



Immediate lymphatic reconstruction: the time is right to prevent lymphedema following lymphadenectomy for vulvar cancer

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Lower extremity lymphedema, characterized by accumulation of interstitial fluid, soft tissue swelling, and chronic inflammation, remains a common complication after lymphadenectomy performed in the setting of gynecologic cancer.¹ While the overall incidence of lower extremity lymphedema is approximately 25%, rates vary depending on which lymph node basin is interrupted and the number of lymph nodes removed. Inguinofemoral lymph node dissection, performed in conjunction with vulvar cancer surgery, is associated with the highest rate of lower extremity lymphedema, with rates approaching 75% in studies assessing patient reported symptoms.²

Sentinel lymph node mapping, now an accepted standard for determining nodal status in vulvar cancer, is one technique that has resulted in a significant reduction in lower extremity lymphedema.³ Despite this, complete inguinofemoral lymph node dissection may still be indicated, especially for vulvar tumors ≥ 4 cm, multifocal disease, and suspicious groin lymph nodes. Several reconstructive techniques may be used with the goal of reducing, although not eliminating, lymphedema. These include lymphatic-lymphatic bypass (anastomosis of lymphatics), lymphovenous bypass (anastomosis of afferent lymphatics to the venous circulation), and vascularized lymph node transfer among others.¹

Immediate lymphatic reconstruction aims to prevent lymphedema from developing, and involves lymphovenous bypass at the time of lymphadenectomy. A 2018 systematic review of 12 studies across tumor types and inclusive of axillary and groin lymphadenectomies showed a relative risk of 0.33 of developing lymphedema in patients undergoing immediate lymphatic reconstruction.⁴ Morotti et al found that immediate lymphatic reconstruction in patients with vulvar cancer undergoing inguinofemoral lymph node dissection had a 17% reduction in lower extremity lymphedema.⁵

For successful immediate lymphatic reconstruction, the gynecologic oncology and reconstructive teams need to be experienced, have a shared goal, and a collaborative spirit. The learning curve requires patience and adaptability. The reconstructive team need supermicrosurgery instrumentation, a high quality microscope, indocyanine green fluorescence imaging technology, and

the requisite training for lymphatic reconstruction. There are nuances in the node dissection, such as preserving veins and dissecting the nodal packet from cephalad to caudal. Tagging the lymphatics is delicate, and methods to avoid miscounts of tiny vascular clamps are essential. The oncologic team must pause at certain intervals to permit imaging and to protect venous and lymphatic channels. Long term outcomes need to be evaluated not only with volumetry and lymphatic imaging, but also with attention to patient reported outcome measures which go hand in hand in assessing the efficacy of treatment.

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