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flowers, or "hug a tree, but are we good at following our own advice? Don't let the "if onlys" creep into your life. Make every moment count. You have inherited a spirit of fun. Enjoy it, share it, and "go for the gusto! Don't let those precious moments slip by. Don't live with regret.

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Laparoscopic Transperitoneal Nephrectomy

By Lorette Krivak, RN

With the introduction of laparoscopes an evolutionary field has been opened to operating room nurses. At Concordia General Hospital, Winnipeg, Manitoba, the nurses experienced a surgical procedure that we would like to share with perioperative nurses across Canada. This was the first laparoscopic nephrectomy to be performed in the province. June 9th, 1994 was our target date and the excitement in the O.R. increased as the day approached.

Our staff urologist Dr. Martin Rifkin, M.D., FRCS (C), was very informative during the inservice describing the procedure. "The candidate for such a procedure has to be well selected to avoid unnecessary complications", he said. In an effort to decrease the morbidity associated with open renal surgery, laparoscopy is applied. By decreasing incision size morbidity is greatly reduced.

Our patient was a 74 year old female with a six year history of recurrent urinary tract infection, left pylonephrosis associated with left flank pain. Thorough investigation revealed scarred left kidney. Multiple courses of antibiotics were persued and the patient continued with persistant infections.

Indications

1. Any benign disease of the urinary tract which requires surgical removal for cure (renovascular hypertention, chronic infection not responsive to medical therapy, chonically obstructive symptomatic nonfunctioning kidneys, mulicystic displastic kidneys.)

2. Kidneys containing small tumors are being removed laparoscopicaly. These are confined to small (<5cm mid to lower renal) tumors. The use of laparoscopy to remove malignant kidneys is somewhat controversial, however preliminary studies demonstrate feasibility.

Abstract

This article will provide an overview of a Laparoscopic Transperitoneal Nephrectomy, including operational procedure and O.R. setup as performed at Concordia General Hospital in Winnipeg, Manitoba.

Contraindications

Abdominal wall sepsis, intestinal distention, incarcerated inguinal hernia, uncorrected coagulopathy, cardiorespiratory impairment, severe obesity, large hiatus hernia, significant adhesions, kidneys containing large tumors.

Preoperative Preparation

Informed consent addressing possibility of open laparotomy. Internal risks of open surgery are duplicated with with laparoscopic approach, i.e., bowel injury, splenic or hepatic injury, pancreatic injury, life threatening hemorrhage.

The patient is informed that laparoscopic approach will involve placement of five 5mm to 12mm incisions, each of which has the potential to cause discomfort or become infected. The patient is also informed

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of the possibility that an open laparotomy may need to be performed if the procedure cannot be properly or safely completed, or if a significant complication occurs.

Type and cross match for at least two (2) units of blood.

Mechanical bowel prep is done.

Instruments for Laparoscopic Nephrectomy

7f 11.5 ureteral occlusion baloon catheter
.035 Amplatz super stiff guidewire
Sterile plastic bag
Five Trocars: 3 5mm, one 12mm, and one 10/11mm
One 5mm curved scissors
One 5mm Maryland dissector
Multiple 5mm **atraumatic** and traumatic grasping forceps
10mm multiload clip appliers: Both 11mm and 9mm should be available
5mm endo-babcock to retract ureter
One 5mm irrigator/aspirator
One Cook Surgical Entrapment Sack (5x8)
One 10mm Cook electrical tissue morcellator
Trocar reducers: 10.5mm and 4.5mm
Umbilical tape in the room
One ring forceps
10mm fan retractor in the room
Endopath Vascular stapling device (1 vascular load)
Sutures: Vicryl-0x2 and Vicryl-3-0x2
Dressing steristrips and tincture of benzoin
Nephrectomy and Cystoscope instrument trays.

Operating Room Set Up

The surgeon stands on the opposite side of the table from the kidney to be removed.

The camera assistant stands next to the surgeon.

There are 2 video carts: the primary one is above the 1st assistant, the secondary video cart is behind the surgeon.

The sterile covered set-up for laparotomy must be in the room and ready to go in case of rapid hilar bleeding.

