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Research Article

Epidemiological Analysis of Abdominal Hysterectomies by Benign Pathologies in a Tertiary Reference Centre in Brazil

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Abstract

Aim: To evaluate the epidemiological data of patients who underwent abdominal hysterectomy for benign diseases in a tertiary reference centre in the Southeast of Brazil.

Methods: This retrospective study analyzed the medical records of patients who underwent abdominal hysterectomies for benign diseases between 2000 and 2012. The following epidemiological data were assessed: age, parity, marital status, ethnicity, Body Mass Index (BMI), previous surgeries, preoperative diagnosis, associated chronic diseases, type of surgery, postoperative complications, days of hospitalization and agreement between clinical and pathological diagnoses. For statistical analysis, the absolute and relative frequencies were used.

Results: A total of 280 surgeries were performed in the given period. Most patients were aged between 41 and 45 years (33.2%), single (46.4%), of mixed ethnicity (47.9%) and had a BMI within a range of 20 to 24 kg/m2. The most common preoperative diagnosis was uterine fibroids (54.6%), and the most prevalent chronic condition was arterial hypertension (53.5%). Furthermore, the procedure indicated and performed most often was total isolated abdominal hysterectomy (83.9% and 56.4%, respectively). Surgical time was below 2 h in 244 patients. Immediate and late complications comprised 17.5% of cases and urinary tract infection was present in 23.5% of cases. The preoperative diagnosis was confirmed by histopathology in 87.5% of patients. There were no deaths in the present study.

Conclusion: Abdominal hysterectomy for benign diseases was proven to be a safe surgical procedure, albeit not without risk.

Introduction

After caesarean sections, hysterectomy is the second most performed surgery among women of childbearing age, both in Brazil and worldwide. The frequency of this surgery varies according to the country; it is much higher in the United States and Australia than in Europe. In the United States, approximately 600,000 hysterectomies are performed each year. In Australia, the ratio is 1:1,000 women/year, and in the United Kingdom, 100,000 hysterectomies are performed each year [1,2].

There are absolute and relative conditions for the indication of hysterectomy, of which the most frequent, are benign diseases such as uterine leiomyomatosis, endometriosis and hyperplasias. Malignant diseases comprise approximately 10% of indications [3,4]. Although several studies have reported an improvement in the quality of life of patients who underwent this surgical procedure, these patients must be carefully assessed by surgeons. The diagnosis and various treatment options available should be considered before indicating a hysterectomy, particularly via the abdominal route [5]. Thus, this surgery often stands as the final treatment alternative for some patients. It is one of the most common procedures in gynecology, albeit not without risk. Infections, bleeding, ureteral and bladder injuries, bowel loops, blood transfusions and adnexectomies are possible adverse events.

The choice of the abdominal route is associated with certain intrinsic factors of the patient as well as the experience and skill of the surgeon. Patients with enlarged uterus would benefit from this approach than the approach using the vaginal route. Other factors that may influence the selection of the abdominal route are the size and shape of the pelvis in patients with limited uterine prolapse, the presence of cervical myomas, adnexal masses, extensive pelvic endometriosis and adhesions due to prior abdominal surgeries or pelvic infections [5,6].

Mäkinen et al. [7] highlighted the need for longitudinal follow-up studies, either hospital-based or nationwide, to evaluate the results of patients who underwent hysterectomy. Therefore, the authors conducted an epidemiological analysis of all abdominal hysterectomies performed in a tertiary reference university hospital in the metropolitan region of Rio de Janeiro, Brazil.

Materials and Methods

This observational retrospective study analyzed the medical records of all patients who underwent abdominal hysterectomy in the period between 2000 and 2012 at the Antonio Pedro University Hospital, of the Universidade Federal Fluminense (UFF). This study was approved by the Research Ethics Committee of UFF; the need for informed consent was waived because of its retrospective nature.

The inclusion criteria were all patients who underwent abdominal hysterectomy for benign diseases; however, patients with indications of malignant pathologies were excluded.

