

Resection Margin Involvement in Pancreaticoduodenectomy. A Single Centre Experience

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Context Rates of microscopic margin involvement (R1), after pancreaticoduodenectomy for periampullary cancer, vary markedly from 16% to more than 75%. One of the reasons is the lack of international consensus protocol for the pathological examination. **Objectives** To evaluate the rates of R1 in patients undergoing pancreaticoduodenectomy for periampullary malignancy after the application of a standardized protocol of specimen's margination. **Methods** From January 2010 to May 2012 data regarding 71 patients (Group A) undergoing pancreaticoduodenectomy for periampullary cancer, were collected in a prospective database. In all patients the histological examination was carried out according of a standardized protocol of specimen's margination. R1 was defined as the presence of microscopic involvement <1 mm from the margin. The rate of R1 was compared with a historical cohort of 23 patients (Group B), undergoing pancreaticoduodenectomy for periampullary cancer without a standardized protocol of margination. The statistical analysis was carried out by using the Fischer exact test, the Pearson chi square

test, the t-test and the logistic regression. **Results** The two groups were similar regarding sex, age, type and extension of resection and histological data (T, N, type of tumor). R1 rate was statistically significant higher in Group A than Group B (89.2% vs. 66.7%, P=0.015). The logistic regression, conducted for all patients, showed that presence of ductal adenocarcinoma or cholangiocarcinoma and T status increased significantly the risk of R1 (OR=41.4, P=0.004 and OR=6.3, P=0.050, respectively). The multivariate analysis including the type of margination showed that also the application of a standardized margination protocol was an independent factor related to R1 (OR=4.3; P=0.030). **Conclusion** Lack of standardization of pathological examination and controversy regarding the definition of microscopic margin involvement have resulted in variation of reported R1 rates. Margin involvement in pancreatic cancer is a frequent and prognostically significant finding when specimens are assessed using a standardized protocol of specimen's margination.