

Perineural invasion (Non-core)

Perineural invasion has been specifically evaluated by several retrospective studies, which demonstrated an association with significantly shorter overall survival and disease-free survival in patients with vulvar squamous cell carcinoma.¹⁻³ Perineural invasion is also an independent predictor of local recurrence based on multivariate analysis in two studies.^{3,4}

Immunohistochemistry was used as an adjunct to identify perineural invasion in several studies which showed its prognostic value,²⁻⁴ either by S100 alone or dual immunohistochemistry with S100 and AE1/3. Immunohistochemistry may be useful to assist with cases that are morphologically inconclusive or suspicious for perineural invasion.

References

- 1 Salcedo MP, Sood AK, Dos Reis R, Ramalingam P, Chen C, Frumovitz M, Jhingran A, Pitcher B, Ramirez PT and Schmeler KM (2019). Perineural invasion (PNI) in vulvar carcinoma: A review of 421 cases. *Gynecol Oncol* 152(1):101-105.
- 2 Long Y, Yao DS, Wei YS, Wei CH and Chen XY (2019). Prognostic significance of perineural invasion in vulvar squamous cell carcinoma. *Cancer Manag Res* 11:4461-4469.
- 3 Ferrari F, Forte S, Ardighieri L, Bonetti E, Fernando B, Sartori E and Odicino F (2019). Multivariate analysis of prognostic factors in primary squamous cell vulvar cancer: The role of perineural invasion in recurrence and survival. *Eur J Surg Oncol* 45(11):2115-2119.
- 4 Holthoff ER, Jeffus SK, Gehlot A, Stone R, Erickson SW, Kelly T, Quick CM and Post SR (2015). Perineural Invasion Is an Independent Pathologic Indicator of Recurrence in Vulvar Squamous Cell Carcinoma. *Am J Surg Pathol* 39(8):1070-1074.