INTRAOPERATIVE MANAGEMENT AND URINARY SYSTEM COMPLICATIONS DURING TOTAL LAPAROSCOPIC HYSTERECTOMY

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SUMMARY

Objective: Many authors were accepted that Total Laparoscopic Hysterectomy (TLH) is interesting and reliable treatment at benign gynecological conditions. The aim of this study is to present intraoperative management and urinary system complications performing TLH.

Material and methods: This study was included 116 patients who underwent TLH with or without additional surgical procedure at Ege University Medical School, Department of Obstetrics and Gynecology between 2002-2008. Bilateral salpingoophorectomy for 77 (66.3%), Burch colposuspension for 9 (8.4%), adhesiolysis for 40 (37.7%), and McCall Culdeplasty for 10 (8.6%) were applied as additional surgical procedure. Average age of patients was 48.1 years. BMI and parity was 27.1±2.3 kg/m² and 1.8±1.1, respectively. 24 (20.6%) cases were presented previous surgical procedure and 71 (61.2%) cases were postmenopause.

Results: Bladder injury occurred as urinary system complication at 2 (1.7%) women. The other postoperative complications were loss of blood exceed than 500 ml, infection and turned conversion to laparotomy; 9 case (7.75%), 2 case (1.7%) an done case, respectively. However bladder injury was recognized during operation and repaired concurrently. Any long term complication and ureteral injury was seen.

Conclusion: The rate of our urinary system complications was 1.7% in study group performing TLH. Risk factors were prior caesarean section history, prior pelvic surgery history and extensive endometriosis. Familiarity of pelvic anatomy and operator training were very important at advanced laparoscopic application. The avoidance of complication can be possible with good observation of surgical area, gentle dissection and favorable using of energy modality.

Key words: complication, hysterectomy, laparoscopy, urinary system


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INTRODUCTION

After cesarean section, hysterectomy is the most common procedure for uterine pathology. Hysterectomy has traditionally been performed abdominally or vaginally. Laparoscopic procedure is an alternative due to difficulties of total abdominal hysterectomy and vaginal hysterectomy. Total Laparoscopic Hysterectomy (TLH) procedure includes; surgery dissection, ligation, suturation, trocar insertion and suturing of the vaginal cuff\(^1\). The advantages of laparoscopic hysterectomy are less infection, less blood loss, shorter hospitalization and earlier return to work\(^2\). Urinary system especially bladder complications had a significant predominance in laparoscopic hysterectomy\(^3\). The aim of this study is to present intraoperative management and urinary system complications performing TLH.

MATERIAL AND METHODS

One hundred and sixteen patients who underwent TLH with or without additional surgical procedure at Ege University Medical School, Department of Obstetrics and Gynecology between 2002-2008, were evaluated retrospectively. A Veress needle is used to create pneumoperitoneum and entered 4 trocar into abdominal cavity. After observation of the abdomen, ureter inspected at the pelvic brim. Ureter dissected between pelvic brim and uterine artery. Depends on performing salpingo-oophorectomy or not, the infundibulopelvic ligament or the ligamentum ovarii proprium are divided with bipolar coagulation and scissors. The round ligaments are divided with bipolar coagulation and scissors. A vesicouterine fold of peritoneum is incised. The bladder can then be dissected free from the uterus and pushed down. After inspection of uterine artery coagulated with bipolar coagulation. The cardinal and uterosacral ligaments are also coagulated with bipolar cautery. During this period, we different diathermy methods were used in this steps such as Ligasure and
Harmonic Scalpel. Tampon is placed into vagina. The circular culdotomy is performed followed by anterior and posterior colpotomy. The tampon is removed. Then, the uterus is pulled down into the vagina and it can be placed there as a plug to prevent loss of pneumoperitoneum. As three sutures are placed to vaginal vault, it is closed; two of the corners of the vaginal vault and another in the midline. Bleeding control is performed and then additional procedure performed if it is need. Bowel preparation is performed with oral and rectal solutions in all patients. Prophylactic antibiotic is used in intraoperative and postoperative period.

RESULTS

Mean age of the patients was 48.1±3.2 years. Mean BMI was 27.1±2.3 kg/m² and parity was 1.8±1.1. Twenty four (30 %) patients with previous abdominal surgery and 67 (63 %) patients was postmenopausal. Mean hospitalization was 2.4 (range 1-7) days, blood loss was 220 ml (50-800 ml), operating time was 100 minutes (range 45-170 minutes), uterine size was 9.2±2.3 gestational weeks.

Postoperative complications are; 9 case (7.75 %) loss of blood exceed than 500 ml, 2 case (1.7 %) postoperative infection and 1 case (0.86 %) turned conversion to laparotomy (Table I). As urinary system complications; 2 (1.7 %) bladder injury occurred. Bladder injury was recognized during operation and repaired concurrently. First mucosal layer and than muscularis layer of bladder double sutured with 3-0 polylactic acid suture and examined with cystoscopy. Postoperative patients were followed up with Foley catheter 5-7 days. Long term complication and ureteral injury was not occured.

DISCUSSION

Performance of laparoscopic hysterectomy (LH) has increasing ratio and is a preferable alternative to laparotomy for patients whom has an immobile uterus and unsuitable for vaginal hysterectomy. Advanced age and high BMI were not contraindications for LH (4). Randomized trials indicate that operating time was moderately increased or same for LH versus AH. Also the operating time was same or decreased for LH versus LAVH and the operating time was more increased for LH versus VH(5).

Major complications rates in AH, LH and VH were 4.0 %, 4.3 % and 2.6 % respectively(6). Urinary system especially bladder complications had a significant predominance in laparoscopic hysterectomy(3). The literature reported that urinary system complications for performing LH is 2.5 % range 3.4 %%(7-10). An urinary system complication for performing LH is reported 1.7 % in our series, correlatively.

Tablo 1: Complications of the patient who underwent TLH were shown.

<table>
<thead>
<tr>
<th>Complication</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood loss &gt; 500 ml</td>
<td>9</td>
<td>8.4</td>
</tr>
<tr>
<td>Postoperative infection</td>
<td>2</td>
<td>1.8</td>
</tr>
<tr>
<td>Bladder injury</td>
<td>2</td>
<td>1.8</td>
</tr>
<tr>
<td>Conversion to laparotomy</td>
<td>1</td>
<td>0.9</td>
</tr>
</tbody>
</table>

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But some authors indicate that in the abdominal trial patients have more nulliparous, cesarean and endometriosis. Significant point to prevent of the bladder injury while performing LH is gentle dissection of the bladder from the uterus and intense homeostasis. To recognize of the bladder injury is crucial during operation. The used to uterine canula reduce bladder injury (14). If the border of bladder cannot visualized, the bladder by filling it through the catheter with a methylene blue dye solution (12). Methylene blue dye solution also may use to avoid unknown injury. In our series, 2 (1.7 %) bladder injury was occurred in patients who underwent TLH. Bladder injury was recognized during operation and repaired concurrently. First mucosal layer and than muscularis layer of bladder double sutured with 3-0 polyactic acid suture and examined with cystoscopy. Patients were followed up with Foley catheter 5-7 days postoperatively. Long term complication and ureteral injury was not occured. Experience of the surgeon is the other most important factor for the injury occuring. The complications can be prevent as a surgical exploration, fine dissection and used to appropriate energy modalities (5,15,16).

REFERENCES

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