

**Research Article**

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Gynecological Presentations Following Supravaginal Hysterectomy for Benign Pathologies

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Hysterectomy is the second most common operation after cesarean section. It is estimated that more than one-third of all women will have undergone the procedure by the age of 65 [1].

In Supravaginal hysterectomy, only the body of the uterus is removed while in a total hysterectomy, the cervix along with the uterus is removed. In the past, it was thought that leaving the cervix in place would result in improved sexual function and decreased rates of incontinence [2]. This fact was proved to be not true by a meta-analysis of 9 randomized controlled trials of women who underwent Supravaginal or total hysterectomy for benign gynecologic conditions. The meta-analysis showed no postoperative difference as regard to sexual function or incontinence [3].

Women with Supravaginal hysterectomy are more likely to have postoperative vaginal bleeding from the cervical stump. Rates of persistent bleeding have been reported from 0.92% to 25% of cases with most series reporting rates between 5% and 10% [4].

Current research has been inconclusive regarding risk factors for persistent postoperative cervical stump bleeding. Some studies have identified endometriosis as a risk factor for postoperative bleeding, whereas a more recent study failed to demonstrate an association with endometriosis [4].

This study was conducted to show incidence of symptoms and kind of symptoms following Supravaginal hysterectomy.

Materials and Methods**Study design and settings**

This study was a cross-sectional descriptive study conducted in the period from August 1, 2018 to July 31, 2019. This study was conducted at Tanta University Hospitals, Tanta, Egypt.

Patients

One hundred and thirty patients with Supravaginal hysterectomy were recruited in the current study. Recruitment was

done according inclusion and exclusion criteria. Inclusion criteria included all patients operated by Supravaginal hysterectomy for benign pathology. The exclusion criteria were patients operated by total hysterectomy or by vaginal hysterectomy, hysterectomies for malignant indications, and refusal to participate.

Intervention (Questionnaire)

The recruited patients were supplied by the printed questionnaire designed by the authors. Illiterate patients were assisted by the questionnaire applicators. Questionnaire was written in Arabic and English languages at the same time. The questionnaire is supplied as a complementary material in the appendix.

Questionnaire was divided into 3 main parts. The first part included the personal data such as name (optional), age, parity, and marital status, residence and education level. The second part included data on hysterectomy such as reasons for hysterectomy, duration since hysterectomy till the time of the study, interval between hysterectomy and appearance of symptoms, route of hysterectomy and follow up after hysterectomy. The third section included the symptoms that may occur following Supravaginal hysterectomy and patient is asked to answer yes (if present) and no (if not present).

Methods

'All patients' demographic data, indication of hysterectomy, duration since operation, interval till symptoms appear, postoperative complications and their main complaint were recorded. The examination findings were also described.

Study registration

This study was approved by local institutional review board (Ethical committee of Tanta University) before start of the study and was registered on clinicaltrials.gov on July 22, 2018 with the following ID: NCT03606772 and is available on the following link:

<https://register.clinicaltrials.gov/prs/app/template/EditProtocol.vm?listmode=Edit&uid=U000404W&ts=3&sid=S00086JI&cx=5cdmmp>

Statistical methods

The statistical analysis was conducted by SPSS version 20 (Chicago, USA). The statistical tests used were descriptive statistics as frequency, mean, standard deviation, percentage.

Results

Demographic characteristics of the study participants

Total hundred and thirty patients were included in the current study. The range of age was 33-57 years with the mean of 49±2.3 years. Parity ranged from 0-6 with mean of 3.8±1.02. The mean BMI was 28.50±1.24. The duration since the surpacerivical hysterectomy was ranged from 0.5-6.4 years with mean of 2.17±0.11 years. The interval period since hysterectomy till first appearance of symptoms was ranged from 0.25-3.50 years with mean of 1.25±0.71 years.

Most cases were of urban residence 88 (67.69%) and most of patients were of elementary educational level 55 (42.31%). These data were presented in Table 1.

Indications and routes of Supravaginal hysterectomy

These were presented in table 1 where the most common indications were uterine myomas 61 (46.92%), abnormal uterine bleeding 37 (28.46%), and chronic pelvic pain 15 (11.54%). Other indications were presented in table 1. The vast majority of cases 128 (98.46%) were operated by traditional open surgery and only 2 cases were operated laparoscopically.

Table 1: Demographic characteristics of enrolled patients (n=130).

