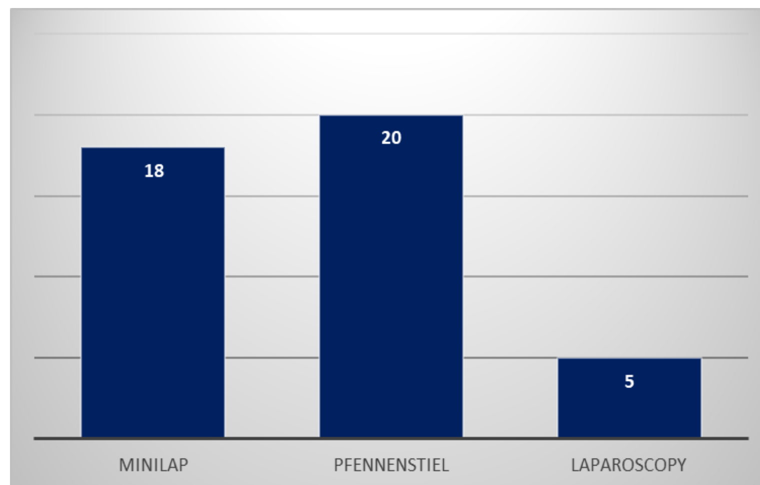


Figure 2: History of two previous caesarean section.

In table-2 shows indication of operation, where main (28.5%) indication was fibroid of minilap, Adenomyosis (30.77%) of Pfannenstiel and Dysfunctional uterine bleeding (40%) of laparoscopic surgery. The following table is given below in detail:

Table 2: Indication of operation.

Variable	Minilap	Pfannenstiel	Laparoscopy
Fibroid	15(28.5%)	11(28.20%)	6(24%)
Adenomyosis	14(26.92%)	12(30.77%)	6(24%)
Dysfunctional uterine bleeding	12(23.07%)	7(17.95%)	10(40%)
Chronic Pelvic inflammatory disease	6(11.54%)	4(10.26%)	2(8%)
Endometriosis	5(9.61%)	5(12.82%)	1(4%)

In table-3 shows preoperative and postoperative hemoglobin status of the patients where after operation, people with laparoscopy had 9-11gm/dl hemoglobin level, whereas people with minilap had 8.5-10gm/dl hemoglobin level. The following table is given below in detail:

Table 3: Preoperative and Postoperative hemoglobin status of the patients.

Variable	Minilap	Pfannenstiel	Laparoscopy
Preoperative	10-12 gm/dl	9-13 gm/dl	10-13 gm/dl
Postoperative	8.5-10 gm/dl	7.5-10 gm/dl	9-11gm/dl

In figure-3 shows per operative complication of the patients where 1 patient had Bladder Injury who had Pfannenstiel surgery. The following figure is given below in detail:

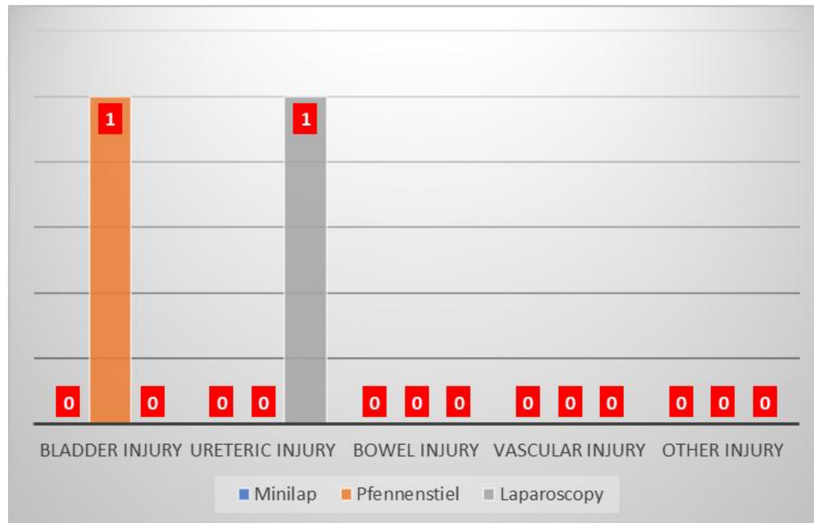


Figure-3: Per operative complication of the patients.

In figure-4 shows post-operative complication of the patients where 41 patients did not have any complication who had minilap surgery. The following figure is given below in detail:

Figure 4: Post-operative complication of the patients.

