International Journal of Clinical Obstetrics and Gynaecology

ISSN (P): 2522-6614
ISSN (E): 2522-6622

www.gynaecologyjournal.com
2018; 2(1): 75-77
Received: 15-11-2017
Accepted: 16-12-2017

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Clinical profile of patients undergoing laparoscopic assisted vaginal hysterectomy /total abdominal hysterectomy

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Abstract
Introduction: One of the first successful vaginal hysterectomies was self-performed in the early 17th century. A 46-year-old peasant named Faith Haworth was carrying a heavy load when her uterus prolapsed completely. Frustrated by this frequent occurrence, she grabbed her uterus, pulled as hard as possible, and cut the whole lot of it with a short knife. The bleeding soon stopped and she lived on for many years, with a persistent vesico-vaginal fistula. This case was well documented and reported in 1670 by a male midwife Percival Willoughby ‘
Methodology: Totally 30 Consecutive Patients who give consent for LAVH and 30 consecutive patients who gave consent for TAH was taken up for the study.All women undergoing hysterectomy meeting the inclusion criteria will be divided into 2 groups- LAVH group and TAH group.
Results: Mean age in TAH group: 44.2years, Mean age in LAVH group 43.57years. Comparison of 2 groups in terms of age distribution shows that no significant difference is present
Conclusion: Most common indication for hysterectomy was fibroid uterus (50%) in TAH group & (43.3%) in LAVH group

Keywords: LAVH, TAH, clinical profile

Introduction
Hysterectomy is one of the most frequently performed major gynaecological procedure. It is indicated for women with dysfunctional uterine bleeding, uterine fibroids, prolapse, endometriosis, adenomyosis, pelvic pain, premalignant changes in cervix and endometrium and cancer. The procedure is a major surgical operation that is indicated only when appropriate drugs or simpler procedures are ineffective or inappropriate [1].

Vaginal hysterectomy dates back to the ancient times. There is reference that vaginal hysterectomy was performed by Themison of Athens in 50 BC [2]. In the writings of the 11th century, the Arabic physician Alsaharavius stated that if the uterus had prolapsed externally and could not be reinserted, it should be surgically excised [3]. It is known that the procedure was performed by Soranus in Greece, 120 years AD, by removing an inverted uterus that had become gangrenous. These hysterectomies were carried out sporadically and only for the reason of uterine prolapse or uterine inversion. However, the bladder and the ureter were often torn and the patients rarely survived.

The first authenticated vaginal hysterectomy was performed by the Italian anatomist Berengario da Carpi of Bologna in 1507 [4]. The operation was also performed by Andereas da Crusce in 1560, and Valkaner of Nurem- burg in 1675, with questionable outcome [5].

One of the first successful vaginal hysterectomies was self-performed in the early 17th century. A 46-year-old peasant named Faith Haworth was carrying a heavy load when her uterus prolapsed completely. Frustrated by this frequent occurrence, she grabbed her uterus, pulled as hard as possible, and cut the whole lot of it with a short knife. The bleeding soon stopped and she lived on for many years, with a persistent vesico-vaginal fistula. This case was well documented and reported in 1670 by a male midwife Percival Willoughby [5].

Most of the early surgical attempts to deal with uterine prolapse and cervical cancer were probably limited to removal of the cervix and the lower part of the uterine corpus, such as the Osiander’s eight cases of excision of the cervix for uterine cancer [4]. In 1812, Palletta of Milan inadvertently performed a vaginal hysterectomy when planning to amputate the cervix for suspected cancer, only to find that he had excised the entire uterus. The patient died 3 days later of sepsis [4].

The reported mortality rate in the 18th century was 90%, and most doctors were of the opinion that one was unlikely to survive a hysterectomy [3].

The first successful vaginal hysterectomy for cervical cancer was performed in 1829 by the Parisian surgeon Joseph Récamier. He performed the procedure with deliberate ligature of the uterine arteries and broad ligaments. The operation lasted 20 minutes and the patient died later due to spread of the cervical cancer [4].

In the first part of 20th century, before the development of gynaecology as separate speciality, many hysterectomies were done by general surgeons who, as not being familiar with vaginal surgery, favoured the abdominal route. The development of laparoscopic assisted hysterectomy in the 1990s has led to the reemergence of standard vaginal hysterectomy as the method of choice for most cases of benign gynaecological disease requiring hysterectomy. The first vaginal hysterectomy with laparoscopic assistance was described in 1984 [3].