	Number	Percent %
Age (years)*		
Range	33-57	
Mean±SD	49±2.3	
Parity*		
Range	0-6	
Mean±SD	3.8±1.02	
BMI*		
Range	24.5-34.7	
Mean±SD	28.50±1.24	
Duration since hysterectomy (years)*		
Range	0.5-6.4	
Mean±SD	2.17±0.11	
Interval (years)*		
Range	0.25-3.50	
Mean±SD	1.25±0.71	
Indications of hysterectomy		
Uterine myomas	61	46.92%
Abnormal uterine bleeding	37	28.46%
Chronic pelvic pain	15	11.54%
Adenomyosis/ endometriosis	12	9.23%
Cesarean hysterectomy	5	3.85%
Route of hysterectomy		
Abdominal	128	98.46%
Laparoscopic	2	1.54%
Regular follow up		
Yes	5	3.85%
No	125	96.15%
Residence		
Urban	42	32.31%
Rural	88	67.69%
Educational level		
Illiterate	35	26.92%
Elementary	55	42.31%
Secondary	35	26.92%
College	5	3.85%

*: Data presented in Mean±SD

Follow up and symptoms after Supravaginal hysterectomy

Majority of cases 125 (96.15%) had no follow up program after Supravaginal hysterectomy to detect any new symptoms developing later or to detect cervical neoplasia as shown in Figure 1.

Regarding symptoms after Supravaginal hysterectomy, most cases 88 (67.69%) had no symptoms while the remaining 42 (32.31%) were complaining. The common presentations were offensive vaginal discharge 15 (11.54%), abnormal vaginal bleeding 11 (8.46%), chronic pelvic pain 5 (3.85%) and sexual dysfunction 5 (3.85%). Other presentations are presented in Figure 2.

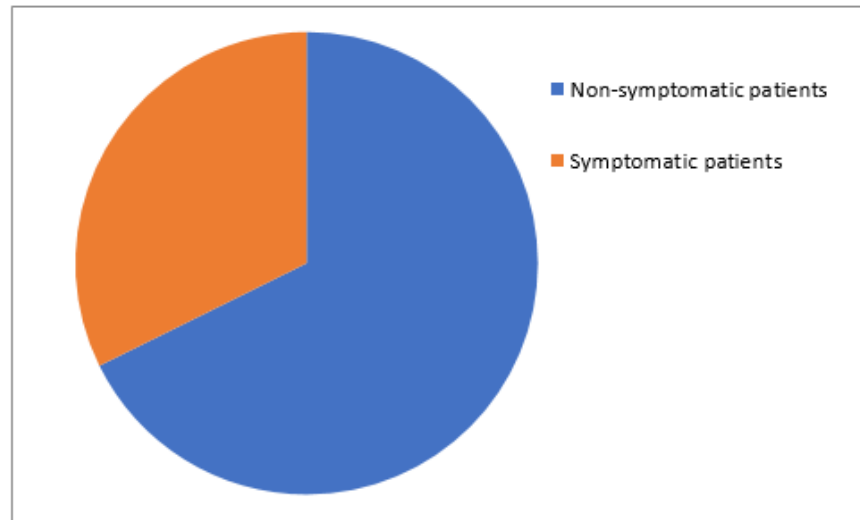


Figure 1: Gynecologic presentations of enrolled patients in the current study.

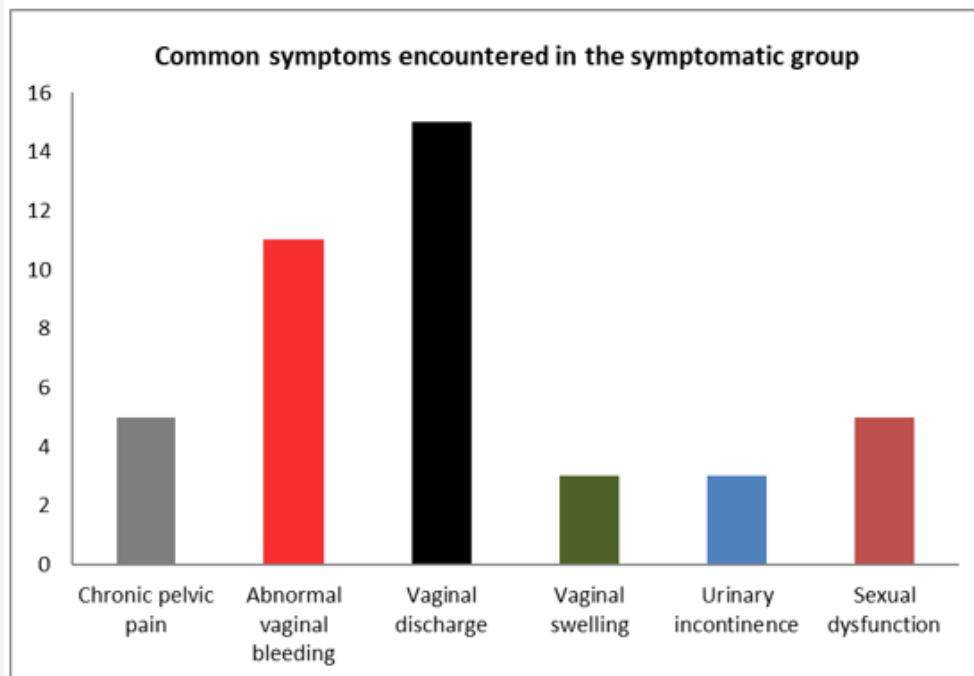


Figure 2: Common symptoms encountered in the symptomatic group.

Discussion

Choosing the route of hysterectomy depends on a lot of parameters such as size and shape of the vagina and uterus, accessibility to the uterus, extent of extrauterine disease, need for concurrent procedures, surgeon training and experience, patient's weight, available hospital technology, devices, and support and the preference of the informed patient [5].

