The effects of dilation with different sizes on post-endoscopic retrograde cholangiopancreatography pancreatitis after small biliary sphincterotomy

Wenbo Meng[*1,2], *Ping Yue*[*1,2], *Xun Li*[#2,3]

[1]Department of Special Minimally Invasive Surgery, The First Hospital of Lanzhou University, Lanzhou, China
[2]Hepatopancreatobiliary Surgery Institute of Gansu Province; Key Laboratory of Biological Therapy and Regenerative Medicine Transformation Gansu Province, Lanzhou, China
[3]The Fifth Department of General Surgery, The First Hospital of Lanzhou University, Lanzhou, China

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Dear Editor,

Thank you for the attention, Yıldırım AE (1), paid to our research. This paper briefly introduced our research design and results, as well as put forward our own views. We would further like to discuss about endoscopic papillary balloon dilation (EPBD) followed by small endoscopic sphincterotomy (EST).

Small endoscopic sphincterotomy and balloon dilation (ESBD) is a rising technique in the field of endoscopic retrograde cholangiopancreatography (ERCP). However, its best dilation time is still unclear. Post-ERCP pancreatitis (PEP) is one of the most common post-ERCP complications, and our research is about the best dilation time based on PEP. There are many factors that may affect PEP. ASEG and ESGE guidelines have classified the risk factors into patient-related and procedure-related risk factors. Lots of scholars have done research aiming at those risk factors. Our research mainly aimed at the impact of ESBD on PEP, which belongs to procedure-related factors. Previous two studies (2, 3) researched 1 min vs. 30 sec and 1 min vs 5 sec, respectively, and there are no statistical differences between the two groups at different dilation times. Because of the lack of a long dilation time group, we designed a multi-centered, single-blinded, and randomized controlled study, which divided the dilation time into short-time (0 and 30 sec), medium-time (60 and 180 sec), and long-time group (300 sec). Our study demonstrated that the incidence of PEP was lowest in the 30 sec group (7%) and highest in 300 sec group (15%), 30-sec dilation did not increase the incidence of PEP in high-risk population. Therefore, it is considered that the optimal dilation time of ESBD is 30 sec.

Moreover, we discovered that the dilation size of the balloon also has an impact on PEP. In 2016, EPBD international consensus (4) believed that a large balloon dilation does not increase the incidence of PEP. However, the guideline of the post-ERCP pancreatitis in 2017 (5) considers large balloon dilation as a risk factor of PEP. The two conclusions are contradictory. Which one do we follow? In our study, the occurrence rate of PEP in EPBD < 12 mm group was higher than that in EPBD ≥ 12 mm group (11% vs 8%, p=0.04). In a subgroup analysis, the incidence of PEP in 30 sec was the lowest in both the EPBD < 12 mm group (8%, p=0.04) and the EPBD ≥ 12 mm group (4%, p=0. 02). Based on the above results, we believe that a large dilation (≥12 mm) does not increase the incidence of PEP, and one should be careful when performing <12 mm dilations.

As one of the risk factors of PEP, the age of a young woman in China does not have a clear definition. In our research, we found that the incidence of PEP had risen significantly when the age was less than 45 years (area under the curve 0.58, 95% CI 0.54-0.62, p=0.0002). Our research is representative of the entire population of the country, as the 15 centers involved in the study are located in seven major regions of China.

Indeed, there are still some limitations in our research, and more clinical studies are needed to answer these questions in the future.

**The first two authors contributed equally to this work.*
Corresponding Author: ***Xun Li; drlixun@163.com***
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