

# Lymphovascular invasion (Core)

## Reason/Evidentiary Support

The presence or absence of lymphovascular invasion should be mentioned if carcinoma is clearly identified within endothelial-lined spaces. This must be carefully distinguished from retraction artefacts. It is not necessary to distinguish between small lymphatics and venous channels. While the presence of nodal metastases indicates that lymphatic invasion must be present, this element should only be reported as positive when lymphovascular invasion is identified microscopically in the primary tumour specimen. Otherwise it should be listed as “not identified”. Several retrospective studies on surgically-treated oropharyngeal squamous cell carcinoma show a statistically significant decrease in prognosis for patients with lymphovascular space invasion, independent of other clinical and pathologic features.<sup>1-5</sup> The presence of lymphovascular invasion may impact decisions on therapy. If it is the only risk factor present, then by American Society for Radiation Oncology (ASTRO) guidelines it may be used to advise post-operative radiation after careful discussion of patient preference.<sup>6</sup>

## References

- 1 Sinha P, Kallogjeri D, Gay H, Thorstad WL, Lewis JS, Jr., Chernock R, Nussenbaum B and Haughey BH (2015). High metastatic node number, not extracapsular spread or N-classification is a node-related prognosticator in transorally-resected, neck-dissected p16-positive oropharynx cancer. *Oral Oncol* 51(5):514-520.
- 2 Haughey BH and Sinha P (2012). Prognostic factors and survival unique to surgically treated p16+ oropharyngeal cancer. *Laryngoscope* 122 Suppl 2:S13-33.
- 3 de Almeida JR, Li R, Magnuson JS, Smith RV, Moore E, Lawson G, Remacle M, Ganly I, Kraus DH, Teng MS, Miles BA, White H, Duvvuri U, Ferris RL, Mehta V, Kiyosaki K, Damrose EJ, Wang SJ, Kupferman ME, Koh YW, Genden EM and Holsinger FC (2015). Oncologic Outcomes After Transoral Robotic Surgery: A Multi-institutional Study. *JAMA Otolaryngol Head Neck Surg* 141(12):1043-1051.
- 4 Rahima B, Shingaki S, Nagata M and Saito C (2004). Prognostic significance of perineural invasion in oral and oropharyngeal carcinoma. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 97(4):423-431.
- 5 Iyer NG, Dogan S, Palmer F, Rahmati R, Nixon IJ, Lee N, Patel SG, Shah JP and Ganly I (2015). Detailed Analysis of Clinicopathologic Factors Demonstrate Distinct Difference in Outcome and Prognostic Factors Between Surgically Treated HPV-Positive and Negative Oropharyngeal Cancer. *Ann Surg Oncol* 22(13):4411-4421.
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