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Vaginal hysterectomy as the primary approach in managing benign gynaecological conditions: a review of local practice

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Abstract

Background: Hysterectomy is the commonest major gynaecological surgery performed. Traditionally this has been done abdominally, although the vaginal route could confer more benefits if well performed.
Objective: To determine the outcome of vaginal hysterectomies done at the Kapenguria County Hospital in West Pokot County, Northern Kenya.
Methods: A cross sectional study was undertaken between May 2013 and August 2016. A total of 50 vaginal hysterectomies were revised during this period.
Results: Approximately 40% of all hysterectomies were performed vaginally. More than half of these patients were aged 36 to 45 years. The indications for surgery were symptomatic uterine fibroids (36%), adenomyosis (20%) and uterine prolapse (24%). In more than half of the patients (54%) of the patients, the uterus was palpable above the sypmphisis pubis. There were 4 patients with peri-operative complications; 2 fistulas, 1 torn ovarian pedicle and one laparotomy. None of the patients required post-operative blood transfusion. Total hospital stay was 48 hours post-surgery in 78% of the patients.
Conclusion: Vaginal hysterectomy reduced patient morbidity, reduced hospital stay and was cost effective. We concluded that although the use of vaginal hysterectomy is unpopular in Kenya, the technique would improve surgical outcomes in public hospitals.

Key words: Vaginal hysterectomy, Hysterectomy outcomes, Abdominal incision free hysterectomy

Introduction

Hysterectomy is the second commonest elective surgery after caesarian section in women (1). There are different approaches to hysterectomy, namely abdominal, vaginal and laparoscopic. The abdominal hysterectomy approach remains the most commonly used in the world (2). In most public hospitals in Kenya, it is our observation that practitioners prefer the abdominal approach as they find it easier and versatile giving the operator room to access other abdominal pathologies or bigger uteruses. However this approach has its challenges namely prolonged ambulation due to post-operative pain, sepsis, incisional hernia, paralytic ileus and long operating time (3).

Vaginal hysterectomy was first performed by Lagenback C.J.M. in Gottingen in 1813 (4). Although, older literature does mention vaginal hysterectomies before this date, it is not clear what the outcome of the surgeries were (4). The vaginal route is minimally used with surgeons selecting it only for prolapses or small uteruses (5). It is felt that a confined operating space makes the procedure prone to iatrogenic fistulas and haemorrhage. However studies have shown that with proper training, this method is short and safe conferring to patient, the benefit of early ambulation, early return to work, low sepsis rates, less anaesthetic complications and no abdominal incision complications (6). It also provides an opportunity to correct pelvic floor defects and incontinence.

In Kenya, laparoscopic hysterectomies are rarely practiced in public hospitals due to lack of equipment and skills amongst gynaecologists. However, there has been a shift in doing these procedures by consultants in private practice. In these hospitals, it requires high surgical skills and almost certainly involves increased operating time and other costs related to consumables. Due to these challenges its potential is yet to be widely met (7).

The aim of this study was to determine the outcome of vaginal hysterectomies done at the Kapenguria County Hospital in West Pokot County, Northern Kenya.

Materials and Methods

A cross sectional analysis of all vaginal hysterectomy's done at the Kapenguria County Hospital in West Pokot County between May 2013 and August 2016 was conducted. All cases whose records were incomplete

or not obtained were not included in the study. The study population was women seeking gynaecological services in the hospitals gynaecology outpatient clinic.

We sought for age, parity, mode of deliveries, surgical indications, symptoms, debulking techniques, peri-operative complications during surgery and hospital stay. Length of time in surgery was initially not considered as an outcome measure because the surgeon was on the learning curve but was later analyzed.

The cases were done by specialist obstetrician gynaecologists with over 2 years' experience after their master's degree. The surgeon had been trained on fistula repair surgery by highly experienced surgeons in Kenya.

In theater, patients were put under anaesthesia, cleaned and draped. A Foleys catheter was inserted to continuously empty the bladder. Initially, patients were operated under general anaesthesia, but as the surgeons' skill improved it became practice to do them using the spinal technique. In all cases, it was standard practice to use '*jungle juice'* (lignocaine, adrenaline & normal saline solution) (8) to achieve an anterior and posterior colpotomy.

