Original Article

Study of Complications - Morbidity and Mortality in Vaginal Hysterectomy

***Kamruzzaman[1], Akter M R[2], Urmi N S[3], Khan R[4], Hasanuzzaman M[5], Sabur M A[6]**

Abstract

Background: *Hysterectomy, surgical removal of all or part of uterus, is one of the most commonly performed major operations following caesarean section in gynaecological practice. Vaginal hysterectomy was initially only used for uterine prolapse, but its indications are now increasing.* ***Objective:*** *To evaluate complications - morbidity and mortality of vaginal hysterectomy.* ***Materials and Methods:*** *This was a cross-sectional observational study conducted in- the Indoor patient Department of Obstetrics & Gynaecology in Jalalabad Ragib Rabeya Medical College Hospital (JRRMCH), Sylhet. Collected data was analyzed statistically using SPSS-17.* ***Results:*** *Out of 90 cases majority of the vaginal hysterectomy was > 4 para. Indication of hysterectomy was uterovaginal prolapse, dysfunctional uterine bleeding, fibroid uterus and adenomyosis. Post-operative complications were fever, per vaginal bleeding and postoperative bleeding requiring laparotomy and pelvic hematomas. Mean age was 54.61(±6.47) years and majority (52.22%) came from poor class socio-economic condition. Mean preoperative hemoglobin was 12.84(±1.2) g/dl. Mean duration of operation was 42.76(±11.53) min, mean blood loss was 289.50(±197.42) ml and mean drop in hemoglobin was 0.89(±0.81) g/dl. Indication of hysterectomy in majority (62.22%) was uterovaginal prolapse. Postoperative complication was found in 13.3% cases and postoperative bleeding requiring laparotomy for pelvic hematoma was 1(1.11%). Mean hospital stay was 2.56(±1.4) days and cost of operation was 8467.35(±1420.82) taka.* ***Conclusion:*** *The present study showed that vaginal hysterectomy, when feasible, is a safe, cost-effective procedure for removal of the uterus and is the surgical route of choice for benign hysterectomy.*

Keywords: Vaginal hysterectomy, Morbidity & mortality, Complications, Duration of operation, Mean hospital stay.

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Introduction

Hysterectomy is surgical removal of all or part of uterus.[1] In gynaecological practice it is one of the most commonly performed major operations following caesarean section. Approximately 600,000 hysterectomies are performed in US each year, 20% women in UK undergo hysterectomy before the age of sixty years.[2] The US Centers for Disease Control and Prevention (CDC) estimated 3.1 million US women had hysterectomy from 2000-2004. The overall rates were highest among women aged 40-44 years and lowest among women aged 15-24 years.[3]

Vaginal hysterectomy was initially only used for uterine prolapse, but its indications are now increasing. The other indications for hysterectomy are symptomatic uterine leiomyomas (<12 weeks size of gestation), dysfunctional uterine bleeding and adenomyosis.[4,5] Vaginal hysterectomy is accepted as less invasive than abdominal hysterectomy and there are reports of its preferential use as it has many advantages over laparoscopic and abdominal hysterectomy.[6–8]

Currently, standard gynaecological practice dictates that vaginal hysterectomy, when feasible, is the safest, most cost-effective procedure for removal of the uterus and is the surgical route of choice for benign hysterectomy.[9–11]

Dicker et al.[12] stated that vaginal hysterectomy (VH) is associated with less febrile morbidity, less bleeding, necessitating less blood transfusion, shorter hospitalization, better cosmetics and faster convalescence than abdominal hysterecto-

1. Dr. Kamruzzaman, Assistant Professor, Dept of Obs & Gynae, Ad-din Sakina Women's Medical College Hospital, Jashore.
2. Dr. Mst. Razia Akter, Lecturer, Forensic Medicine, Jashore Medical College, Jashore.
3. Dr. Nujhat Sharmin Urmi, Assistant Professor, Dept of Obs & Gynae, Jalalabad Ragib Rabeya Medical College Hospital, Sylhet.
4. Dr. Rukshana Khan, Assistant Professor, Dept of Obs & Gynae, Jalalabad Ragib Rabeya Medical College Hospital, Sylhet.
5. Prof. Dr. MD Hasanuzzaman, Professor, Dept of Obs & Gynae, Addin Sakina Women's Medical College Hospital, Jashore.
6. Prof. Dr. M. A. Sabur, Professor (Rtd), Dept of Obs & Gynae, Jalalabad Ragib Rabeya Medical College Hospital, Sylhet.

***Correspondence:** E-mail: drkzaman1983@gmail.com

my. Silva-Filho et al.[7] reported better postoperative quality of life i.e functional capacity, physical aspect, pain and higher satisfaction rate was found in the VH compared to total abdominal hysterectomy (TAH). Miskry and Magos,[13] found that vaginal hysterectomy was associated with significant benefits in terms of reduced hospital stay and improved patient recovery. Whereas Dorsey et al.[14] found that postoperative morbidity and complications were similar between abdominal and vaginal hysterectomy but duration of the operation, hospital stay and recovery time is significantly greater in abdominal hysterectomy than vaginal hysterectomy.

