

Introduction

Hysterectomy is the most common gynecological surgery. Twenty percent of women will have had hysterectomy by the time they are fifty, mostly due to menstrual disorders. Total hysterectomy involves the surgical removal of the uterus and the cervix. hysterectomy may cause pelvic nerve injury which produces long term bladder dysfunction. Namely, nerve damage to the pelvic plexus is associated with bladder symptoms. Urodynamic studies are the gold standard for identifying urinary dysfunction on other hand, surveys and questionnaires may be useful. Urinary incontinence (UI) is a frequent condition after hysterectomy. The most common clinical types of UI are stress urinary incontinence and urge incontinence.

Aim of the work

To evaluate the Lower urinary Tract Function using urodynamics before and after Total Hysterectomy by defining.

- Primary outcome as Urodynamic changes after total hysterectomy.
- Secondary outcome: as Impact of total hysterectomy on the lower urinary tract dysfunction.

Patients and Methods

Patients:

This study was conducted on 50 patients had Total hysterectomy At Elshatby Maternity university Hospital.

Inclusion criteria: Patients who was subjected to do total hysterectomy due to benign condition e.g Multiple fibroid, adenomyotic uterus, Abnormal uterine bleeding, Uterinprolapse.

Exclusion criteria: Patients who underwent:

- 1- Radical hysterectomy.
- 2- Hysterectomy for gynecological cancer.
- 3- Patients had Diabetic neuropathy.
- 4- Patients had CNS Abnormalities.
- 5- Patients had previous operation of urinary system.
- 6- Patients unfit for surgery.

METHODS:

All patients were subjected to the following:

Transvaginal and Abdominal Ultrasound to evaluate the pelvis and identify pelvic pathology and urine analysis to exclude UTI Urodynamics was done before Total hysterectomy and after Total hysterectomy by 2 weeks or 3 months using Multichannel urodynamic Machine "MMS LABORIE". Urodynamics include uroflowmetry, cystometry and Valsalva leak point pressure

Results

Table 1: Relation between Urodynamics (Stress urinary incontinence) (3months post operative) and different parameters.

Urodynamics	Stress urinary incontinence (After 3 months)				c ²	p
	No (n = 45)		Yes (n = 5)			
	No.	%	No.	%		
Age (years)						
<50	16	35.6	0	0.0	12.487*	MCp<0.001*
50 - 60	22	48.9	0	0.0		
>60	7	15.6	5	100.0		
BMI (kg/m²)						
Under weight (<18.5)	0	0.0	0	0.0	6.290*	MCp= 0.045*
Normal (18.5 - <25)	2	4.4	0	0.0		
Overweight (25 - 29.9)	25	55.6	0	0.0		
Obese (>30)	18	40.0	5	100.0		
Mode of delivery						
Normal vaginal (NVD)	16	35.6	5	100.0	7.672*	FEp=0.010*
Cesarean section (CS)	29	64.4	0	0.0		
Menopausal state						
Pre-menopausal	13	28.9	0	0.0	1.952	FEp=0.309
Post- menopausal	32	71.1	5	100.0		
Medical history						
Free	35	77.8	0	0.0	12.963*	FEp=0.001*
Positive	10	22.2	5	100.0		
Hypertension	10	22.2	5	100.0	12.963*	FEp=0.001*
Hypothyroidism	1	2.2	1	20.0	3.704	FEp=0.192
IHD	1	2.2	3	60.0	20.411*	FEp=0.002*

Table 2: Distribution of the studied cases according to urodynamics (n = 50).

Urodynamics	Before hysterectomy		After 2 weeks		After 3 months	
	No.	%	No.	%	No.	%
Detrusor hyperactivity	0	0.0	8	16.0	0	0.0
Stress urinary incontinence	0	0.0	12	24.0	5	10.0
Voiding dysfunction	0	0.0	3	6.0	0	0.0

Conclusion

It's concluded that Bladder symptoms is common after total abdominal hysterectomy. Most of Short-term urodynamic changes expected to resolve after 3 months. Long-term urodynamic abnormalities were detected in up to 10% of the cases, denoting a clinically significant problem and warranting further investigations.

Recommendations

In the light of the current findings, it's recommended:

- To monitor urodynamic abnormalities following total abdominal hysterectomy.
- Not to overdiagnose short-term urodynamic changes following total abdominal hysterectomy
- To keep in mind that most short-term urodynamic changes following total abdominal hysterectomy are expected to resolve by 3 months.
- To consider the patients' complaints after total abdominal hysterectomy as there is a risk for long-term affection.
- To pay special care to cases with known risk factors (e.g age, BMI, mode of delivery, menopausal status, and medical history)