Vaginal hysterectomy was performed by using a clamp, cut and tie approach through the following tissues; i) cardinal & uterosacral ligaments, ii) uterine vessels, iii). fallopian tube and round ligament complex. It is worth noting that for uterus' less than 12 weeks, the fundus was delivered out to the vagina by flipping it posteriorly between steps ii and iii. Debulking techniques namely bivalving, myomectomy and coring were used in bigger uteruses that couldn't be flipped (9).

A prophylactic McCalls and Schulls culdoplasty was done in all cases and an anterior/posterior colporraphy was part of the procedure in cases of uterine prolapse. Lastly the vaginal vault was closed and a vaginal pack left *in situ* for 12 – 18 hours. Patients were put on antibiotics and analgesics for 7 days.

Results

Out of 120 hysterectomies at Kapenguria County Hospital, 50 (42%) were performed vaginally. More than half of the patients were aged between 36 to 45 years. Very few patients below 35 years underwent the procedure (Table 1). Only 2 patients were nulliparous, the rest were multiparous with a majority (68%) being para 4 and above.

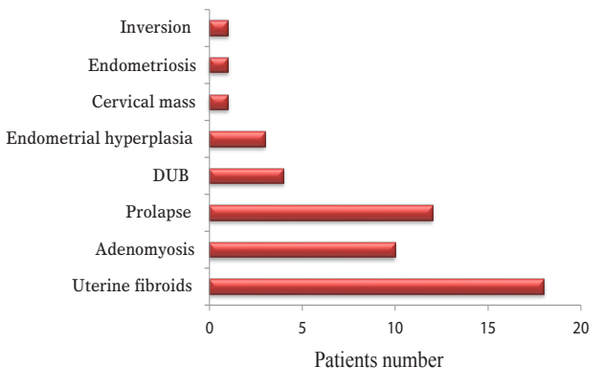
Table 1: Age profile of vaginal hysterectomy patients in Kapenguria County Hospital

Age (years)	No.	(%)
Less than 35	3	6
36 - 40	9	18
41 - 45	17	34
46 - 50	9	18
51 - 55	3	6
Above 56	9	18

Only 2 patients had prior caesarian section with no normal deliveries, 3 had caesarian sections and subsequent successful vaginal birth after caesarean section. Most of the patients 43 (86%) had vaginal deliveries before the hysterectomies. The mean parity for patients with pelvic organ prolapse was 6. All these patients delivered by SVD and were between 50 and 80 years old. There were no patients who had a previous history of undergoing a myomectomy or other major pelvic surgery.

Indications for surgery: The main indications for surgery were symptomatic uterine fibroids (36%), uterine prolapse (24%) and adenomyosis (20%) (Figure 1). The most prevalent symptom resulting in vaginal hysterectomy was abnormal uterine bleeding (74%) followed by uterine prolapse (23%).

Figure 1: Indication for surgery



Adjuvant surgery: In all patients with uterine prolapse, we did perform an anterior and posterior colporaphy. Prophylactic bilateral oophorectomy was done for 10 cases and 2 ovarian cystectomies were also performed.

Uterine size: More than half (54%) of the patients had uteruses that were palpable above the sypmphisis pubis. In 5 patients the uterus was at 16 weeks and debulking techniques had to be used to deliver it vaginally (Table 2).

Table 2: Size of uterus on physical examination

Uterine size	No.
Less than 12 weeks	12
12 weeks	11
14 weeks	22
16 weeks	5

Complications: We did not encounter any significant pelvic adhesions in patients with previous caesarean section scars to warrant us to abandon the surgery. Anterior and posterior colpotomy was still achieved uneventfully for these patients.

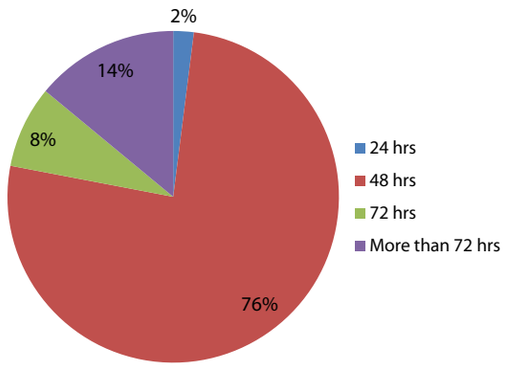
As shown in Table 3, only four patients suffered peri-operative complications. In this group, one patient required a laparotomy to handle the complication. The two fistulas were repaired vaginally and the hysterectomy was completed as planned. The torn ovarian pedicle was identified vaginally and ligated stopping the resultant bleeding. No patient had excess hemorrhage that required blood transfusion.