Though vaginal hysterectomy is a common gynaecological operation but there is lack of literature about its complications, morbidity and mortality in Bangladesh. So, this study was designed to evaluate the complications, morbidity and mortality of vaginal hysterectomy in our perspective.

Materials and Methods

This was a cross-sectional observational study done in the Department of Obstetrics and Gynaecology, Jalalabad Ragib-Rabeya Medical College Hospital, Sylhet from May, 2014 to April, 2015. About 90 patients admitted in different units during the study period with justified gynaecological symptoms for hysterectomy who had fulfill the inclusion and exclusion criteria was selected as study population by purposive sampling method. Detailed information was obtained in each cases according to protocol. Complete history was taken from accompanying attendants. Thorough clinical examination was done. Relevant investigations report was collected. Outcome variables were Mean duration of operation, mean blood loss, mean drop in hemoglobin, post-operative complication, mean hospital stay and cost of operation. All relevant data was recorded in pre-designed data collection sheet. Data was processed manually and analyzed with the help of SPSS (Statistical package for social sciences) 17.0 for windows. Quantitative data was presented as mean and standard deviation. Qualitative data was presented as frequency and percentage. Written informed consent was obtained from every patient. Ethical implications and confidentiality were duly considered.

Results

Mean(±SD) age was 54.61(±6.47) years, maximum age group between 51-60 years of age which was 41.11% (Table I). Majority (52.22%) came from poor class socio-economic condition, 42.22% came from middle class and rest of 5.56% came from upper class (Figure 1).

Table I: Age distribution of the study population

Age in years	Number	Percentage
41-50 yrs	29	32.22
51-60 yrs	37	41.11
>60 yrs	24	26.67
Total	90	100.00
Mean (±SD)	54.61(±6.47) **Range:** 41-72 years	

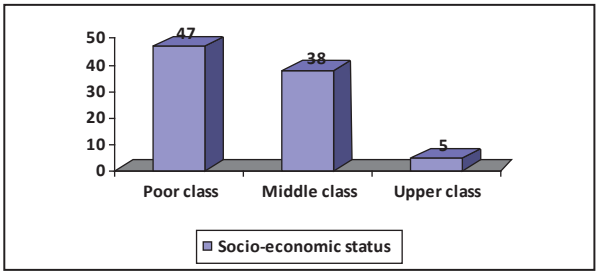

Figure 1: Socio-economic status of the study population

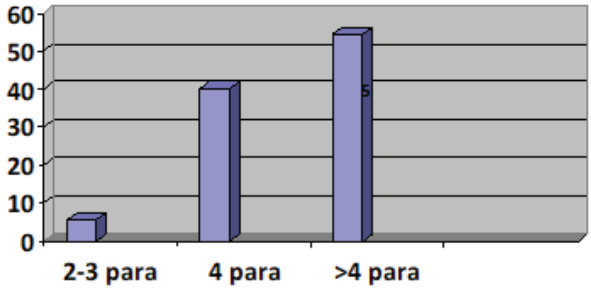

Figure 2: Distribution of parity of the study population.

Majority of the patients with vaginal hysterectomy had > 4 para which was 49(54.44%),

followed by 36(40%) were 4 para and 05(5.56%) were 2-3 para (Figure 2). Table II sows mean(±SD) preoperative hemoglobin 12.84(±1.2) g/dl, minimum 9.8 g/dl and maximum 14.1 g/dl, mean(±SD) duration of operation was 42.76(±11.53) minutes, mean(±SD) blood loss was 289.50(±197.42) ml and mean(±SD) drop in hemoglobin was 0.89(±0.81) g/dl.

Table II: Characteristics of pre and post operative events

Events	Mean(±SD)	Range (Min–Max)
Preoperative Hemoglobin (g/dl)	12.84(±1.2)	9.8-14.1 g/dl
Duration of Operation (minute)	42.76(±11.53)	25-65 min
Blood Loss (ml)	289.50(±197.42)	150-460 ml
Drop in Hemoglobin (g/dl)	0.89(±0.81) g/dl	0.41-1.40 g/dl

Table III: Post-operative complication

Events	Number	Percentage
Injury to		
• Ureter	--	--
• Bowel and bladder	--	--
Postoperative bleeding needs laparotomy	01	1.11
Post-operative per vaginal bleeding	03	3.33
Pelvic hematoma	01	1.11
Fever	07	7.78
Post-operative wound infection	--	--
Morbidity	--	--
Mortality	--	--

Table IV: Blood transfusion status of the study population (n=90)

Blood transfusion	Number	Percentage
Preoperative	35	38.89
Intraoperative	16	17.78
Post-operative	07	7.78

Table V: Mean hospital stay and cost of operation

Events	Mean ±SD	Range
Hospital stay (days)	2.56 (±1.4)	3-5
Total cost (Tk)	8467.35 (±1420.82)	8,000-10,000

Discussion

This was a cross-sectional observational study conducted in the department of Obstetrics and Gynaecology, Jalalabad Ragib-Rabeya Medical College Hospital, Sylhet over a period of one year after the acceptance of protocol with a view to evaluate complications of vaginal hysterectomy.

