

Histological tumour grade (Core)

According to the World Health Organization (WHO) Classification of Tumours, Digestive System Tumours, 5th edition, 2019, histological tumour grading applies primarily to tubular and papillary adenocarcinomas.¹ The WHO Classification recommends a two-tiered system: low grade (well and moderately differentiated) and high grade (poorly differentiated).¹ The Carcinoma of the Stomach Dataset Authoring Committee recommends the two-tiered WHO grading system because both well and moderately differentiated tumours are considered differentiated and this grading system is highly reproducible.

However, it is noted that a three-tiered system is recommended by the Union for International Cancer Control²/American Joint Committee on Cancer (AJCC)³ 8th edition Staging Systems as follows:

- G1: Well differentiated
- G2: Moderately differentiated
- G3: Poorly differentiated, undifferentiated

The AJCC 8th edition Staging System also recommends that the highest grade is recorded if there is evidence of more than one grade or level of differentiation of the tumour.³

Histopathological grading is not independently related to patient survival after R0 resection; however, poor histopathological grade is associated with high rate of R1 and R2 resections.⁴ Assessment of histological grade may not be feasible in gastric cancers with prominent treatment response.

References

- 1 Lokuhetty D, White V, Watanabe R and Cree IA (eds) (2019). *Digestive System Tumours. WHO Classification of Tumours, 5th Edition.*, IARC Press, Lyon, France.
- 2 Brierley JD, Gospodarowicz MK and Wittekind C (eds) (2016). *Union for International Cancer Control. TNM Classification of Malignant Tumours, 8th Edition*, Wiley, USA.
- 3 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.
- 4 Inoue K, Nakane Y, Michiura T, Nakai K, Iiyama H, Sato M, Okumura S, Yamamichi K and Hioki K (2002). Histopathological grading does not affect survival after R0 surgery for gastric cancer. *Eur J Surg Oncol* 28(6):633-636.