Background/Aims: Endoscopic treatment of ampullary adenomas has been established. However, false-negative rate of endoscopic biopsy for carcinoma is 20-30% and it remains uncertain if identifiable features predict malignancy. The purpose of this study was to evaluate the predictable factors of malignancy in ampullary adenomas on endoscopic biopsy.

Methods: Between 1994 and 2011, 90 ampullary adenomas were diagnosed by endoscopic biopsy. Among them, 66 adenomas were confirmed but 24 carcinomas were revealed after endoscopic or surgical resection. Various clinical, laboratory, radiological, and endoscopic findings were compared between the adenoma and carcinoma groups after resection.

Results: Univariate analysis revealed that the presence of symptoms, villous components, high grade dysplasia, papilla enlargement or duct dilatation on radiologic imaging, bilirubin>2 mg/dL, AST>40 IU/L, ALT>40 IU/L, ALP>90 U/L, amylase>100 U/L, and unexposed morphology were significantly associated with malignancy. High grade dysplasia (OR 13.958 [95% CI, 2.367-82.302]) and ductal dilatation (OR 7.039 [95% CI, 1.089-45.485]) were independently associated with malignancy in multivariate analysis. Fourteen (56%) of 25 patients with high grade dysplasia on endoscopic biopsy were revealed as carcinoma after resection.

Conclusions: The malignancy rate in ampullary adenomas on endoscopic biopsy was 26.6%. Adenoma with high grade dysplasia and ductal dilatation are significant predictors of malignancy in the ampullary adenoma.

Key Words: Ampullary adenoma; Carcinoma; Endoscopic biopsy