The morning of the surgery the patient was taken to I.C.U. where the nurses assisted the anesthetist with the insertion of an arterial line and a Swan Ganz catheter. Meanwhile the O.R. nurses prepared the surgical suite, opening bundles and necessary supplies for our first laparoscopic nephrectomy. The patient was then transferred to the operating room on a glass table, anesthetized and put in a lithotomy position for the first step in the procedure - having a ureteral catheter and a super stiff guide wire inserted for better identification of the ureter during the laparoscopic nephrectomy. Following this a naso-gastric tube was inserted.

In consultation with the anesthetist, it was decided to do the cystoscopy and insertion of ureteral catheter under fluroscopy in a general room. A foley catheter was also inserted. Both catheters were placed in a sterile plastic bag. The patient was then transfered to a regular O.R. bed on a Vac-pac ready for lateral positioning (70 degree). The patient was secured to the bed with chest and leg safety straps.

The table was then rotated away from the surgeon (40 degrees). The patient's temperature was monitored and all I.V. and irrigation solutions used were warm.

The following is a full description of the procedure as presented to us by Dr. Rifkin.

After the insertion of the catheters a full abdominal skin prep is done, which includes the entire abdomen from the xiphoid process to the symphysis pubis and from just lateral to the contralateral rectus muscle to the posterior axillary line on the ipsilateral side. The sterile plastic cover is removed from the catheters and the perineum and shaft of the catheters are prepared and separately draped thus ensuring ready access to the ureteral catheter throughout the procedure.

Operative Procedure

There are 5 port sites. One 10/11mm port is placed in the periumbilical area. A 12mm port is placed in the ipsilateral midclavicular line (MCL) immediately subcostal. A 5mm ipsilateral MCL port is placed 3-4cm below the level of the umbilicus. Two 5mm ports are placed in the ipsilateral anterior axillary line (AAL). The surgeon operates the two MCL ports, the first assistant operates the two AAL ports. The periumbilical port (camera site) is operated by the second assistant. All trocars are directed towards the renal pelvis. *(Refer to Figure A.)*

Procedure

1. Pneumoperitoneum is acheived by introducing the 14G Veress needle in the periumbilical incision insuflating the abdomen to 20mm HG. The 10/11mm port is placed and the abdomen is inspected. The 12mm port is placed below the costal margin. The laparoscope is then placed through the 12mm port, inspecting the initial port site. Next, a 5mm MCL port is placed about 3 to 4 mm below the level of the umbilicus. Now, the table is tilted back to the level position so the patient is back to full flank position from an oblique position. At this point, two 5mm AAL ports are placed, at the tip of the 12th rib and at the level of the umbilicus.

2. Incision of the line of Toldt: A 5mm reducer is placed on the 12mm MCL port. The surgeon retracts and incises through the two MCL ports while the assistant retracts tissue through the AAL ports. Incision is made from the common iliac artery to the ipsilateral colonic flexure. The peritoneal incision is continued medially until the colon can be completely swung medially away from Gerota's fascia. Care must be taken at level of attachments between Gerota's fascia and spleen and lienorenal ligament. These attachments may be secured with 9mm clips or electrocautery.

3. Securing the ureter: Looking at the area of retroperitoneum above the iliac vessel, the scrub nurse moves the ureteral catheter back and forth within the ureter to help identify the ureter at this level. The assistant retracts tissue lateral to the ureter through the AAL port. The surgeon retracts tissue medial to the ureter via the upper MCL port, while tissue over the ureter is cut and cauterized freeing the ureter up. The ureter is dissected in one plane - until a window around it is created. A 5mm endo-babcock clamp is passed through the lower AAL port to secure and retract the ureter laterally, thus providing for rapid ureteral dissection. The gonadal vein will be identified alongside the ureter and is carefully dissected and clipped and transected. The left gonadal vein can be used to lead to the main renal vein.

4. Dissecting the upper and lower poles of the kidney: After the ureter is dissected to the UPJ, the lower pole and lateral surface of the kidney are cleared of surrounding tissue. The renal capsule is identified along the upper pole of the kidney and the surrounding retroperitoneal tissue including the adrenal gland is pushed cephalid off the renal surface. Dissection is continued medially until the entire medial surface of the upper pole is exposed.

