

Laparoscopic radical hysterectomy with paraaortic and pelvic node dissection

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We report the first case of a laparoscopic radical hysterectomy and paraaortic and pelvic lymphadenectomy to treat a stage IA2 carcinoma of the cervix. To our knowledge, a laparoscopic radical hysterectomy with laparoscopic paraaortic lymphadenectomy has not been previously described. (AM J OBSTET GYNECOL 1992;166:864-5.)

Key words: Laparoscopy, paraaortic node dissection, radical hysterectomy

We report the first case of a laparoscopic radical hysterectomy and paraaortic and pelvic lymphadenectomy to treat a stage IA2 carcinoma of the cervix.

Case report

A 30-year-old woman, gravida 3, para 2-0-0-2, was evaluated at 12 weeks' gestation for an abnormal Papanicolaou smear. Colposcopic examination was satisfactory and findings were consistent with dysplasia. No areas suspicious for invasion were noted. Biopsy revealed grade 3 cervical intraepithelial neoplasia. She underwent follow-up during pregnancy with colposcopy and biopsy without evidence of invasion and was delivered by repeat cesarean section.

Laser conization (6 weeks post partum) revealed cervical intraepithelial neoplasia with a 2.74 mm focus of invasion with lymphatic space involvement and a width of 3 cm. Lymphatic space involvement by tumor cells put this patient at higher risk for metastases and consequently made her a candidate for radical hysterectomy. Physical examination revealed a healthy young woman, 5 feet 8 inches tall, weighing 199 pounds, with a history of three cesarean sections.

A standard bowel preparation was used and she received three 2 gm doses of cefoxitin prophylactically.

During the laparoscopic portion of the procedure all pedicles were coagulated with bipolar cautery and incised with the carbon dioxide laser.¹ Sutures were not required and peritoneal incisions were allowed to heal secondarily.

For the right common iliac and lower paraaortic lymphadenectomy, the patient was tilted to the left side and placed into the deep Trendelenburg position at 35

to 40 degrees. The ureter was identified through the peritoneum. An opening was made into the peritoneum just above the sacral promontory; with hydrodissection² the retroperitoneal space was injected with lactated Ringer's solution and then incised with the carbon dioxide laser toward the duodenal bulb.² The common iliac and paraaortic nodes were removed from the veins' surface by blunt dissection, hydrodissection, and the carbon dioxide laser.¹ Larger bleeders, such as the venous perforators of the vena cava, were coagulated first with bipolar cautery.¹ The ureter was identified immediately next to the vena cava, and dissection was taken to 2 cm above the aortic bifurcation. Then the rectovaginal, paravesical, and pararectal spaces were dissected. The rectum was dissected off the posterior vaginal wall. This was taken to 5 cm below the cervix. The round ligaments were coagulated close to the pelvic sidewalls and transected. The peritoneum was opened and the paravesical and pararectal spaces were dissected out, allowing excellent skeletonization of the obliterated hypogastric artery.² The uterine vessels were identified, skeletonized, coagulated medial to their origin, and transected, then rotated anterior to the ureters.²

The vesicovaginal space was developed using techniques described above, with difficulty because of scarring from three previous cesarean sections.²

The uterine vessel was dissected medially for 4 cm and elevated from the ureter using the carbon dioxide laser. The anterior parametrium was transected, and the ureters were freed from the peritoneum and skeletonized down to the bladder. The uteroovarian pedicles were coagulated and transected.¹

The left common iliac nodes, with the left pelvic nodes, were removed as on the right side.

The external iliac nodes between the external iliac vein and artery and the obliterated hypogastric artery were carefully stripped to the deep circumflex veins. The obturator nerve was exposed and the hypogastric and obturator nodes were removed. The obturator nerve was dissected and cleaned caudally to the point

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at which it left the pelvis. The nodal tissue between the obturator nerve and external iliac vein was dissected. The inferior aspect of the external iliac vein was separated until the internal obturator muscle and pelvic bone were seen. Venous anastomosis between obturator and external iliac veins was visualized and retained. Lymph nodes posterior to the obturator nerve were excised. The uterosacral ligaments and lateral parametria were coagulated and sequentially transected approximately 1.5 cm lateral to the cervix. The dissection was taken down to 3 cm below the cervix. The vagina was entered anteriorly and posteriorly. Sponges in the vagina prevented loss of pneumoperitoneum.

The radical hysterectomy was completed vaginally by incising the vagina 3 cm distal to the cervix. After anterior and posterior mobilization, the residual cardinal ligaments were divided approximately 1.5 cm lateral to the cervix and then ligated with sutures.¹ The uterus and pelvic nodes were removed transvaginally.¹ The vaginal vault was then closed and a suprapubic catheter was placed.

The procedure lasted 7 hours with an estimated blood loss of 30 ml. The patient began eating within 24 hours and was discharged in 48 hours. The suprapubic catheter was removed in the office 7 days after operation.

The final pathologic examination revealed no residual cancer. All lymph nodes were negative. Of five paraaortic nodes removed, the largest was 1.5 cm and total tissue measured 4 × 3 × 3 cm. Nine left pelvic nodes were removed; the largest was 2.5 cm and total measurement was 6 × 5 × 2 cm. The five nodes removed from the right pelvic area totaled 5.5 × 2 cm; the largest was 1.3 cm. The measurement from the vaginal cuff's lower portion to the superior portion of

the uterine fundus was 10.5 cm, and the uterine fundus was 5 × 5 cm wide. The hysterectomy specimen weighed 118 gm.

Comment

Before fair assessment of morbidity from operative laparoscopy can be made, more experience with similar cases is necessary. Only time will show if this case remains a surgical curiosity or whether the procedure becomes commonplace in the future.

Addendum

Since submitting this article, we have performed another laparoscopic radical hysterectomy with paraaortic and pelvic node dissection. The patient was 31 years old, gravida 0, with stage IA2 squamous cell carcinoma of the cervix. A total of 25 pelvic nodes (15 right, 10 left) and 9 paraaortic nodes were removed. Additional specimens included vaginal cuff measuring 3 cm in length and 3 cm of parametrium. The duration of the procedure was 6 hours. No intraoperative or postoperative complications were noted. She was discharged on the second postoperative day. Four months after operation the patient is doing well and shows no sign of recurrent malignancy.

REFERENCES

1. Nezhat F, Nezhat C, Silfen SL. Videolaserectomy for oophorectomy. *AM J OBSTET GYNECOL* 1991;165:1323-30.
2. Nezhat C, Nezhat F, Silfen SL. Videolaserectomy: the CO₂ laser for advanced operative laparoscopy. *Obstet Gynecol Clin North Am* 1991;18:585-604.

Additional references are available from the authors on request.