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Laparoscopic-assisted vaginal hysterectomy:
Initial experience

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SUMMARY

We reviewed the charts of 36 women who had had laparoscopic-assisted vaginal hysterectomies (LAVH) at Belfast City Hospital over a 3 year period. The average operating time was 105 minutes. However, patients had a shorter duration of hospitalisation (<4 days for 96% of patients) with rapid recuperation (3.4 weeks). Complications occurred in 7 patients. One patient developed a vesico-vaginal fistula which was diagnosed post operatively and successfully repaired 5 months later. Technical difficulty was reported in one patient because of significant adhesions and poor access due to obesity. She went on to develop a pelvic abscess which was drained. Patient satisfaction with the operation was high. LAVH is an effective operation in selected cases and in experienced hands the complication rate is low. In the future it may become a valid alternative to open abdominal hysterectomy.

INTRODUCTION

Hysterectomy is one of the most frequently performed of all surgical operations. Traditionally the uterus has been removed by either the abdominal or the vaginal route. In a recent study from a single centre in Scotland, of women under the age of 35 requiring hysterectomy, 87.5% had the operation performed per abdomen.[1]

The aim of using the laparoscopic mode of access for any procedure is to avoid a large laparotomy skin incision and all the sequelae associated with such a painful and disfiguring approach. Laparoscopic hysterectomy is an alternative to abdominal, but not vaginal, hysterectomy. If a uterus can safely and easily be removed by a traditional vaginal approach, the operation should be performed in this way.

The first laparoscopic hysterectomy (LH) was reported by Reich et al in 1989[2] and an ever-growing number of variations of this technique and even radical hysterectomies have been described.[3] According to the definition by Reich et al (1989), an LH must include laparoscopic division of the uterine arteries. If the arteries are divided vaginally, the operation is designated a laparoscopically-assisted vaginal hysterectomy (LAVH). We describe the results of this operation in a series of patients treated at the Belfast City Hospital.

PATIENTS AND METHODS

Medical records of 36 women who underwent LAVH in Belfast City Hospital between 1.7.91 and 31.7.94 were reviewed. A questionnaire was sent to each patient seeking information about satisfaction with post operative analgesia, convalescent time until they felt able to return to domestic activities, the time before they returned to work and the degree of satisfaction with the operation. The average age of the women at the time of surgery was 42 years, with a range of 32-52 years. Average parity was 2.6. Indications for surgery are shown in Table 1.

Of the 36 patients, 11 had been previously sterilised laparoscopically, two patients had cholecystectomy and appendicectomy, and one patient had left salpingectomy for an ectopic pregnancy. All were performed as open technique.

Examination under anaesthesia was performed before proceeding to LAVH. There was no report of uterine descent in any of the 36 patients. It was

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TABLE I

Indication for surgery

Indication for surgery	*No. of patients*
Menorrhagia	11
Menorrhagia and dysmenorrhoea	15
Menorrhagia and pelvic pain	5
Menorrhagia, dysenorrhoea and pelvic pain	2
CIN III (Cervical Intraepithelia Neoplasia)	1
Postmenopausal bleeding	2

the opinion of the surgeon that if there was any uterine descent the patient could have been offered vaginal hysterectomy.

24 patients (66.6%) were reported to have a bulky uterus (size ranged between 8 and 14 weeks gestation). Three patients (8.3%) were reported to have an adnexal swelling.

The technique of LAVH employed was similar to that described by Raju & Auld.[4]

RESULTS

1. INTRA-OPERATIVE

The average operating time was 105 minutes, with a range of 60-150 minutes. Surgery was performed primarily by one operator; about a quarter of the procedures were done by other surgeons being supervised or during teaching workshops. It was noted that the operating time fell as experience was gained. Technical difficulty was reported in one patient mainly due to gross obesity and pelvic adhesions; she had previously had cholecystectomy and appendicectomy. In 25 cases bilateral salpingo-oöphorectomy was performed at the same time as LAVH. There were no reports of operative repair of bowel, bladder or ureter.

2. POST OPERATIVE

Three women (8.3%) had urinary tract infections which were satisfactorily treated by antibiotics. Two patients (5.5%) developed vault haematoma which manifested itself as painless vaginal bleeding five to seven days post operatively. In both cases the haematoma discharged spontaneously and no further action was required apart from prophylactic antibiotic cover. In one case the procedure was complicated by a pelvic abscess which was drained on the eighth post operative day.

One patient continued to have vaginal bleeding and dysuria three weeks post operatively. Cystoscopy was performed and showed a small vesico-vaginal fistula at the base of the bladder. An indwelling catheter was inserted for three months and successful repair of the fistula was carried out five months after LAVH.

Twenty three patients had their post operative opioid analgesia discontinued 24 hours after the operation. Four patients requested analgesia for 36 hours, while nine patients required analgesia for 48 hours after the operation.

TABLE II

Recovery Time

		Average	*No. of weeks Range*
Return to normal domestic activities	36 patients	1.5	0-4
* Return to work	14 patients	3.4	0-6

* 22 patients were housewives
* 14 patients had other work

Except for one patient who developed a pelvic abscess twenty-four patients were discharged on the third post operative day and eleven patients were discharged on the fourth post operative day.

Overall, recovery as judged by return to normal domestic activity (Table II) was fast. Thirty two patients were satisfied (Table III).

TABLE III

Satisfaction with the operation

Very satisfied	27	(75.0%)
Satisfied	5 patients	(13.8%)
Not sure	2 patients	(13.8%)
* Dissatisfied	2 patients	(5.5%)

* Bladder fistula and pelvic abscess.

In eighteen patients the histopathology report showed leiomyoma. Fourteen patients had endometriosis while five patient had dysfunctional uterine bleeding.

DISCUSSION

The main advantages of minimally invasive surgery in general, and LAVH in particular, are found in the convalescent phase. Replacing long and painful incisions with multiple small punctures results in less disfigurement, less post operative pain, shorter inpatient hospital stay and shorter convalescence.

Comparisons between the morbidity and cost of vaginal, abdominal and laparoscopic hysterectomy are needed to justify this approach. Complication rates may be similar more or less frequent, compared with open and vaginal hysterectomy.[5, 6, 10]

The laparoscopic procedure requires the acquisition of much new expensive equipment and many new technical skills, and it usually takes longer to perform than the equivalent open procedure. However, the present study has shown that this time is shortened with more experienced operators, both surgeon and ancillary operating staff. In the series of LAVH performed by the first author (31 out of the 36 cases) the operating time (from induction of anaesthetic) for the first 14 procedures ranged from 130-150 minutes, thereafter dropping to between 95-120 minutes. This finding has also been observed by others.[7, 8]

In this study, a vesico-vaginal fistula occurred in a patient (the fifth performed) at a stage before the operator had developed sufficient confidence to dissect fully the pelvic peritoneum. It occurred during dissection of the anterior pouch vaginally in a nulliparous patient with no prolapse, and a small hole was made in the midline of the base of the bladder. Unfortunately, this was not recognised during the procedure.

This highlights the importance of acquiring experience and, as also reported by other observers,[6] complications will be encountered in the learning phase. This barrier to laparoscopic surgery will diminish as trainee gynaecologists routinely learn operative laparoscopic techniques.

Detractors of the concept of laparoscopic hysterectomy argue that vaginal hysterectomy is faster, less expensive and results in a similar short hospital stay and convalescence. However, more than 80% of hysterectomies are currently performed abdominally.[9] If laparoscopic hysterectomy is added to the gynaecological armamentarium almost all hysterectomies may be done without an abdominal incision.

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