Morbidity Associated with Vaginal and Abdominal Hysterectomy in a Northern Nigerian Hospital

Nwobodo Emmanuel I[1] *& Oyetunji Jaiyeola A*[2]

Abstract

Background: hysterectomy is one of the most common surgeries performed in gynaecological practice. It can be carried out either by vaginal or abdominal route. We compared the complications associated with the two types of surgeries.

Methods : A retrospective study involving all patients that had vaginal and total abdominal hysterectomy for benign conditions between January 2002 and December 2009 (8 years) at the Federal Medical Centre Birnin- Kebbi, Kebbi State, Nigeria

Results : During the period, 493 major gynaecological operations were performed in the health centre with vaginal and total abdominal hysterectomy constituting 48 (9.7%) and 69 (14.0%) of the surgeries respectively. The only indication for the former was uterine prolapse while the main indication for the latter was uterine fibroid (82.6%). Excessive primary haemorrhage was statistically significantly higher in vaginal hysterectomy compared with abdominal hysterectomy (45.8% versus 17.4%; p-value <0.05). Other complications did not yield any statistically significant difference : bladder injury (8.3% versus 3.0%), bowel injury (0% versus 3%), ureteric injury (0% versus 1.4%), wound infection (4.2% versus 8.7%) and maternal death (2.1% versus 3.0%). The average duration of hospital stay in vaginal hysterectomy was 4.2 ± 0.6 days compared to 7.8 ±1.2 days in the abdominal procedure ($p<0.05$).

Conclusion: Excessive primary haemorrhage was significantly commoner in vaginal hysterectomy compared to its abdominal counterpart, however, other complications were not. Furthermore, the former had the advantage of shorter duration of hospital stay compared to the latter.

Key words: *Vaginal and abdominal hysterectomy, morbidity*

[1]*Department of Obstetrics and Gynaecology Usmanu Danfodiyo University Teaching Hospital PMB 2370 Sokoto, Nigeria* [2]*Department of Obstetrics and Gynaecology Federal Medical Centre Birnin-Kebbi, Kebbi State, Nigeria*

Correspondence: *Dr Nwobodo Emmanuel I.Department of Obstetrics and Gynaecology Usmanu Danfodiyo University Teaching Hospital PMB 2370 Sokoto, Nigeria E-mail : nwobodoei@yahoo.com Tel: 08036000379*

Introduction

Hysterectomy is one of the most common surgeries performed in gynaecological practice[1,2]. It can be carried out either by vaginal or abdominal route. Several studies have been conducted to compare the complications between abdominal and vaginal hysterectomy[3-7]. Some authors reported that vaginal hysterectomy was associated with less febrile morbidity, less haemorrhage, shorter hospitalization and faster convalescence than abdominal hysterectomy[3,4,7]. Dorsey and his associates[5] in their study found that the post-operative complications were

similar between abdominal and vaginal hysterectomy but the duration of hospital stay was significantly greater in the former than the latter[8]. Similar study has not been conducted in North-western Nigeria hence the present one.

Materials and Method

Records of all the patients that had vaginal hysterectomy and total abdominal hysterectomy for benign conditions between January 2002 and December 2009 (8 years) at Federal Medical Centre Birnin Kebbi, Kebbi State, Nigeria were sought in the theatre register and thereafter, their case records were retrieved from the central medical library. The patients' demographic characteristics, indications for surgery and intra-operative/ post-operative complications including haemorrhage, bladder injury, ureteric injury, bowel injury and wound infection were extracted and analyzed. Blood loss of $\geqslant$ 500ml intra-operatively was considered excessive primary haemorrhage while presence of offensive discharge from the wound site was regarded as wound infection. Chi square was used to compare findings in both group with 95% confidence and level of significance put at p-value less than 0.05.

