

Definition of a Standardized Pathway in Pathological Examination of Pancreaticoduodenectomy (PD) Surgical Specimen in a High Volume Surgical Centre: Improvement in Pathological Reporting Quality Indexes

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Context Curative (R0) resection is considered a prognostic key factor among patients undergoing surgery for pancreatic ductal adenocarcinoma (PDAC). Although guidelines for the processing of PD specimens have been established, there is currently no widely accepted standard protocol, resulting in large variation of reported R1 and lymph-nodes rates; it ultimately precludes meaningful comprehension of clinicopathological correlation usually leading to therapeutic decisions.

Objective Definition of a standardized pathway in processing of surgical specimens after pancreaticoduodenectomy (PD) for PDAC in a referral centre for pancreatic disease and evaluation of its impact on pathological analysis quality indexes. **Methods** Between January 2010 and May 2013 we performed 206 PD, of which 108 for PDAC; invasive IPMN (n=12) and neoadjuvant CT patients (n=8) were excluded. On overall 88 patients were then included in the present study: we realized a comparison between a control group of patients, treated between 2010 and 2011 (n=39), and a group composed by patients who underwent surgery between 2012 and 2013 (n=49), when a standardized pathway for specimen processing was defined: setting up of a selected group of dedicated pathologists, highly interactive with surgical team and guided by a senior pathologist acting as a tutor

on specimen sampling; creation of a standard report form comprising all resection margins; frequent re-sampling of surgical specimens; external tutoring if necessary. **Results** R1% in the whole group of patients (n=88) was 34.1%; in the first group, however, it was 17.9%, while in the later it increased to 46.9% (P=0.004); the improving detection of margin infiltration is further highlighted by the R1% observed in the last months (Jan-May 2013), equal to 73.3%. Median number of lymph-nodes derived from surgical specimen was 15 (range: 1-31) in the first group, while in the second group it increased to 21 (range: 7-47)(P<0.001 at Wilcoxon test). In a similar way N1% increased from 64.1% to 83.7% (P=0.035) between first and second period. Inadequate node sampling (less than 12, according to AJCC/TNM) decreased from 23.1% (n=9) to 2.0% (n=1) (P=0.001). **Conclusions** As several authors suggested, R1% in PDAC surgery should be considered a pathological examination quality index, instead of a parameter regarding pure surgical technique; N1% and total lymph-node number hold a similar value. A structured pathway regarding specimen analysis, able to guarantee an high quality output, is an essential facility in a pancreatic surgery referral centre.