The true role of laparoscopy in facilitating vaginal hysterectomy was to convert cases that could otherwise only have been done abdominally, to a laparoscopic assisted vaginal hysterectomy. Laparoscopic assistance during vaginal hysterectomy not only provides visualisation of the real anatomic picture in the abdominal cavity, but allows the surgeon to perform correction of the associated pathology and some steps of the hysterectomy itself, thus reducing the operating risk of this, to a certain degree, "blind" intervention.

Methodology

Written informed consent will be taken from patient for pre-operative evaluation, surgical procedure, post-operative evaluation and willingness to participate in study. 30 Consecutive Patients who give consent for LAVH and 30 consecutive patients who give consent for TAH was taken up for the study.

All women undergoing hysterectomy meeting the inclusion criteria will be divided into 2 groups- LAVH group and TAH group.

Pre-Operative Evaluation

Informed written consent. History, clinical & pelvic examination.

Routine investigations:- Haemoglobin, Total leucocyte count, Differential count, Serum urea, Creatinine, HBSAg, HIV, and others if required.

PAP smear / Endometrial biopsy if indicated. USG of abdomen and pelvis: uterine volume, adnexal pathology.

Pre anaesthetic evaluation for fitness.

Operative Intervention

The steps of surgery, pre and post-operative care will be as per Institution's standard protocols.

Time of surgery.

Blood loss estimation: blood suctioned, mops weighed.

Intra op injuries.

Post-Operative Evaluation

Vitals measured at least two times a day.

In case of fever TC, DC, urine culture.

Pain scoring (visual analogue scale & analgesics consumed)

Day of ambulation post operatively.

Postoperative complications.

Hospital stay.

Follow up after 2wks.

Results

Table 1: Age distribution of patients studied

Age in years	TAH		LAVH	
	No	%	No	%
30-40	8	26.7	7	23.3
41-50	20	66.7	18	60.0
51-60	2	6.7	5	16.7
Total	30	100.0	30	100.0
Mean ± SD	44.20±6.26		44.57±6.31	

Samples are age matched with P=0.822

Mean age in TAH group: 44.2years,
Mean age in LAVH group 43.57years.
Comparison of 2 groups in terms of age distribution shows that no significant difference is present.

Table 2: Diagnosis of patients in two groups studied

	Diagnosis	TAH		LAVH	
		No	%	No	%
1	Fibroid	15	50.0	13	43.3
2	DUB	7	23.3	10	33.3
3	Chronic cervicitis/PID	2	6.7	5	16.7
4	Adenomyosis	2	6.7	1	3.3
5	Endometrial hyperplasia	1	3.3	1	3.3
6	Dermoid cyst	1	3.3	0	0.0
7	Endometrial hyperplasia with ovarian cyst	1	3.3	0	0.0
8	Subserosal fibroid with simple hyperplasia	1	3.3	0	0.0
	Total	30	100.0	30	100.0

P=0.624, Not significant, Fisher Exact test

Most common indication for hysterectomy was fibroid uterus(50%) in TAH group & (43.3%) in LAVH group

Table 3: Uterine Size in two groups of patients studied

Uterine Size (Gestational Age)	TAH		LAVH	
	No	%	No	%
<10 weeks	15	50.0	20	66.7
10-16 weeks	12	40.0	10	33.3
16-20 weeks	3	10.0	0	0.0
Total	30	100.0	30	100.0

P=0.145, Not significant, Fisher Exact test

Uterine size measured in gestational age in weeks.
In TAH group uterus upto 24 weeks was operated.
In lavh group uterus upto 16 weeks size was operated without any intra operative complications.

Table 4: Duration (mins) in two groups of patients studied

Duration (mins)	TAH		LAVH	
	No	%	No	%
<35	4	13.3	0	0.0
35-60	16	53.3	25	83.3
60-90	9	30.0	4	13.3
90-120	1	3.3	1	3.3
Total	30	100.0	30	100.0

P=0.025*, significant, Fisher Exact test

Duration of surgery was little more in LAVH group than in TAH group.

