

# **OUTCOME AFTER TOTAL VERSUS SUBTOTAL ABDOMINAL HYSTERCTOMY**

*Thesis*

*Submitted For Partial Fulfillment of the Master Degree in  
Obstetrics and Gynaecology*

Presented by

***Sherif Ramadan Mohamed***

*M.B.B.Ch*

*Faculty of medicine Al Azhar University*

*Under Supervision of*

**Prof. Dr. Mohamed Abdel Haleem Mohanna**

*Professor of Obstetrics and Gynecology  
Faculty of Medicine - Ain Shams University*

**Prof. Dr. Mohamed Hassan Nasr El Din**

*Professor of Obstetrics and Gynecology  
Faculty of Medicine - Ain Shams University*

**Dr. Mohamed Ahmed El Kady**

*Assistant Professor of Obstetrics and Gynecology  
Faculty of Medicine - Ain Shams University*

Faculty of Medicine  
Ain Shams University  
2009

## *Acknowledgement*

First and above all my deepest gratitude and thanks to Allah for achieving any work in my life.

I would like to express my especial cordial thanks, endless gratitude and appreciation to ***Prof. Mohamed Abdel Haleem Mohanna*** Professor of Obstetrics and Gynecology, Faculty of Medicine Ain Sham University for giving me the opportunity to work under his meticulous supervision. His honest assistance and patience make me truly indebted to him.

With great pleasure I am also grateful to ***Prof. Mohamed Hassan Nasr El Din*** Professor of Obstetrics and Gynecology, Faculty of Medicine Ain Sham University, for their kind effort and support that made achievement of this work possible. They offered me lots of help and encouragement

I am deeply grateful to ***DR. Mohamed Ahmed El Kady***, Assistant Professour of Obstetrics and Gynecology, Faculty of Medicine, Ain Shams University, for his help, continuous support and valuable advices during this work

No words could adequately express my deep appreciation to my family, for their continuous support and guidance. I shall remain indebted to them all my life.

Thanks

## *.Contents*

	<i>Page</i>
-INTRODUCTION .....	1
- AIM OF The WORK .....	3
- REVIEW OF LITERATURE:	
Anatomy .....	4
Hysterectomy .....	14
Indications For Hysterectomy.....	38
Total Versus Subtotal Abdominal Hysterectomy: Complications And Recovery Rates .....	55
Influence Of Hysterectomy On Bladder Function .....	70
Influence Of Hysterectomy On Bowel Function.....	77
Influence Of Hysterectomy On Sexual Function .....	80
Technique Of Abdominal Hysterectomy .....	91
Quality Of Life And Psychological Sequelae Of Hysterectomy .....	112
-STUDY DESIGN .....	119
-RESULTS .....	137
-DISCUSSION .....	167
- SUMMARY & RECOMMENDATION & CONCLUSION	186
-REFERENCES .....	191
- ARABIC SUMMARY	

## List of Tables

<i>Table No.</i>	<i>Title</i>	<i>Page</i>
1	Traditional guidelines for hysterectomy .....	44
2	American College of Obstetricians and Gynecologists guidelines for hysterectomy approach.....	45
3	Results of peri- and postoperative complications after total and subtotal hysterectomy .....	60
4	Results of cervical stump bleeding after subtotal hysterectomy .....	61
5	Results of prolapse after total and subtotal hysterectomy	63
6	Results of operation time, intra-operative blood loss, and length of hospital stay after total and subtotal hysterectomy .....	64
7	Results of urinary incontinence after total and subtotal hysterectomy .....	69
8	Results of sexual function after total and subtotal hysterectomy .....	90
9	Questionnaire on urinary symptoms before and after Hysterectomy .....	131
10	Questionnaire on sexual symptoms before and after Hysterectomy .....	133
11	Questionnaire on Bowel symptoms before and after Hysterectomy .....	134
12	Baseline demographics of both groups.....	139
13	Indications for hysterectomy .....	139
14	Surgical characteristics .....	141
15	Postoperative complications in both groups .....	143

*Continued*

<i>Table</i>	<i>Title</i>	<i>Page</i>
<i>No.</i>		
16	Preoperative descriptive analysis of subjective urinary symptoms for both groups.....	144
17	Preoperative analysis of urodynamic findings for both groups .....	145
18	Postoperative descriptive analysis of subjective urinary symptoms for both groups.....	146
19	Comparison between preoperative and postoperative urinary symptoms in group 1 (TAH) .....	147
20	Comparison between preoperative and postoperative urinary symptoms in group 2 (SAH).....	149
21	Comparison between preoperative and postoperative urodynamic findings in group 1 (TAH).....	151
22	Comparison between preoperative and postoperative urodynamic findings in group 2 (SAH): .....	153
23	Comparison between TAH and SAH regarding the change in urodynamic findings .....	154
24	Comparison between two group pre and post operative .....	155
25	Comparison between TAH and SAH regarding the different parameters measured to test urinary function before and after surgery as well as the treatment effect .....	156
26	Preoperative descriptive analysis of sexual function for both groups .....	157
27	Postoperative descriptive analysis of sexual function for both groups .....	158
28	Comparison between preoperative and postoperative sexual function in group 1 (TAH) .....	159