In table-3 shows distribution of the patients according to surgery time where, patients with laparoscopy surgery time was 50min-90 min, where in minilap surgery time was 25min-60 min. the following table is given below in detail:

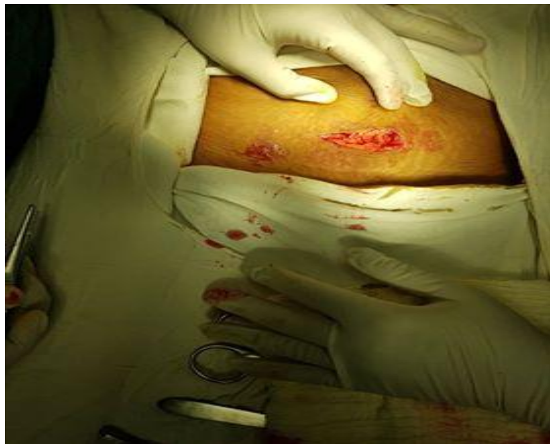
Table-3: Distribution of the patients according to surgery time

Variable	Minilap	Pfannenstiel	Laparoscopy
Surgery time	25-60min	30-75min	50-90 min

In table-4 shows distribution of the patients according to duration of hospital stay where, patients with laparoscopy duration hospital stay was 1.5-2 days, where in minilap surgery time was 2-3 days. The following table is given below in detail:

Table 4: Distribution of the patients according to duration of hospital stay.

Variable	Minilap	Pfannenstiel	Laparoscopy
Duration of hospital stay	2-3 days	3-5 days	1.5 – 2 days



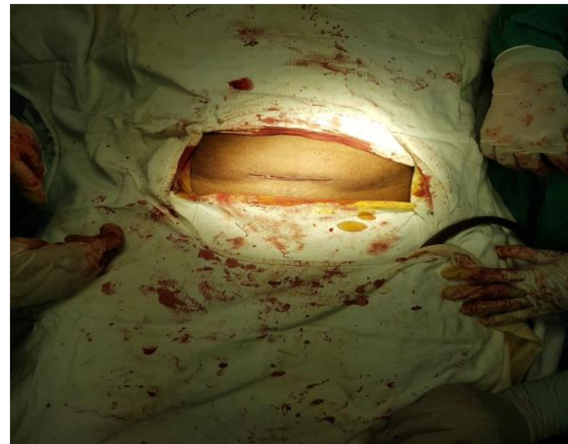


Figure 5: Photo of Minilap incision; during and after operation.

DISCUSSION

In the present study we have found that total hysterectomy by minilaparotomy is faster than Pfannenstiel and laparoscopic approach. These results confirm the previous data from by Sharma.[4] and Hoffman-Lynch.[5] Regarding intraoperative and post-operative complications we did not find any significant statistical differences,[4-6] so all three are similarly safe.

There have been wide variations in the definitions regarding the length of minilap incision. Pelosi et al. considered laparotomy to be a minilaparotomy when the incision is 2.5-5 cm.[3] Glasser et al. defined it when the incision was 3-6 cm, and others defines it using an incision length up to 10 cm.[7] Our incision used to be 4-5 cm in length 2.5 cm above the symphysis pubis and is similar also in publication [1.3.7.8]. Hoffman and Lynch described their experience on 26 hysterectomies by minilaparotomy, reporting good results in terms of operative time, costs, intra and post-operative complications and discharge.[9]

Increasingly, the minimally invasive laparoscopic surgery is replacing the conventional open surgery. But the establishment of a laparoscopic unit, supply of instruments and training of the personnel etc is a costly affair. Minilap approach can serve as an excellent alternative. In our study none of the patient had a bowel, bladder, or uretic injury. Dissection seemed to be difficult in two cases where the incision was extended in the interest of the patient. Injuries are prevented mainly by the fact the dissection field is procured onto the surface, where vision is not handicapped.

The minilaparotomy technique may be considered an “atraumatic procedure”[4] because neither fixed abdominal retractors nor pneumoperitoneum[6] are used, which are both potential causes of postoperative pain.

The concept, under which the procedure is undertaken, envisages the foolproof technique for the safeguard of ureters. These are the main advantages of our concept against the conventional surgery where in the surgeon has to operate in the pelvis, where the vision and illumination is poor and the chances of injury to neighboring structures are high. Besides the technique is very easy to learn and practice.

CONCLUSION

Minilaparotomy procedure may be considered a time saving technique for total hysterectomy for benign uterine pathology. It offers some of the advantages of a minimally invasive procedure (low morbidity, short hospital stays, cost effective with good cosmetic results) and the benefits of open access (for example, shorter learning curve than laparoscopy). It may well serve as an

alternative to the conventional Pfannenstiel abdominal or laparoscopic hysterectomy in areas which lack these facilities.

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