

Editorial



The current status of laparoscopic and robotic para-aortic lymphadenectomy in gynecologic cancer surgery

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- ▶ See the article "A new technique of laparoscopic para-aortic lymphadenectomy optimizes perioperative outcome" in volume 32, e2.
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Para-aortic lymphadenectomy (PALN) has been performed for cervical, endometrial and ovarian/Fallopian tube cancer for the last three decades. The traditional open approach has been replaced largely by laparoscopic techniques since early studies in the 1990s reported less blood loss, less morbidity, shorter hospital stay, but a longer surgical duration. [1,2]. Enthusiasm for a minimal access approach has continued into the robotic era [3,4].

PALN can be performed via a transperitoneal or retroperitoneal approach. A transperitoneal approach is associated with difficulties secondary to visceral obstruction. Furthermore, it is less easy to access the left sided supra-mesenteric nodes. It is however possible to inspect the abdomino-pelvic cavity, take peritoneal washings and perform visceral biopsies. The technique described by Yonghong et al. [5] overcomes the challenges of visceral obstruction and supra-mesenteric access by a simple method of peritoneal tenting through to the anterior abdominal wall. The method described is simple and cheap. The retro-peritoneal approach has been hypothesised as having more lymphocysts and being associated with difficulties secondary to inadvertent peritoneal rupture and loss the of the pneumo-retroperitoneum. However, it has the advantage of better access to the upper chain of nodes, less visceral interference with dissection, perhaps less bowel injuries, and the ability to avoid a Trendelenburg position. The report by Shiori et al. [6] details a method of approaching the para-aortic region retroperitoneally using the da Vinci robot and a bipolar cutting technique to ensure lymphostasis. The techniques for performing PALN have been modified and refined over the years with some authors reporting new port placements and energy devices [7]. The two recent articles demonstrate further refinements in techniques [5,6].

The learning curve for a PALN varies between 20 and 100 cases depending on which outcome you look at (time or lymph node count) [1,5]. Any new variation in a procedure might increase the duration of an operation at the beginning and may also increase the risk of complications. The risks of PALN dissection are numerous and include, chylous ascites, lymphoedema, symptomatic lymphocysts, hypogastric plexus injury, visceral damage, vessel damage, and even peri-operative death. This has to be weighed up against the oncological efficacy for performing the procedure.

For epithelial ovarian cancer, somewhere between 11% and 24% of women with apparent stage 1 or 2 disease will be found to have positive nodes following a PALN [8,9]. Knowledge of lymph node status might influence treatment but it is not necessarily true that upstaging a patient would influence the need for chemotherapy as most women with stage 1c disease or over would receive adjuvant treatment anyway [10]. Although it is advocated to remove bulky macroscopically diseased lymph nodes, the systematic removal of clinically normal lymph nodes shows no benefit in overall or disease-free survival but is associated with an increase in serious complications [11].

The role of systematic PALN is controversial in endometrial cancer too. The presence of involved para-aortic lymph nodes can be as high as 25% of high-grade cases with deep myometrial invasion [12]. However, isolated para-aortic lymph node metastases exist only in about 2% of cases [13] and sentinel lymph node mapping could potentially be used to identify most of these cases along with imaging to reduce the morbidity of PALN. The whole role of lymphadenectomy (pelvic and para-aortic) in endometrial cancer is controversial. One large study examining the Surveillance, Epidemiology, and End Results (SEER) database demonstrated improved survival with a greater extent of lymphadenectomy in high grade cancers [14] but a meta-analysis of randomised controlled trials found no survival benefit for lymphadenectomy yet an increased complication rate [15].

In cervical cancer, the presence of lymph node metastases is usually an indication for chemo-radiotherapy [12]. However, surgical assessment of lymph nodes has been advocated to assess the need for extended field radiotherapy in radiologically advanced disease. Evidence from a randomised controlled trial suggest that surgical lymph node assessment has more complications than imaging and if anything has a worse prognosis over the use of imaging alone [16]. More recently, there has been some controversy over the whole efficacy of managing cancers via a minimal access approach with concerns over survival [17-19]. Undoubtedly, this requires some reflection as to where the whole role for PALN lies in the era of improved imaging and alternative treatment modalities.

Where the place for PALN in gynecologic oncology will be in the future remains uncertain. Although it is likely to have some role, the complications are high and case selection will be important. Improvements in technique are important but the advent of sentinel lymph node dissection, and improvements in magnetic resonance imaging and positron emission tomography may result in a reduction in the utilisation of PALN as an intervention.

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