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Inflammatory marker as a prognostic value in intraductal papillary mucinous neoplasm

Hongbeom Kim[1,2], Chang-Sup Lim[3], In Woong Han[4], Yong Chan Shin[5], Min-Gu Oh[2], Hae Won Lee[3], Jin Seok Heo[4], Seong Ho Choi[4] and Dong Wook Choi[4]

[1]*Department of Surgery, Seoul National University Hospital, Seoul National University College of Medicine*

[2] *Department of Surgery, Dongguk University Ilsan Hospital, Dongguk University College of Medicine*

[3]*Department of Surgery, Boramae Hospital, Seoul National University College of Medicine*

[4]*Department of Surgery, Samsung Medical Center, Sungkyunkwan University School of Medicine*

[5]*Department of Surgery, Ilsan Paik Hospital, Inje University College of Medicine*

Purpose: Several inflammatory marker were identified as prognostic value in various diseases. The purpose of this study was to identify inflammatory marker as a predicting value for invasiveness in intraductal papillary mucinous neoplasm (IPMN).

Methods: From April 1995 to December 2017, 468 patients were confirmed pathologically as IPMN after pancreatic resection at 4 university hospitals in South Korea, excluding pancreatitis pre-operatively. Neutrophil lymphocyte ratio (NLR), platelet lymphocyte ratio (PLR), and advanced lung cancer inflammation index (body mass index (BMI) x albumin / NLR, ALI) were calculated.

Results: Median age of 468 patients was 64 years old and male was 67.5%. Low grade dysplasia, intermediate dysplasia and high grade dysplasia were 34.2%, 33.3% and 7.7%, respectively. Invasive IPMN was 24.8%. Clinical and pathological parameters were compared between non-invasive IPMN (352, 75.2%) and invasive IPMN (116, 24.8%). In invasive IPMN, BMI was higher (p=0.044), sized was larger (0.017) and main duct type was more common (p<0.001) than non-invasive IPMN. Median value of NLR (1.7 vs 1.8, p=0.029) and PLR (110.2 vs 118.2 p=0.012) were higher in invasive IPMN and median ALI was lower in invasive IPMN (58.7 vs 49.5, p<0.001). In multivariate analysis, NLR more than 3 (p=0.043) and ALI below 30 (p<0.001) were correlated with invasive IPMN statistical significantly.

Conclusion: Inflammatory marker, NLR and ALI were useful tool to predict invasiveness of IPMN