

Histological tumour grade (Core)

Grade (differentiation) of the tumour contributes to pathological staging or pathological prognostic grouping.¹

The 5th Edition of the World Health Organization (WHO) classification has defined the morphological criteria for grading of adenocarcinoma and squamous cell carcinoma.²

In adenocarcinoma, grade 1 is defined as adenocarcinoma with >95% of the carcinoma with well-formed glands; grade 2 with 50% to 95% with well-formed glands; grade 3 is <50% with glandular formation.³

In squamous cell carcinoma, grade 1 to grade 3 depends on the amount of keratin pearls, cytological atypia, mitotic activity and proportion of basaloid cells.⁴

The three-tiered grading is preferred to the two-tiered system as each grade may have an impact on early staged oesophageal cancers not treated by pre-operative adjuvant therapy based on American Joint Committee on Cancer (AJCC) stage grouping.

It is acknowledged that after neoadjuvant therapy, it may be difficult to grade the carcinoma. However, this does not impact pathological staging.

Histological tumour grade is applicable to squamous cell carcinoma and adenocarcinoma only.

References

- 1 Amin MB, Edge SB, Greene FL, Byrd DR, Brookland RK, Washington MK, Gershenwald JE, Compton CC, Hess KR, Sullivan DC, Jessup JM, Brierley JD, Gaspar LE, Schilsky RL, Balch CM, Winchester DP, Asare EA, Madera M, Gress DM and Meyer LR (eds) (2017). *AJCC Cancer Staging Manual. 8th Edition*, Springer, New York.
- 2 Odze RD, Lam AK, Ochiai A and Washington MK (2019). Tumours of the oesophagus. In: *Digestive System Tumours. WHO Classification of Tumours, 5th Edition.*, Lokuhetty D, White V, Watanabe R and Cree IA (eds), IARC Press, Lyon.
- 3 Lam AK (2018). Application of pathological staging in esophageal adenocarcinoma. *Methods Mol Biol* 1756:93-103.
- 4 Lam AK (2020). Application of pathological staging in esophageal squamous cell carcinoma. *Methods Mol Biol* 2129:19-31.