5. Securing the renal vessels: Through the lower AAL port, the assistant holds the ureter, through the upper AAL port the assistant passes 5mm forceps over the medial surface of the upper pole of the kidney and the forceps are then used to retract the upper pole of the kidney laterally and upward placing the renal hilum on stretch. The surgeon uses the atraumatic grasping forceps and scissors to dissect the hilum. By carefully moving along the ureter and UPJ, the renal vein is usually identified first. Perihilar tissue is carefully dissected from the renal vein anteriorly, superiorly and posteriorly. The renal artery should then be identified and dissected similarly. Via the upper MCL port, a muliload clip applier is placed. Five 9mm clips are placed on the artery, and the artery is transected. The vein is similarly treated, however the vein may be too wide for clips. 11mm clips may be used or a vascular endo GIA may be used.

6. Incising the ureter: After controlling the artery and vein, the remaining attachments of the kidney should be taken down sharply and bluntly. The 7F occlusion balloon is deflated and the guidewire is removed. Two 9mm clips are placed on the mid ureter and the ureter is incised.

7. Passage of entrapment sack: The 5x8 inch sack is rolled into its introducer. The drawstrings of the sack are carefully laid down along the body of the sack and rolled into it. The sack is introduced via the upper MCL port. Using atraumatic graspers, the sack is pulled into the abdomen. The sack introducer is then

Figure A

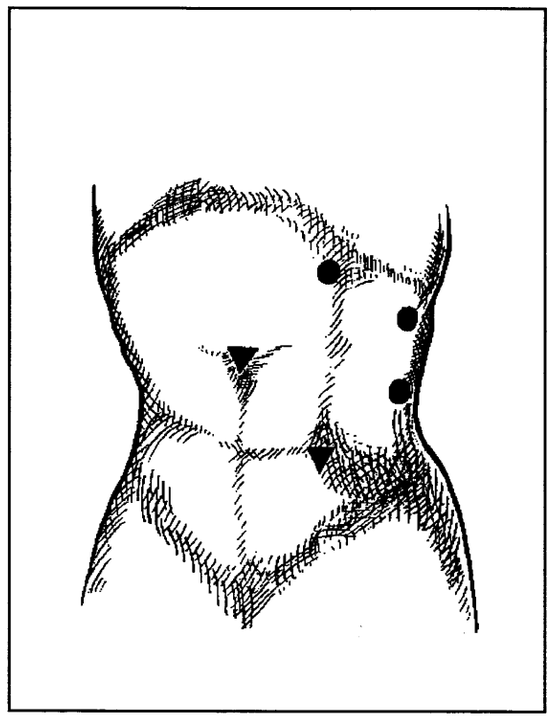
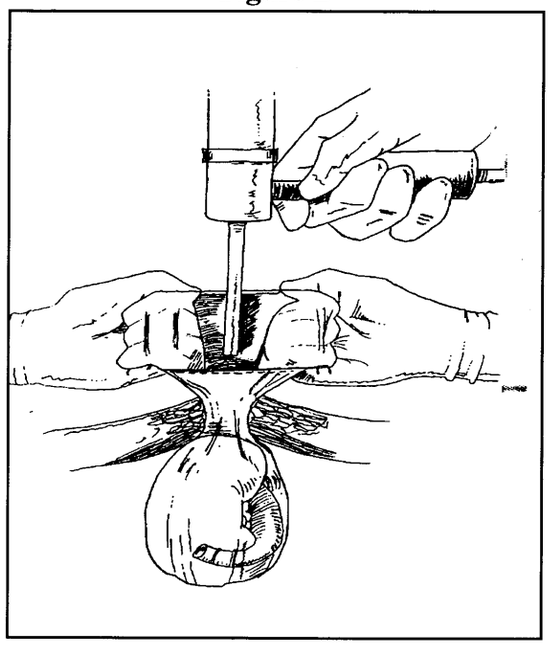


Figure B



removed from the port. The laparoscope is then placed in the upper MCL port and the sack is opened with three (3) graspers. The laparoscope is passed into the depth of the sack to open it up. The assistant uses the upper AAL port to grasp UPJ and manoeuvre the kidney into the sac. The laparoscope is moved to the periumbilical port and the drawstrings of the sac are drawn into the 12mm sheath. The intra-abdominal pressure is reduced to 5mm and a check for hemostasis is performed.