Results

A total of 493 major gynaecological operations were performed within the study period with vaginal hysterectomy and total abdominal hysterectomy accounting for 48 (9.7%) and 69 (14.0%) of the surgeries respectively. The ages of the former ranged from 25 to 80 years with a mean of 49.1±7.1 years while those of the latter ranged from 20 to 55 years with an average of 42±6.3 years. Forty seven percent of patients who had vaginal hysterectomy were at most 45 years of age compared to 34.3% in those who had total abdominal hysterectomy. The parity in the vaginal hysterectomy group ranged between 3 and 10 with an average of 6 while their total abdominal counterpart ranged between 0 and 8 with a mean of 4. The only indication for vaginal hysterectomy was uterine prolapse (41.7% for 2nd degree and 58.3% for 3rd degree) while the main indications for total abdominal hysterectomy were uterine fibroid (82.6%), chronic pelvic inflammatory disease (7.2%), adenomyosis (4.3%), endometrial polyps (2.9%) and chronic cervicitis (2.9%). All the procedures were performed by consultant gynaecologist. General anaesthesia was employed in all the cases of total abdominal hysterectomy and 85.4% of vaginal hysterectomy. Spinal anaesthesia was used in 7 cases (14.6%) of vaginal procedure. All the patients had intravenous ciprofloxacin (or ceftriazone or ampiclox) and metronidazole for at least 24 hours post-operatively. The total morbidities from vaginal hysterectomy 28(58.3%) were significantly higher compared with those from abdominal procedure 23(33.3%); p=0.03. As shown in table1, excessive primary haemorrhage (45.8% versus 17.4%) and

Table 1: *Complications of vaginal and abdominal hysterectomy*

Complications	Vaginal hysterectomy N=48 n (%)	Abdominal hysterectomy N=69 n (%)	X^2	P-value
Excessive primary Haemorrhage	22(45.8)	12(17.4)	10.96	0.01
Bladder injury	4(8.3)	2(3.0)	1.25	0.54
Bowel injury	0(0)	2(3.0)	2.00	0.38
Ureteric injury	0(0)	1(1.4)	1.44	0.49
Wound infection	2(2.4)	6(8.7)	0.15	0.93
Total morbidity	28(58.3)	23(33.3)	7.04	0.03
Maternal death	1(2.1)	2(3.0)	0.04	0.98

bladder injury (8.3% versus 3.0%) were more common in vaginal hysterectomy than its abdominal counterpart. In contrast, bowel injury (3.0% versus 0%), ureteric injury (1.4% versus 0%), wound infections (8.7% versus 4.2%) and maternal death (3.0% versus 2.1%) were more common in the latter compared to the former. The differences in the primary haemorrhage in the 2 groups were significant ($p<0.05$) but not in the other complications.The 2 maternal deaths in abdominal hysterectomy were due to complication of general anaesthesia in morbidly obese patients while the single maternal death in the vaginal hysterectomy was due to complication of spinal anaesthesia in a 78 year old patient. The average duration of hospital stay for vaginal hysterectomy was 4.2 ± 0.6 days while that of abdominal hysterectomy was 7.8 ± 1.2 days ($p<0.05$).

Discussion

The overall morbidity of vaginal hysterectomy (58.3%) in this study was higher than that of abdominal hysterectomy (33.3%). This trend was similar to the report of Juha et al in Finland where total morbidity rates for vaginal and total abdominal hysterectomy were 23.3% and 17.1% respectively[5]. Umeora *et al* in southern Nigeria made similar observation[7].However, it was contrary to the findings of Dicker *et al* in United States where the morbidity rate in total abdominal hysterectomy (42.8%) was higher than that of vaginal hysterectomy[6].

Excessive primary haemorrhage was significantly commoner in vaginal than abdominal hysterectomy in this study. Kayastha and Tuladhar9 found the opposite in Nepal while Juha *et al*[5] in Finland had similar experience. This finding could be attributed to the fact that 47% of the patients that had vaginal hysterectomy in the present data were 45 years and below compared with 34.3% amongst those that had abdominal hysterectomy; and pelvic tissue tend to be relatively more vascularized in premenopausal age . As reported by some previous authors6,8, there was no significant difference in the rate of bladder injury, bowel injury, wound infection and ureteric injury between vaginal and abdominal hysterectomy in this study. However the duration of hospital stay in this data was significantly shorter in vaginal hysterectomy than in abdominal hysterectomy as reported by previous authors[3,4,7,8,9,10,11].

In conclusion, while patients who had vaginal hysterectomy were more prone to excessive primary haemorrhage, they were likely to be discharged earlier from the hospital compared to those that had total abdominal hysterectomy.

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