



Short communication

Left paraaortic, inframesenteric lymphadenectomy preserving the superior hypogastric plexus supported by indocyanine green (ICG) labeling of the lymphatic compartment in cervical cancer



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ARTICLE INFO

Article history:

Received 14 July 2016

Accepted 6 September 2016

Available online 14 September 2016

Keywords:

Robotic surgery

Indocyanine green

Uterine cancer

Paraaortic lymphadenectomy

Preservation of superior hypogastric plexus

Educational video

ABSTRACT

Superior hypogastric plexus (SHG) contains mainly sympathetic and most probably also postganglionic parasympathetic fibers. Thus, surgical damage of SHG may cause autonomic pelvic organ dysfunction (Kraima et al., 2015). As already shown for rectal cancer, preservation of the autonomic nerves is facilitated by robotic surgery and may avoid sexual dysfunctions and voiding disorders (Kim et al., 2015). In this educational video, we demonstrate left lower paraaortic lymph node dissection preserving the SHG using ICG fluorescence to label the lymphatic compartment.

Prior to total mesometrial resection (TMMR) with therapeutic lymphadenectomy for cervical cancer (Höckel et al., 2009; Kimmig et al., 2013) 4 × 0.5 ml of a 1.66 mg/ml Indocyanine green solution (ICG Pulsion®, PMS SE, Feldkirchen, Germany) was injected into the uterine cervix at all four quadrants, 0.5 cm in depth (Kimmig et al., 2016).

The lymphatic network of the downstream common iliac and inferior paraaortic lymph compartments of the uterine cervix is visualized (ICG fluorescence) including the individual connecting vessels between the different compartments. As can be demonstrated, the medial upper common iliac (subaortic) compartment drains preferentially into the anterior (mesenteric) compartment, whereas lateral common iliac lymphatic vessels mainly drain to the posterior (lumbar) paraaortic compartment. The autonomic nerve fibers of the SHP may easily be identified and preserved due to the excellent image resolution and the discrimination from fluorescent lymphatic structures. The video shows the preparation of left lower paraaortic nodes in cervical cancer following ICG labeling using a da Vinci Xi system®. This technique seems not only advantageous for preserving SHP, but even more highly educational to learn surgical anatomy for trainees.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <http://dx.doi.org/10.1016/j.gore.2016.09.002>.

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