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Comparison Of Short Term Surgical Outcomes According To Immediate Postoperative Serum Glucose Level In Non-diabetic Pancreatic Resection Patients

Okjoo LEE¹, Woo Hyun JUNG², So Jeong YOON¹, Ji Hye JUNG¹, Sang Hyun SHIN¹, Jin Seok HEO¹, Yong Chan SHIN³, Chang-Sup LIM⁴, In Woong HAN^{*1}

¹HBP Surgery, Samsung Medical Center, REPUBLIC OF KOREA

²Surgery, Ajou University Medical Center, REPUBLIC OF KOREA

³Surgery, Ilsan Paik Hospital, REPUBLIC OF KOREA

⁴Surgery, Seoul Metropolitan Government-Seoul National University Boramae Medical Center, REPUBLIC OF KOREA

Background : Regulation of postoperative blood glucose level has been shown better prognosis in many studies and it is becoming widely accepted as the standard patient management strategy for general surgery including pancreatic surgery. However, impact of regulation of blood glucose level in major pancreatic surgery patients who were not diagnosed with diabetes is not established currently. The purpose of this study was to discuss the relevance of the immediate postoperative blood glucose level and short term postoperative outcomes of major pancreatic surgery in non-diabetic patients.

Methods : There were 2259 non-diabetic patients underwent major pancreatic surgery between January 2007 and December 2016 at four tertiary medical center in South Korea. Based on a blood sugar level of 200 mg/dL, a diagnosis criteria of diabetes, patients were classified into two groups by averaging the results of four blood glucose tests on the first day after surgery. And their short term postoperative outcomes were analyzed retrospectively.

Results : Patients were divided into two groups, high blood glucose level group (n = 568) and normal blood glucose level group (n = 1691). There was significant higher in above level C Clavian-Dindo classification of surgical complication rates (19.8% vs 24.1%, P = 0.031) and re-operation rate (2.5% vs 4.2%, P = 0.047) in the high blood glucose level groups. And logistic regression analysis showed that blood glucose level of more than 200 mg/dL was associated with significantly high risk of above level C Clavian-Dindo classification after adjusting for other risk factors. (HR = 1.324, 95% CI = 1.048 - 1.672, P = 0.019)

Conclusions : Less than 200 mg/dL of blood glucose level control at 1 day after major pancreatic surgery for non-diabetic patients could be helpful in reducing postoperative complications.

Corresponding Author : **In Woong HAN** (cardioman76@gmail.com)