The data was transferred into an Excel-2007 spreadsheet (Microsoft Corp., Redmond, WA, USA) and analysed using SPSS version-15.0 (SPSS Inc., Chicago, IL, USA). Epidemiological variables such as age, parity, marital status, ethnicity, Body Mass Index (BMI), previous surgeries, preoperative diagnosis, associated chronic diseases, type of surgery, postoperative complications, days of hospitalisation and agreement between clinical and pathological diagnoses were statistically evaluated using absolute and relative frequencies.

Results

In the period between 2000 and 2012, 280 abdominal hysterectomies for benign pathologies were performed with an average of 23 surgeries each year.

(Table 1) presents the epidemiological data of patients who underwent abdominal hysterectomy, such as age, parity, marital status, ethnicity, hormonal status, Body Mass Index (BMI), previous surgeries, preoperative diagnosis, associated chronic diseases, type of surgery, surgery duration, postoperative complications, days of hospitalisation and agreement between clinical and pathological diagnoses, which were evaluated statistically using absolute and relative frequencies. Most patients were aged between 41 and 45 years (33.2%), single (46.4%), of mixed ethnicity (47.9%) and had a BMI within a range of 20 to 24 kg/m^2. The most common preoperative diagnosis was uterine fibroids (54.6%), and the most prevalent chronic condition was arterial hypertension (53.5%). Furthermore, the procedure indicated and performed most often was total isolated abdominal hysterectomy (83.9% and 56.4%, respectively). Surgical time was below 2hrs in 244 patients. Immediate and late complications comprised 17.5% of cases and urinary tract infection was present in 23.5% of cases. The preoperative diagnosis was confirmed by histopathology in 87.5% of patients. There were no deaths in the present study.

Discussion

Patients aged up to 40 years represented 20.7% of the sample, where as the age group >51 years showed least prevalence. Massarwh et al. [8], in a retrospective cohort of patients with age ranging from 65 to 90 years, assessed the impact of advancing age on the results of abdominal surgeries, and concluded that the risk of complications and early death after abdominal procedures is higher among the elderly. They observed no differences between patients with malignant or benign disease as well as the presence of chronic diseases, emphasising the relevance of age as a factor in the surgical results obtained.

Obese patients comprised 17.9% of the sample, where as those with low weight (BMI < 20 kg/m^2) accounted for only 2.9% of the

Table 1: Epidemiological data of patients who underwent abdominal hysterectomy for Benign diseases between 2000 and 2012.

Age	Absolute frequency	Relative frequency (%)
≤40 years	58	20,7
41-45 years	93	33,2
46-50 years	89	31,8
≥51 years	40	14,3
Total	280	100,0
Marital status	**Absolute frequency**	**Relative frequency (%)**
Single	130	46,4
Married	113	40,4
Widowed	16	5,7
Divorced	01	0,3
Common-law marriage	02	0,7
No information	03	1,1
Total	280	100,0
Ethnicity	**Absolute frequency**	**Relative frequency (%)**
White	68	24,3
Black	76	27,1
Mixed	134	47,9
No information	2	0,7
Total	280	100,0
Number of pregnancies	**Absolute frequency**	**Relative frequency (%)**
Nulligravida	36	12,9
1-3	180	64,3
≥4	64	22,8
Total	280	100,0
Hormonal status	**Absolute frequency**	**Relative frequency (%)**
Pre-menopausal	262	93,6
Post-menopausal	18	6,4
Total	280	100,0
Body mass index	**Absolute frequency**	**Relative frequency (%)**
≤20 kg/m^2	8	2,9
20–24 kg/m^2	98	35,0
25–29 kg/m^2	82	29,2
≥30 kg/m^2	50	17,9
No information	42	15,0
Total	280	100,0
Previous surgeries	**Absolute frequency**	**Relative frequency (%)**
Cesarian	181	40,4
Tubal ligation	146	32,6
Myomectomy	8	1,8
Cyst/ovarian excision/adnexectomy	10	2,2
Appendectomy	5	1,1
Laparotomy	3	0,7
Others	95	21,2
Total	448	100,0

