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Introduction & Objectives: Retroperitoneal lymph node dissection (RPLND) is an accepted staging and treatment option for testicular and paratesticular tumors. Open surgery is the reference technique in many cases and centers, but it does not exempt complications, vascular and nervous. Minimally invasive surgery, especially robotic surgery, offers technical advantages and is an alternative, a priori, with less morbidity.

Materials & Methods: We present a robotic RPLND in a 16-years-old man diagnosed of paratesticular rhabdomyosarcoma with non-specific lymph nodes on the CT scan. In addition to the description of the technique, step by step, we include a review of the literature regarding its indications.

Results: After radical inguinal orchiectomy, all patients should have a complete metastatic evaluation with a CT scan. Staging ipsilateral retroperitoneal lymph node dissection (RPLND) is controversial because of the morbidity associated with the procedure. It is generally recommended for all patients aged \geq 10 years because they have a significant risk of lymph node relapse. In boys under 10yr it is reserved for those with enlarged lymph nodes suspicious of metastatic disease on CT scan. The result of RPLND can be also used to determinate adjuvant treatment. In general, radiotherapy is recommended in patients with lymph node involvement. For this procedure, transperitoneal technique is used, in the flank position, including a 12mm camera port, 3 robotic ports and 2 additional 5-12mm ports. We removed the gonadal vein, left common iliac lymph nodes, preaortic and paraortic LNs until the level of the inferior mesenteric artery, and interaortocaval nodes. The superior border of dissection was the left renal hilum and the lateral border was the ureter (being referenced from the beginning). Nerve sparing, specially of sympathetic chains and hypogastric plexus is essential to preserve ejaculation in these patients. In our case, the operative time was 180 minutes and the hospital stay was 7 days because a chylorrhea development. The pathology result was negative for 35 lymph nodes dissected, so the patient received only a 10-months chemotherapy. He is currently asymptomatic and with no evidence of tumor relapse.

Conclusions: In paratesticular rhabdomyosarcoma, retroperitoneal lymph node dissection is recommended in boys aged 10 years and in younger patients if enlarged lymph nodes are found on the CT scan. The robotic approach in experienced surgeons facilitates nerves preservation, which is essential to avoid ejaculatory disorders.