Laparoendoscopic Single-Site Retroperitoneal Lymph Node Dissection via Pararectus Approach

Introduction and Objective: To introduce our initial experience of laparoendoscopic single site (LESS) retroperitoneal lymph node dissection (RPLND) via pararectus approach for treatment of nonseminomatous testicular cancer and verify the possibility and effect of it.
Materials and Methods: From September 2010 to June 2011, 3 male patients (age 19~27 years old), present with enlarged right testicle and elevated AFP level, underwent right radical orchidectomy. The histopathological analysis revealed nonseminomatous germ cell tumor. Laparoendoscopic single site retroperitoneal lymph node dissection (LESS-RPLND) was performed 3 weeks after orchiectomy. The patient was placed in supine position with affected side elevated 20 degree. After the 3 cm right pararectus incision was made in right lower quadrant, the homemade port was inserted. Prebent devices, conventional straight laparoscopic equipments, 30 degree lens, harmonic scalpel, bipolar forceps and Hem-o-lok clips were employed. Retroperitoneal space was created and developed with blunt dissection. The unilateral RPLND with nerve-sparing technique was conducted and modified right-sided template was removed in accordance with open RPLND.
Results: The operation was successfully performed through the solo pararectus incision and mean operative time was 240 min. Mean estimated blood loss was 50 ml. No conversion to open or conventional laparoscopic surgery was required. No major perioperative complications were observed. For the first case, number of lymph nodes obtained on final histopathological examination was 11 and two positive nodes were detected. For the other 2 cases, no positive nodes were detected. Chemotherapy was needed for the first case. AFP level decreased close to base line one week postoperatively. No relapse was observed 18 months after RPLND for the first two cases. The third case recovered well without recurrence at 6 months follow-up.
Conclusions: In our experience, LESS-RPLND is safe and feasible, and pararectus incision gains good approach and satisfactory cosmetic result. Large population-bases study and long time follow-up were needed to prove the oncological outcome of LESS-RPLND.