

BP OP 2-3**Clinical validation of scoring systems of postoperative pancreatic fistula after pancreatoduodenectomy : Applicability to Eastern cohorts?**

Jae Seung KANG¹, Taesung PARK², Youngmin HAN¹, Seungyeon LEE³, Jae Ri KIM¹, Hongbeom KIM¹, Wooil KWON¹, Sun-Whe KIM¹, Jin Seok HEO⁴, Dong Wook CHO⁴, Song Cheol KIM⁵, Tae Ho HONG⁶, Dong Sup YOON⁷, Joon Seong PARK⁷, Sang Jae PARK⁸, Sung-Sik HAN⁸, Sae-Byeol CHO⁹, Joo Seop KIM¹⁰, Jin-Young JANG¹

¹*Surgery and Cancer Research institute, Seoul National University College of Medicine, Korea*

²*Statistics and Interdisciplinary Program in Biostatistics, Seoul National University, Korea*

³*Mathematics and Statistics, Sejong University, Korea*

⁴*Surgery, Samsung Medical Center, Sungkyunkwan University School of Medicine, Korea*

⁵*Hepatobiliary and Pancreatic Surgery, Ulsan University College of Medicine and Asan Medical Center, Korea*

⁶*Surgery, Seoul St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Korea*

⁷*Surgery, Gangnam Severance Hospital, Yonsei University College of Medicine, Korea*

⁸*Liver Cancer Center, National Cancer Center, Korea*

⁹*Surgery, Korea University Guro Hospital, Korea University College of Medicine, Korea*

¹⁰*Surgery, Kangdong Sacred Heart Hospital, Hallym University College of Medicine, Korea*

Introduction : Although several prediction models for the occurrence of postoperative pancreatic fistula (POPF) after pancreatoduodenectomy (PD) exist, all were established using Western cohorts. Large-scale external validation studies in Eastern cohorts that consider demographic variables including lower body mass index (BMI) are scarce. The purpose of this study was to externally validate POPF prediction models using nationwide large-scale Korean cohorts.

Methods : Nine tertiary university hospitals in the Republic of Korea participated. Patients' preoperative characteristics, intraoperative factors, and pathologic findings were evaluated. POPF grades were determined according to the 2016 International Study Group on Pancreatic Surgery definition. Three POPF risk models (Callery, Roberts, and Munroop) were selected for external validation.

Results : A total of 1898 PD patients were enrolled. A non-pancreatic disease diagnosis (hazard ratio [HR], 1.856; 95% confidence interval [CI], 1.223–2.817; $P = 0.004$), higher preoperative BMI (HR, 1.069; 95% CI, 1.019–1.121; $P = 0.006$), and soft pancreatic texture (HR, 1.859; 95% CI, 1.264–2.735; $P = 0.002$) were independent risk factors for clinically relevant POPF. The area under the receiver operating characteristic curve (AUC) values were 0.61, 0.64, and 0.63 on the Callery, Roberts, and Munroop models, respectively; all were lower than those published in each external validation study.

Conclusions : Western POPF prediction models performed less well when applied to Korean cohorts. Thus, a large-scale Eastern-specific and externally validated POPF prediction model is needed.

Corresponding Author. : **Jin-Young JANG** (jangjy4@snu.ac.kr)