In present study mean(±SD) age was 54.61(±6.47) years, maximum age group between 51-60 years of age which was 41.11%. Majority 52.22% came from poor socio-economic condition, 42.22% came from middle class and rest of 5.56% came from upper class. In the study of Mehta ST et al[15] showed most common age group affected was 41-50 years (52%), second most common 30-40 years (38%) and only 5 patients were >60 years. Mean age group in Doppa G et al[16] study was 40.93 years and it was comparable with Robert Kovac's[17] Study. In study by Saha R et al[18] showed majority of the patients were in the age group of 41-45 year. Similar age prevalence was noted in other case series reviews.[19–21]

In this study majority of the patients with vaginal hysterectomy had > 4 para which was 49(54.44%), followed by 36(40%) who had para 4 and 05(5.56%) were 2-3 para. In the study of Mehta ST et al[15] showed mostly multipara (93%) patients who had completed their family. Similarly most of the patients were parous comparable to other studies.[19–21] In the study of Dawood NS et al mean(±SD) parity was 3.34(±1.47).[22]

In present study mean(±SD) preoperative hemoglobin was 12.84(±1.2) g/dl, minimum 9.8 g/dl and maximum 14.1 g/dl, mean(±SD) duration of operation was 42.76 (±11.53) min, mean(±SD) blood loss was 289.50(±197.42) ml and mean(±SD) drop in hemoglobin was 0.89(±0.81) g/dl. In the study by Doppa G et al[16] showed that mean operating time was to 53.21 min. Range was from 30 to 135 minutes.

In the study by Dawood et al[22] preoperative mean(±SD) hemoglobin was 12.36±1.00 g/dl, mean(±SD) duration of operation was 73.20(±20.35) min, mean(±SD) blood loss was 291.50(±201.39) ml and mean(±SD) drop in hemoglobin level 0.87(±0.93) gm/dl.

The mean blood loss was 205.26 ml and the amount of loss depend on uterine size and duration of surgery.[18] It was lesser than that reported in other studies like 268ml, 290ml [19], and 316.4ml.[20] But it was more as compared to some other studies as 100 ml and 35.56ml.[23] Seven (15%) of the patients required blood transfusion which is double. Mean duration of surgery was 2 hours as compared to Goel et al (64 minutes),[24] Dewan et al. (54.5 minutes)[19], Bharatnur et al. (65minutes)[20] and Bhadra et al. (55 minutes).[21] The operative time was definitely more in the earlier phase of the learning curve. It was also dependent on the size of uterus. Same was noted by Seth SS in his personal series of 5655 cases.[25]

Current study showed regarding indication of hysterectomy, majority (62.22%) had uterovaginal prolapse, 23(25.56%) had dysfunctional uterine bleeding, 07(7.78%) had fibroid uterus and 04(4.44%) had adenomyosis. In the study of Mehta et al15 first most common indication was dysfunctional uterine bleeding (41%) not responded with medical treatment, second most common was fibroid (35%) and third most common indication was adenomyosis (20%) of uterus. Dorsey JH et al[26] study supported Mehta et al[15] study. In the study by Saha R et al[18] showed the commonest indication was fibroid uterus (46%). Leiomyoma of uterus remained commonest indication in case series by Goel et al,[24] Dewan et al[19], Bharatnur et al[20] and Bhadra et al.[21]

In this study, out of 90 cases post-operative complication was found in 13.3% cases, among them, 07(7.78%) were fever, 03(3.33%) pervaginal bleeding and postoperative bleeding which needed laparotomy for pelvic hematoma was 1(1.11%).

Moreover, the study of Mehta et al[15] showed postoperative complications 10%. They had noted less morbidity and no mortality. In Doppa[16] study, total post-operative complications were 11 (11%). In Robert Kovac's study the rate of complications was 17.7% in vaginal hysterectomy group alone.[17]

In our study mean(±SD) hospital stay was 2.56 (±1.4) days and the mean(±SD) cost of operation was 8467.35 (±1420.82) taka. In Doppa16 study postoperative hospital stay was 5.95 days (Range 2-10 days).

Current study found no morbidity and mortality, other studies also found similar results, no mortality in Dawood et al[22] study cases is consistent with some reports,[27] although mortality rates ranging from 0.25% to 1.5% have been stated in some studies.[28,29] Short hospital stay was possible due to start of early feeding[30] and early mobilization of patients after surgery. A shorter length of stay is a desirable outcome for both the patient and the hospital. Many factors contributed towards lower hospital costs in vaginal hysterectomy like shorter operation time, shorter hospital stay, reduced quantity of antibiotics usage and lesser quantity of consumable use in vaginal hysterectomy.

Conclusion

The present study concludes that vaginal hysterectomy, when feasible, is a safe and cost-effective procedure for removal of the uterus with less hospital stay and less or no morbidity and mortality. Majority of the patients with vaginal hysterectomy faces minor postoperative complications like fever, pervaginal bleeding, a very few patients need laparotomy for pelvic hematoma. So, it can be suggested as a safe surgical route of choice for benign hysterectomy when feasible.

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