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The risk factors of new onset diabetes mellitus following distal pancreatectomy : The ideal candidate for active surveillance

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Introduction : In pancreatic resection, the focus has been mainly on the oncologic safety, however, the endocrine function of the remnant pancreas also should be considered due to relatively longer life expectancy of the patients with benign or borderline malignant pancreatic tumor. We investigated risk factors for occurring new onset diabetes mellitus(NODM) after distal pancreatectomy(DP).

Methods : Total 205 patients were diagnosed with benign or borderline malignant tumor of the pancreas and underwent DP from 2005 to 2019 in Severance hospital, Seoul, Korea. The patients diagnosed with NODM postoperatively under American Diabetes Association(ADA) guidelines were included to DM group(n=51), and other patients were included in non-DM group(n=154). Preoperative characteristics and surgical outcomes were compared between two groups. We investigated risk factors for occurring NODM by univariate and multivariate analysis and analyzed cumulative NODM ratio by time sequence.

Results : Age(DM: 55.3±12.3 vs non-DM: 47.6±15.2, p<0.001) and BMI(DM: 24.1±3.4 vs non-DM: 23.0±3.1, p=0.026) were significantly higher in DM group than non-DM group. DM group showed more operation time(p=0.033), more blood loss(p=0.024), and more extended range of pancreatectomy(neck level resection. DM 51.0% vs non-DM 26.6%, p=0.002). Pathologic and postoperative outcomes did not differ between the two groups. Age over 50(p=0.001), pancreatectomy on neck level(p=0.003), underline chronic pancreatitis(p=0.039) and blood loss(p=0.019) remained significant risk factors for NODM in multivariate analysis. About half of the NODM patients were diagnosed within 1 year postoperatively.

Conclusions : The patients who underwent distal pancreatectomy with high risk of NODM should be actively under surveillance for at least 1 year postoperatively.

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