Topic : Biliary & Pancreas

## CLINICAL SIGNIFICANCE OF MICROSCOPIC BILE DUCT INVASION IN AMPULLA OF VATER CANCER PATIENTS: A RETROSPECTIVE MULTI INSTITUTIONAL STUDY

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**Background** : Contrary to pancreas invasion, microscopic bile duct invasion (MBDI) is not incorporated in the staging of Ampulla of Vater (AoV) cancer. Although MBDI has been implicated as a potential prognostic factor in ampulla of Vater cancer, its clinical relevance remains underexplored. This study aimed to evaluate the clinical impact of MBDI on survival in AoV cancer patients.

**Methods** : We reviewed the medical records of patients who underwent curative-intent surgical resection for ampulla of Vater cancer between 2010 and 2024 from 3 tertiary centers. Clinicopathological variables and perioperative and survival outcomes were evaluated. Patients were categorized into MBDI-positive and MBDI-negative groups, and associations with pathological characteristics, recurrence patterns, and survival outcomes were examined.

**Results** : Among 156 patients, MBDI was observed in 25% of patients and was significantly correlated with unfavorable clinicopathological features, including advanced T stage, lymphovascular invasion and perineural invasion (p < 0.05). Patients with MBDI exhibited significantly reduced overall survival (mean, 43.3 months vs. 56.2 months) and disease-free survival (mean, 35.7 months vs. 48.3 months). Multivariate Cox regression analysis identified MBDI as an independent predictor of worse overall survival (hazard ratio, 2.9; 95% CI, 1.2-6.9).

**Conclusions** : These findings underscore the prognostic significance of MBDI in ampulla of Vater cancer, suggesting its role as an indicator of aggressive tumor behavior. Incorporating MBDI assessment into routine pathological evaluation may enhance risk stratification and inform personalized treatment strategies. Further research is warranted to elucidate the underlying mechanisms of MBDI and evaluate its potential as a therapeutic target.

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