

ICS-Czech Joint Symposium

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[ICS] ICS-Czech Joint Symposium Various Approaches in Colorectal Surgery

Moderator:Kotaro Maeda(Oumeimai Hospital), Karel Novák(Czech section of ICS / 1st World Vice President of ICS)

[ICS-1] Tumor budding in colorectal cancer: an overview of the issue and institutional experience with a focus on histopathological methods of assessment

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Background: Tumor budding is a well-established independent adverse prognostic marker of colorectal cancer, but methods for its assessment have varied considerably in the past. There is currently controversy regarding the role of immunohistochemistry in the scoring of tumor budding.

Objectives: The aim of the study was to compare the hematoxylin-eosin staining with pankeratin AE1/AE3 immunostaining in the assessment of tumor budding in colorectal cancer.

Methods: The study included 50 patients who underwent bowel resection for colorectal cancer in stages pT1 to pT4 between 2020 and 2023 in one institution. Two serial sections from each tumor sample were stained with hematoxylin-eosin and pankeratin, and tumor budding score was assessed according to recommendations based on the 2016 International Tumor Budding Consensus Conference. Subsequently, a correlation between the tumor budding score and the tumor grade was performed.

Results: In hematoxylin-eosin stained slides, Bud1, Bud2, and Bud3 categories were detected in 23/50 (46%), 23/50 (46%), and 2/50 (4%) cases, respectively. AE1/AE3 immunostaining revealed the Bud1 category in 17/50 (34%) cases, the Bud2 category in 28/50 cases (56%), and the Bud3 category in 3/50 cases (6%). Hematoxylin-eosin staining detected an overall degree of correlation of 0.7 between tumor budding category and corresponding tumor grade (specifically 0.78 for the Bud1/G1 category, 0.82 for the Bud2/G2 category and 0.5 for the Bud3/G3 category).

Conclusion: Our study did not demonstrate markedly improved reproducibility in the assessment of tumor budding with immunohistochemistry compared to hematoxylin-eosin. Immunohistochemistry can be helpful in challenging cases such as glandular fragmentation or strong peritumoral inflammation.