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## **RETROPERITONEAL LAPAROSCOPIC LYMPH NODE DISSECTION FOR STAGING NON-SEMINOMATOUS GERM CELL TUMORS BEFORE AND AFTER CHEMOTHERAPY**

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### *ABSTRACT*

*We describe our experience with laparoscopic retroperitoneal lymph node dissection in 19 patients with non-seminomatous germ cell tumors. Twelve patients had stage I disease with no clinical evidence (CT-scan, ultrasound, tumor markers) of metastases; 7 patients (stage IIb=2, stage IIc=5) had residual tumor after chemotherapy but with negative tumor markers. A laparoscopic dissection was used to assess more fully the pathologic status of the relevant retroperitoneal lymph nodes of both groups. The patient was positioned and trocars introduced at sites similar to that used for transperitoneal laparoscopic nephrectomy (flank position, five ports - 3x10mm; 2x5mm). After reflecting the colon anteromedially, the landmarks of the lymph node dissection were isolated namely the ureter, aorta, inferior vena cava, and both renal veins. The lymph node dissection included the paracaval, interaorto-caval, upper preaortic, and right common iliac zonal nodes for right-sided tumors, and paraaortic, upper preaortic zones for left-sided tumors. Retrieval of the lymph nodal chains was accomplished using a small organ bag.*

*The mean duration of the procedure was 298 (range 150-405) minutes. In only one patient was a lymph node positive for tumor (stage I) or showed extensive necrosis (after chemotherapy). No intraoperative complications were encountered but three patients developed a delayed complication (ureteral stenosis, pulmonary embolism, and retrograde ejaculation, respectively). Whereas we completed the dissection in each patient with stage I tumors, the laparoscopic procedure was more difficult in patients with stage II tumors after chemotherapy. In two patients with stage IIb disease laparoscopic lymphadenectomy was successful. In four other patients parts of the dissection had to be done after conversion to an open (conventional) operation using a small incision (suprainguinal or pararectal); in one patient the laparoscopic approach was abandoned and converted to an open operation. In the post-chemotherapy group the outcome depended primarily on the tumor bulk prior to drug treatment. In two patients in whom all residual necrotic tissue was removed laparoscopically they had "minor" disease (stage IIb); the others had stage IIc tumors.*

*Our preliminary experience suggests that a modified laparoscopic lymph node dissection is feasible for stage I tumors and in selected patients with marker negative residual tumor after chemotherapy (stage IIb).*