*Continued*

<i>Table</i>	<i>Title</i>	<i>Page</i>
<i>No.</i>		
29	Comparison between preoperative and postoperative sexual function in group 2 (SAH) .....	161
30	preoperative descriptive analysis of bowel function for both groups.....	163
31	Post operative descriptive analysis of bowel function for both groups .....	164
32	Comparison between preoperative and postoperative bowel function in group 2(T.A.H) .....	165
33	Complication between preoperative and postoperative bowel function in group 1(S.A.H) .....	166

### **List of Abbreviations**

<b>ACOG</b>	American college of Obstetricians and Gynecologists
<b>BSO</b>	Bilateral salpingoophrectomy
<b>CEA</b>	Carcinoembryonic antigen
<b>DLPP</b>	Detrusor leak point pressure
<b>FDV</b>	First desire to void
<b>FVC</b>	Frequency volume chart
<b>HCG</b>	Human Chorionic Gonadotropin
<b>HRT</b>	Hormone replacement therapy
<b>ICS</b>	International Continence Society
<b>LUTD</b>	Lower urinary tract dysfunction
<b>LUTS</b>	Lower urinary tract symptoms
<b>MCC</b>	Maximum cystometric capacity
<b>MUCP</b>	Maximum urethral closure pressure
<b>Pabd</b>	Abdominal pressure
<b>Pdet</b>	Detrusor pressure
<b>P detQmax</b>	Detrusor pressure at the point of maximum flow
<b>P ves</b>	Vesical pressure
<b>PT</b>	Prothrombin time
<b>PTT</b>	Partial thromboplastin time
<b>Qave</b>	Average flowrate
<b>Qmax</b>	Maximum flowrate
<b>QoL</b>	Quality of life
<b>SAH</b>	Subtotal abdominal hysterectomy
<b>SD</b>	Standard Deviation
<b>SUI</b>	Stress urinary incontinence
<b>TAH</b>	Total abdominal hysterectomy
<b>TCER</b>	Transcervical endometrial resection
<b>TOSH</b>	Total or supracervical hysterectomy study

# المحصلة النهائية لدراسة مقارنة الإستئصال الكلى للرحم والإستئصال الجزئى للرحم

رسالة توطئة للحصول علي درجة الماجستير  
في التوليد وأمراض النساء

مقدمة من

**الطبيب/ شريف رمضان محمد**  
بكالوريوس الطب والجراحة- كلية الطب- جامعة الأزهر

تحت إشراف

**الأستاذ الدكتور/ محمد عبد الحليم مهنا**  
أستاذ التوليد وأمراض النساء كلية الطب – جامعة عين شمس

**الأستاذ الدكتور/ محمد حسن نصر الدين**  
أستاذ التوليد وأمراض النساء كلية الطب – جامعة عين شمس

**الدكتور/ محمد أحمد القاضي**  
استاذ مساعد التوليد وأمراض النساء كلية الطب – جامعة عين شمس

كلية الطب  
جامعة عين شمس  
٢٠٠٩



# P

إقرأ باسم ربك الذى خلق {١} خلق الإنسان  
من علق {٢} إقرأ وربك الأكرم {٣} الذى  
علم بالقلم {٤} علم الإنسان ما لم يعلم {٥}

# W

سورة العلق الآيات ١ - ٥

## *List of Figures*

<i>Fig. No.</i>	<i>Title</i>	<i>Page</i>
1	Anatomy of the uterus.....	6
2	Anatomical supports of the cervix and vagina after removal of the bladder and uterine corpus.....	13
3	The abdominal hysterectomy is initiated by clamping, suture ligating the round ligaments and cutting the peritoneum of the anterior leaf of the broad ligament and vesico-uterine peritoneum. This provides entry into the vesico-uterine space. From Baggish MS and Karram MM (2001, Atlas of Pelvic Anatomy and Gynecologic Surgery, Philadelphia: WB Saunders) with permission .....	97
4	(A) The bladder is mobilized caudally, thereby freeing it from the cervix and upper vagina. If the ovaries are to be removed, the infundibulopelvic ligaments are dissected and separated from the ureter (Zone 2), triply clamped, cut, and doubly suture ligated. (B) If the ovaries are to be preserved then the utero-ovarian ligaments and tubes are dissected, triply clamped, cut, and doubly suture ligated. From Baggish MS and Karram MM (2001, Atlas of Pelvic Anatomy and Gynecologic Surgery, Philadelphia: WB Saunders) with permission.....	101