Preoperative diagnosis	Absolute frequency	Relative frequency (%)
Uterine fibroids	259	87,8
Endometrial polyp	5	1,7
Endometrial hyperplasia	2	0,7
Others	29	9,8
Total	295	100,0
Chronic diseases	**Absolute frequency**	**Relative frequency (%)**
Anaemia	14	5,5
Systemic hypertension	136	53,5
Diabetes	27	10,6
Previous thromboembolism	12	4,7
Others	65	25,6
Total	254	99,9
Surgery performed	**Absolute frequency**	**Relative frequency (%)**
TAH	158	56,4
TAH with adnexectomy	115	41,1
Subtotal hysterectomy without adnexectomy	5	1,8
Subtotal hysterectomy with adnexectomy	2	0,7
Total	280	100,0
Surgery duration	**Absolute frequency**	**Relative frequency (%)**
≤2hrs	244	87,1
3-4 hrs	27	9,6
No information	9	3,2
Total	280	99,9
Immediate and late postoperative complications	**Absolute frequency**	**Relative frequency (%)**
Urinary tract infection	12	23,5
Bleeding	3	5,9
Thromboembolism	1	2,0
Wall abscess	9	17,6
Others	26	51,0
Total	51	100,0
Hospitalisation	**Absolute frequency**	**Relative frequency (%)**
1-3 days	43	15,4
4-7 days	109	39,0
8-10 days	52	18,5
>10 days	76	27,1
Total	280	100,0
Agreement between the clinical and histopathological diagnoses	**Absolute frequency**	**Relative frequency (%)**
Yes	245	87,5
No	10	3,6
No information	25	8,9
Total	280	100,0

TAH: Total abdominal hysterectomy.

cases. Osler et al. [9], analysing a prospective cohort of women who underwent hysterectomy for benign conditions and correlating these conditions with the BMI, found 6.0% of patients with BMI < 20, 31.9% with a BMI between 25-30, and 17.5% with a BMI > 30kg/m², which is similar to the results of this present study. They concluded that women with a high BMI who undergo hysterectomy for benign conditions have a higher risk of profuse bleeding and infections when the abdominal route is chosen, suggesting the use of the vaginal or laparoscopic routes whenever possible.

The preoperative diagnosis was the presence of uterine fibroids in 87.8% of the cases. But et al. [10] also found uterine fibroids as the main surgical indication for hysterectomy.

Of the total number of cases, 23.5% of immediate and late postoperative complications were due to urinary tract infection. Lee et al. [11] indicated that urinary tract lesions are the most common complications of pelvic surgery with ureterovaginal fistulas being their most frequent example. They also observed that urinary incontinence can appear between three to 33 days after the lesion, and can be accompanied by fever, lumbar pain and chills.

An agreement between the clinical and histopathological diagnoses was observed in 87.5% of the cases. But et al. 10 observed dissociation between the preoperative clinical and histological diagnosis in three patients who underwent abdominal hysterectomy with indication of abnormal bleeding and who had endometrial cancer as the anatomopathologic result.

Regarding the duration of hospitalisation, most of the present patients (39.0%) remained hospitalised between eight to ten days. Yi et al. [12], in a meta-analysis comparing laparoscopic-assisted vaginal hysterectomy and abdominal hysterectomy for benign disease, concluded that patients subjected to vaginal hysterectomy presented reduced duration of hospitalisation and better results in other variables such as blood loss, haemoglobin levels, postoperative pain and perioperative complications as well as quickly resumed daily activities.

A limitation of the present study was the low average of annual surgeries, which is justified by the fact that this is a tertiary service of high complexity to which more serious gynaecological pathologies are referred; furthermore, abdominal hysterectomy for benign diseases is considered to be a procedure of medium complexity.

In summary, in the present study, most patients were in menacme, single, of mixed-ethnicity, with a BMI within normal limits and hypertensive. The rate of early and late postoperative complications was significant, and urinary tract infection and wall abscess were the most frequently observed. A high degree of correlation between clinical and pathological diagnoses as well as the absence of mortality led to the conclusion that abdominal hysterectomy is a safe procedure, albeit not without risk.

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