

## ORIGINAL ARTICLE

# The importance of choice of resection procedures in T1 and T2 stage of carcinoma of the ampulla of Vater

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## Summary

**Purpose:** The ampulla of Vater (AV), with its strategic location and its remarkable predisposition to the development of various malignant tumors, makes it very challenging for surgery. In this study we aimed to examine the prognostic factors in the treatment of early-stage carcinoma of the AV as well as to contribute to the choice of optimal surgical procedure.

**Methods:** We analyzed 109 AV patients, hospitalized at the Clinical Center of Serbia from January 1999 to December 2008 and we compared the clinicopathological features, analyzed intra- and postoperative data, recurrences and survival, according to duodenopancreatectomy (DP) or local resection (LR).

**Results:** DP was performed in 83 and LR in 26 patients. Overall survival (OS) was significantly influenced by the pathological (p) tumor stage (pT1/T2 vs pT3/T4), pathological nodal stage (pN0 vs pN1), perineural and vascular invasion, grade of tumor differentiation (G1 vs G3), and resection margin status (R0 vs R1). Kaplan-Meier analysis

showed 64% 5-year overall survival of patients with pT1/T2 stage in the group with DP, and 58% in the group with LR ( $p>0.05$ ). Survival analysis of pN1 patients in these two groups showed statistically significant difference (DP 49.67 vs LR 28.68 months,  $p<0.05$ ). Postoperative complications occurred more frequently in patients treated with DP, compared with LR. Tumor recurrence occurred in 23.07% of LR patients and in 4.0% of DP patients, in pT1/T2 stage. The rate of in-hospital mortality was not significantly different in DP (9.78%) vs LR (0%) patients ( $p>0.05$ ).

**Conclusion:** Resection is mandatory for all proven AV tumors, and DP is the treatment choice. LR, due to reduced morbidity and mortality, might be recommended in elderly patients with comorbidities and in patients with stage pT1/T2, pN0 and well differentiated (G1,G2) tumors.

**Key words:** ampulla of Vater, carcinoma, duodenopancreatectomy, local resection

## Introduction

The AV is a complex functional structure formed by the joining of the pancreatic duct and the common bile duct. Various benign and malignant tumors can occur in this region, the most common being adenocarcinomas. They may arise from the pancreatic and biliary epithelium or the epithelium of the common duct [1]. In autopsy series, the incidence of cancer of AV ranged from 0.028 to 0.040%, which is 6-8% of all periamp-

ullary tumors, and less than 3% of the digestive system neoplasms [2,3]. Specific biological behavior, causing stronger local growth and less pronounced lymphatic dissemination, provides a significantly better prognosis than carcinomas of the pancreas and distal common bile duct [4]. Such biological properties coupled with earlier detection of the tumors, enable resectability rate of up to 90% [5-8]. The current research shows 5-year

