Discussion

Three methods of hysterectomy: a randomised, prospective study of short term outcome at department of obstetrics and gynaecology, hospital of Helsingborg, Sweden Jan 1996- may 1998. Study included 120 women scheduled for hysterectomies for various indications [5]

Clinical Trial of Laparoscopically Assisted Vaginal Hysterectomy Versus Total Abdominal Hysterectomy by Jyotsana, Kamlesh Manhas. The study was undertaken on 20 women scheduled for abdominal hysterectomy for benign diseases in the Department of Gynaecology and Obstetrics at S.M.G.S hospital Jammu, out of which ten opted for LAVH in lieu of abdominal hysterectomy. The main variables compared were operative time, length of hospital stay, postoperative recovery, return to work and costs for women undergoing LAVH or abdominal hysterectomy. The LAVH group had longer operative time (120-240 minutes) vs abdominal hysterectomy (90-120) minutes, lower requirement for post-operative intravenous analgesia, shorter length of hospital stay, met early discharge criteria and quicker return to work. As shown by this study, endoscopes surgery provides the gynaecologist with many advantages compared to conventional laparotomy procedures. These include a magnified and improved view of the operating field, observation of the pelvic organs in a more natural state, less tissue handling, smaller incisions that reduce pain, shorter length of hospital stay, improved cosmesis and earlier return to work. The operative time has been found to be more with the laparoscopic approach then that with abdominal hysterectomy. However, the advantages offered by laparoscopic surgery in terms of shorten period of hospitalization, quicker introduction of normal diet, lesser complication and over all a better quality of life index are not debatable and have been proved time and again. Thus given adequate training of the surgeon in laparoscopic surgery, most of the patients who require a hysterectomy and have contraindications to vaginal hysterectomy may be offered laparoscopically assisted vaginal hysterectomy with all the benefits associated with the vaginal route. The procedure requires special equipment and may only be carried out by experienced gynaecological laparoscopic surgeon. Thus, it is safely possible for a gynaecological surgeon to add laparoscopically assisted vaginal hysterectomy to his/ her surgical armamentarium on condition that he or she is well conversant with the performance of the procedure [6].

Methods of hysterectomy: systematic review and meta-analysis of randomised controlled trials by Neil Johnson, associate professor March 2004 – Concluded that Avoiding abdominal hysterectomy accelerates recovery, diminishes postoperative pain, and avoids abdominal wall infections and general postoperative febrile illness. Laparoscopic hysterectomy may help to avoid a laparotomy, but urinary tract injury is a genuine concern. Research is needed to ascertain longer term outcomes and to evaluate the newer approaches to hysterectomy, such as total laparoscopic hysterectomy [7]

Laparoscopic assisted vaginal hysterectomy (LAVH) - An effective alternative to conventional abdominal hysterectomy by Kapoor Nisha, Manuja Seema, Mittal Aruna, Gupta Meenakshi - A retrospective study was conducted on 550 patients (350 patients of LAVH, 200 patients of TAH) who underwent surgery at Fortis Escorts Hospital, Faridabad, between January 2005 and May 2007.Concluded that LAVH is a true advance in gynecological surgery since it reduces perioperative morbidity, postoperative pain, intraoperative blood loss and complication rates. Hence it is more acceptable to both – the patients and the gynaecologists. In experienced hands, most of the abdominal hysterectomies can easily be converted to vaginal route even in patients with previous abdominal surgeries, large uteri and complex Adnexal masses. Higher costs and learning curve are the major constraints at present, which is future hopefully would be taken care of, as has happened in other laparoscopic procedures [8].

Table 5: Comparision Of Uterine Size

Study By	Tah	Lavh
Ottosen *et al* [5]	258(43-1025)g	263(61-671)g
Kapoor Nisha *et al* [8]	13.6(8-20)	12.8(6-16)
Kongwattanakul k *et al* [9]	<16 weeks	<16 weeks
PRESENT STUDY	16-24weeks	10-12

In our study in LAVH group uterus upto 16weeks was operated with out any intraoperative and post operative complications.

Table 6: Comparision Of Duration Of Surgery

Study By	Tah	Lavh
Ottosen *et al* [5]	68(28-125)mins	102(50-175)mins
Jyotsna *et al* [6]	90-120	120-240
Kapoor Nisha *et al* [8]	55(38-87)	63(45-91)
Kongwattanakul k *et al* [9]	115(60-200)	100(50-240)
Present Study	35-60	60-90

Duration of Surgery in our study was taken from skin incision to skin suturing in TAH and skin incision to vaginal dressing in LAVH. Duration of surgery was more with LAVH group than TAH.

Conclusion

Most common indication for hysterectomy was fibroid uterus(50%) in TAH group & (43.3%) in LAVH group

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