

What are the Risk Factors for Non-Alcoholic Fatty Liver Disease after Pancreatoduodenectomy?

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Abstract

Background: Although hepatic steatosis is often observed after pancreatoduodenectomy (PD), its preoperative clinical features remain unclear. This study focused on the risk factors for non-alcoholic fatty liver disease (NAFLD) after PD.

Methodology: Between April 2008 and June 2011, 100 patients underwent subtotal stomach-preserving PD (SSPPD) for pancreatic head or periampullary diseases. We divided the patients into two groups: a NAFLD group (NA group) and a non-NAFLD group (non-NA group). We compared risk factors such as BMI, blood parameters, blood cell count and trace elements (Fe, Zn, Cu and pre-albumin) in the serum between the two groups. NAFLD was defined as being present when the HU value was less than 40 or when the spleen/liver HU ratio was more than 1.5 on the basis of abdominal CT three months after surgery.

Results: Twenty-seven of the 100 (27.0%) patients had NAFLD within three months after surgery. Univariate analysis selected age, reconstruction for Gastrojejunostomy, the pre-operative Alb, AST, ALT, Fe, and Zn levels as risk factors for NAFLD. At multivariate analyses, only preoperative Fe level was a risk factor for NAFLD (odds ratio 1.052; 95% C.I. 1.457-29.663; p=0.034).

Conclusions: Preoperative serum Fe level is the only independent risk factor for NAFLD after PD.

Key words: pancreatoduodenectomy (PD), iron (Fe), zinc (Zn), non-alcoholic fatty liver disease (NAFLD)