Dawood et al, (2019) conducted a survey study at Tanta University, to assess the attitude of Egyptian gynecologists towards the route of hysterectomy in benign pathologies. They found that, abdominal route with subtotal hysterectomy was preferred by (71.5%) of gynecologists. This prevalence was attributed to fear of complications of total hysterectomy in about (90.1%). Majority of gynecologists had no adherence to postoperative follow up (98.3%)

[6]. In USA, hysterectomy is done abdominally (64%), vaginally (22%), and laparoscopically (14%) [5].

In the current study the majority of cases 88 (67.69%) were asymptomatic while the remaining 42 (32.31%) were complaining. The interval period was 0.25-3.50 years with the mean of 1.25 ± 0.71 years. The percentage of patients who followed up after subtotal hysterectomy was very small (3.85%). Similar results were reported by Anderson, et al. [7] in their study. They found that adherence to cervical cancer screening after subtotal hysterectomy in a Danish population is suboptimal and some patients have unnecessary tests performed after total hysterectomy. Clarification of the use of cervical/vaginal smears after hysterectomy is needed to identify women at risk of cervical dysplasia or cancer.

In the current study, the commonest presentation was offensive vaginal discharge which was present in 11.54% of cases. Lieng M, et al. [8] devaluated the long-term outcomes following laparoscopic Supravaginal hysterectomy (LSH). They found that most symptoms were related to menopause, but vaginal discharge was found in 2.1% of cases [8].

The second common symptom was irregular vaginal bleeding occurring in 8.46% of cases. In Cochrane review [9], they found that the ongoing cyclical vaginal bleeding up to two years after surgery was more likely (Or 16.0, 95% CI 6.1 to 41.6) after STH compared with TH.

Okaro EO, et al, [10] followed 70 patients undergoing laparoscopic Supravaginal hysterectomy by a single, highly skilled laparoscopic surgeon. They cored out the endocervical canal and transition zone in all patients. They found that more than 24% reported symptoms related to the cervical stump and all required further surgery. The incidence of cyclic vaginal bleeding was 11% of enrolled women [10]. Andersen et al, [11] reported an incidence of 10.9 % for vaginal bleeding after subtotal hysterectomy.

The third symptom in the enrolled patients was chronic pelvic pain which was found in 3.85% of cases. It may be due to formation of adhesions, chronic cervicitis or persistence of preoperative pathology such as endometriosis spots or adenomyosis. In a study conducted by Ajao et al, [12] to compare symptom persistence in women with adenomyosis based on retention or removal of the cervix at the time of hysterectomy. They found that persistence of pain is not related to retained cervix.

Regarding sexual dysfunction, it was present in 3.85% of cases. Berlit, et al. [13] evaluated postoperative sexual function following laparoscopic total (TLH) versus subtotal hysterectomy (LASH). They found that preservation of the cervix does not show an advantage in improving sexual function after surgery. Similar recommendations were reported by Pouwels, et al. [14] and Thurston, et al. [15].

In the current study, urinary incontinence was present in 2.30% of cases. Andersen, et al. [11] compared the rates of urinary incontinence (UI) and other complications of subtotal abdominal hysterectomy (SAH) with total abdominal hysterectomy (TAH) at 5

years after surgery. They observed that more women with urinary incontinence were found after SAH than after TAH when compared 5 years following surgery.

Similarly, Persson et al, [16] and Aleixo, et al. [17] compared total versus subtotal abdominal hysterectomy regarding urinary and bowel symptoms and pelvic organ prolapse over 14 years of follow-up. They found that urinary incontinence and stress urinary incontinence were more in subtotal hysterectomy.

The last symptom was vaginal swelling which was present in 2.30% of cases. This swelling was pelvic organ prolapse in the form of vault prolapse in 2 cases and one case of cystocele. Aleixo, et al, [17] in their systematic review concluded that pelvic organ prolapse was not different between total and subtotal hysterectomy 9.4% for total and 10.8% for subtotal hysterectomies, RR 0.88, 95% CI (0.41, 1.89), $p = 0.74$, two studies, 227 women. On the same side Anderson, et al. [18] compare subtotal and total abdominal hysterectomy regarding objective assessment of pelvic organ prolapse 14 years after hysterectomy for benign diseases. They found that pelvic organ prolapse incidence was comparable in subtotal and total abdominal hysterectomy.

The weak points in the current study were the non-cohort design. The small sample size and difficulty in filling the survey from were also some obstacles. The shyness for filling sexual item question was a major difficulty in old age women.

Conclusion

The results of this study denote that subtotal hysterectomy is linked to some postoperative complications. The most frequent symptoms were vaginal discharge and vaginal bleeding. We recommend avoiding subtotal hysterectomy as the evidence doesn't provide any superiority of this type over the total type. Once abdominal hysterectomy was indicated, it should be of total type.

Acknowledgement

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Conflicts of Interest

All authors declare no conflicts of interest.

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