Table 3: Per-operative complications amongst patients

Complications	No. of patients	Uterine size	Co-morbid factors
Rectovaginal fistula	1	14 weeks	Obesity
Vesicovaginal fistula	1	14 weeks	None
Blood transfusion	0		
Laparotomy	1	14 weeks	None
Torn ovarian pedicle	1	14 weeks	Obesity

Hospital stay: A majority of the patients were discharged from the hospital 48 hours after the surgery (on the second post-operative day). All patients ambulated on the first post-operative day and did not feel weighed down by post-operative pain (Figure 2).

Figure 2: Post - hospital stay



Discussion

Our study demonstrated that vaginal hysterectomy is feasible and a safe form of surgery for benign gynaecological conditions in appropriately selected women. In our three year practice, we were able to achieve successful outcomes from vaginal hysterectomies and by 2016, it became routine for 40% of all hysterectomies to be performed vaginally. The most prevalent symptom resulting in vaginal hysterectomy was abnormal uterine bleeding (74%) followed by uterine prolapse (24%). This is a similar pattern to findings by Sheth (6) who categorized the indications for vaginal hysterectomy as bleeding from fibroids and adenomyosis followed by uterine prolapse. Vaginal hysterectomies were not indicated for uteruses that were larger than 16 weeks or malignancies. This compares well with a study done in 12 teaching hospitals in France, by David-Montefiore and colleagues (10) who were able to show that 48% of hysterectomies were feasibly done vaginally.

Cost of healthcare remains expensive in the world and Africa continues to struggle in meeting its health care needs (11). We observed vaginal hysterectomy was able to reduce cost to the health care system and patients in this hospital by utilization of standard surgical equipment, spinal anaesthesia and reduced hospital stay. One of the major barriers of elective surgery in Kenya is the availability of blood. We did not need this for any of our patients. The EVALUATE study in the United Kingdom also reported that vaginal hysterectomy was cost effective compared to abdominal and laparoscopic routes (12). In a study of over 5000 patients undergoing this procedure, Sheth (6) found that the vaginal route was the least invasive and most economical route for hysterectomy and should be the gynaecologists' first choice in benign uterine pathology. The only determinant being surgeons' skills because it only required standard surgical instruments and sutures (6).

One of the limitations of vaginal hysterectomy is the inability of the surgeon to visualize concomitant pelvic pathology such as adhesion and other masses. Laparoscopic approach is superior in this aspect (6, 7). However, our experiences with vaginal hysterectomy were similar to those reported for laparoscopic assisted vaginal hysterectomy (7).

It was evident in our study that a normal delivery made vaginal hysterectomy easier as it allowed for inferior traction of the uterus to take place. The size of the uterus did not necessarily increase the number of complications arising with this procedure. It was observed that complications arose in the early stages of the surgery during anterior and posterior colpotomy rather than during ligation of the upper pedicles. Bleeding from an incorrectly ligated uterine artery was quickly seen due to pooling of fresh blood on the posterior speculum. However, obesity was a risk factor in this type of surgery because it resulted in reduction of operating space in the vagina.

Despite our encouraging findings, there is still need for more robust studies to de done locally to compare the different approaches to hysterectomy. Our single center experience cannot be generalized to the entire nation. We are also cognizant of the fact that cultural practices in this community favored high parity and vaginal delivery compared to abdominal regardless of fetal outcome which may have influenced out favorable outcomes. There may also be need to address skill acquisition at residency level as abdominal hysterectomy is often favored with most residents acquiring minimal skills in vaginal surgery (13).

Conclusion

Vaginal hysterectomy in uteruses less than 16 weeks is safe and should be the primary approach to managing benign gynaecological conditions. The surgeon's expertise carries the most important prerequisite criteria rather than giving much emphasis on uterine size and adequacy of vaginal access. This surgical approach would go a long way in improving outcomes in public hospitals in Kenya by reducing morbidity, cost and hospital stay. Residency training in our universities should therefore work towards imparting this skill amongst trainees.

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