*Continued*

<i><b>Fig. No.</b></i>	<i><b>Title</b></i>	<i><b>Page</b></i>
5	The entire broad ligament is now opened and dissected close to the uterine vessels. When keletonization is completed, the vessels are triply clamped close to the uterus and cervix, cut, and doubly uture ligated. From Baggish MS and Karram MM (2001, Atlas of Pelvic Anatomy and Gynecologic Surgery, 'hiladelphia: WB Saunders) with permission.....	102
6	The pubocervical fascia is cut transversely over the cervix and pushed caudally with the scalpel handle. From Baggish MS and Karram MM (2001, Atlas of Pelvic Anatomy and Gynecologic Surgery Philadelphia: WB Saunders) with permission.....	103
7	(a) and (b) After the bladder has been further mobilized and the cardinal ligaments have been clamped and cut, the uterosacral ligaments are clamped close to the uterus, divided, and suture ligated. The peritoneum over the posterior uterus between the uterosacral ligaments and the recto-uterine space is entered and dissected caudally between the rectum and vagina. From Baggish MS and Karram MM (2001, Attas of Pelvic Anatomy and Gynecologic Surgery, Philadelphia: WB Saunders) with permission .....	105
8	After the uterus has been removed, the vaginal angles are sutured and the vagina is closed or reefed open. The cut edges of the ligaments are sutured into the vaginal cuff in order to suspend it. From Baggish MS and Karram MM (2001, Atlas of Pelvic Anatomy and Gynecologic Surgery, Philadelphia: WB Saunders) with permission.....	106

***Continued***

<i><b>Fig. No.</b></i>	<i><b>Title</b></i>	<i><b>Page</b></i>
9	If a subtotal hysterectomy is to be performed, e.g.in obstetrical hemorrhage, the corpus is cut away from the cervix (dotted line) and the anterior and posterior aspects of the cervix are sutured at the cuff margin. From Baggish MS and Karram MM (2001, Atlas of PelvicAnatomy andGynecologic Surgery,Philadelphia: WB Saunders) with permission.....	108
10	The peritoneum of the broad ligaments, utero-vesical fold are sutured to the posterior peritoneum of the cervix. No suspension is required in the case of subtotal hysterectomy. From Baggish MS and Karram MM (2001, Atlas of Pelvic Anatomy and Gynecologic Surgery, Philadelphia: WB Saunders) with permission.....	109
11	Condition of ovaries in TAH group.....	137
12	Condition of ovaries in SAH group.....	138
13	Indications for hysterectomy in both groups Surgical characteristics.....	140
14	Comparison between both groups regarding duration of surgery.....	141
15	Comparison between both groups regarding length of hospital stay .....	142
16	Comparison between both groups regarding postoperative complications .....	143
17	Comparison between preoperative and postoperative urinary symptoms in group 1 (TAH).....	148
18	Comparison between preoperative and postoperative urinary symptoms in group 2 (SAH).....	149

***Continued***

<i><b>Fig. No.</b></i>	<i><b>Title</b></i>	<i><b>Page</b></i>
19	Comparison between preoperative and postoperative sexual function in group 1 (TAH) .....	160
20	Comparison between preoperative and postoperative sexual function in group 2 (SAH).....	162
21	Relation of U/S findings and histopathology of the tumor	98
22	Relation of CA125 and histopathology of the tumor	100
23	Combined findings of U/S, CA125 and findings of histopathology of the tumor.....	102

# Introduction

---

## INTRODUCTION

---

Hysterectomy is the most common major gynecologic surgery. Concerns about the appropriate use of hysterectomy include neurological and anatomic disruption of the pelvic region that may lead to adverse effects on bowel, bladder, or sexual function. Hysterectomy may sometimes be identified by the patient as the starting point of lower urinary tract symptoms (*Thakar et al, 2002*).

One of the observed risk factors for lower urinary tract symptoms are muscular and/or neuromuscular pelvic injury during childbirth and hysterectomy (*Moller et al., 2000*). Another systematic review on urinary incontinence after hysterectomy supports the latter association (*Brown et al., 2000*).

Deciding whether to have a total or subtotal hysterectomy can be difficult. This is because research that compares the two is limited, and shows only small and conflicting differences.

Subtotal hysterectomy with preservation of the cervix has been advocated as a less invasive option than total (or "complete") hysterectomy. Unlike total hysterectomy, some patients with the subtotal procedure had cyclic bleeding, and all required ongoing Pap smear surveillance. Subtotal abdominal hysterectomy results in more rapid recovery and fewer short-term complications but infrequently causes cyclical bleeding or cervical prolapse (*Thakar et al., 2002*).