8. Tissue removal: The patient is returned to the oblique position. The laparoscope is maintained in the periumbilical port. The drawstings of the sac are pulled through the 12mm MCL as far as possible thus drawing the neck of the sack into the sheath. The drawstrings are released from the forceps, and the forceps and the 12mm sheath are removed from the abdomen.The drawstings should now rest on the abdominal wall. The drawstring are grasped and pulled by the surgeon until the neck of the sack is delivered onto the abdominal wall. The tissue morcellator is plugged in, and the handle of the morcellator is connected to suction, and the valve of the suction is in the off position. The 10mm barrel of the morcellator is firmly introduced into the sack until it contacts renal tissue. The neck of the sack is pulled up by the assistant. The morcellator is activated by depressing the foot pedal while the morcellator is moved rapidly back and forth into the renal tissue. As the renal tissue is fragmented the pieces are rapidly aspirated into the handle of the morcellator. After about 5 minutes, the morcellator is removed, the suction is turned off and the handle is removed to scrape off tissue. The process continues until all the tissue is fragmented. The empty sac is removed from the abdomen and the incisions are closed. *(Refer to Figure B.)* The fascia from the larger skin incisions are closed with Vicryl - 0 UR5 and Dexon 3-0 CE4 for skin, steri strips and mepore dressings are applied.

The patient was then transferred to I.C.U. after the 8 and 1/2 hour procedure. She was monitored very closely for 48hrs then transfered to the ward. The patient was discharged seven (7) days later and is presently doing very well.

Endoscopic surgery is the way of the future. The technique is excellent; pain management is improved, the need for hospitalization is reduced dramatically, morbidity can be avoided, and the patient is able to resume normal daily activities in a very short period of time. At Concordia Hospital, we are looking forward to advances in other laparoscopic procedures in the very near future. ■

Position Paper of the Ordre des infirmières et infirmiers du Québec

Perioperative Nursing Care

The Function of the Nurse as First Assistant

Position

The Ordre des infirmières et infirmiers du Québec, in concert with various nurses associations and certain health care settings, is in favour of the recognition of the nurse's function as first assistant. The nurse who assumes the function of first assistant during a surgical procedure is practising in the field of perioperative care, and is acting within the framework of her professional practice. The majority of the first assistant nurse's activities are conducted in the presence of the surgeon, in interrelation with him, and under his direct supervision. The nurse thus provides the clinical and technical assistance necessary for the surgeon to operate safely, and in the best interests of the user.

Report

Scientific and technological change, the development of the nursing profession, budgetary constraints, regional shortages of doctors, and quotas on residents at university hospitals all have an impact on professional practice, and on the overall work environment, particularly in the operating room.

At present, several health care institutions and numerous surgeons are making urgent demands that nurses assume the function of first assistant during the course of various types of surgery. The pressure is increased by the fact that many nurses are already faced with situations where they must provide such assistance to the surgeon. In Quebec, this situation is now common, and is tending to become widespread. A recent poll, carried out in March 1993 by the Association des infirmières et infirmiers de salles d'operation du Quebec (SOOR), confirmed that 86.6% of respondents were frequently alone with the surgeon during major operations. Moreover, 88.8% acknowledged having taken on the role of scrub nurse and first assistant simultaneously. The latter situation is deemed precarious; it could affect the quality of nurses' interventions, and endanger user safety.

Several North American groups have adopted a position in favour of recognizing the function of the nurse as first assistant. As of 1983, with the support of the American College of Surgeons, the Association of Operating Room Nurses (AORN) the largest such association in the United States made its position official. It believes that the function of first assistant is part of perioperative nursing care, and is inherent in the practice of nursing. The majority of State Boards of Nursing in the U.S. have since ratified the AORN position. In addition, the results of the recent national survey carried out by the Operating Room Nurses' Association of Canada (ORNAC), in which 361 hospitals from ten Canadian provinces participated, reveal a strong trend toward recognizing the role of the nurse as first assistant. (See National Survey page 31).

In Quebec, nurses practising in the field of perioperative nursing care, and particularly those who work in the operating room, have over the years acquired an unequalled expertise, bringing to light their specific contributions to this sector, which could be described as a nerve centre of hospital operations.

Nurses are present in every Quebec hospital where surgery is performed. Their contributions to the success of operations and to the prompt recovery of patients are indisputable. Their great versatility also allows them to intervene at different stages of the care episode, and in a variety of situations, ranging from

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Note: The position described herein was adopted by the Bureau of the Order at its regular meeting, September 29 and 30, 1994. The feminine pronoun is used in this document, without prejudice.