

# The long-term patency for EUS-guided biliary drainage: Is the matter of route or stent?

Dear Editor,

We read with great interest the recently published study by Tyberg *et al.*, regarding the long-term patency of hepaticogastrostomy (HGS) versus choledochoduodenostomy (CDS) for EUS-guided biliary drainage (EUS-BD).<sup>[1]</sup> The authors concluded that CDS is associated with superior long-term patency than HGS. This study is of great significance for the choice of drainage route, yet we would like to share our reservations and questions for further research.

Both plastic and metal stents were used in the study. The study showed that no significant difference in stent type was seen between the two groups. However, we noticed that the proportion of lumen-apposing metal stents (LAMS) and plastic stents was relatively large in CDS group (25 *vs.* 0, and 15 *vs.* 8) while partially covered or uncovered metal stents in HGS group (21 *vs.* 0). Besides, the HGS group had more cases with abnormal anatomy (60% *vs.* 32%), and a larger number of patients initially diagnosed with cholangitis when compared to CDS group ( $P = 0.018$ ), which might have a certain effect on the outcome.

Furthermore, the authors did not mention the details of the failure of stent patency, especially the type, length, and diameter of the stent, which would play an important role in clinical practice.

Few studies have evaluated the long-term outcomes of CDS and HGS. It is also difficult due to use of different terminology and assessment criteria, and various stent types are not always detailed in the studies. Although there is no significant difference in the stent occlusion rate between CDS and HGS, several observational studies suggest that covered self-expanding metal stents (SEMS) are superior to plastic stents in terms of stent patency.<sup>[2]</sup> The type and length of stent are important considerations, as it is stated by a multi-institution consensus.<sup>[3]</sup>

Due to the lack of detailed evidence of stents, the relationship between stents and drainage routes cannot be compared directly. However, based on the studies included in the recent meta-analysis,<sup>[4]</sup> and this study, we have conducted a dedicated meta-analysis of the association between CDS and HGS and stent dysfunction (including occlusion and migration) among ten studies in which the included studies have a sample size of 10 or more in each arm. In this analysis, the overall odds ratio was 0.87 (95% confidence interval

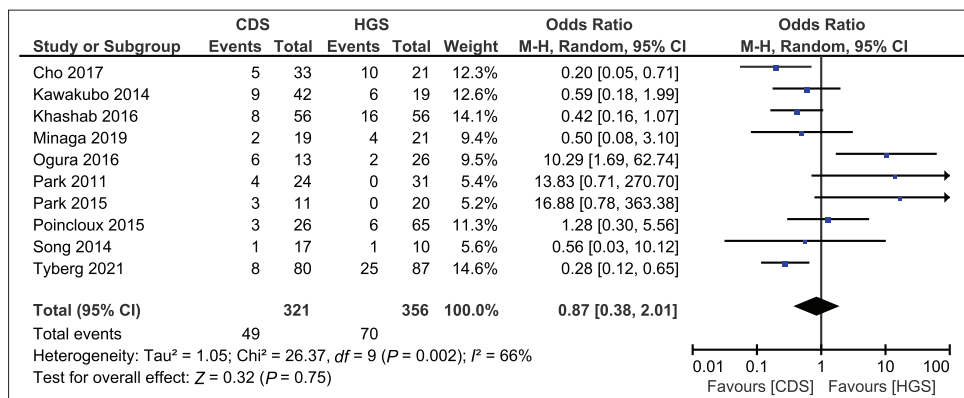


Figure 1. Forest plot of stent dysfunction between choledochoduodenostomy and hepaticogastrostomy

0.38–2.01;  $P = 0.75$ ;  $P = 66\%$ ) [Figure 1]. The sensitivity analysis by omitting one study at a time has confirmed the result. The heterogeneity is significant, and we feel that further prospective studies are needed to evaluate the long-term patency of CDS and HGS using specific stent (plastic stent *vs.* metal stent, or SEMS *vs.* LAMS) as primary treatment modality for EUS-BD.

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*Conflicts of interest*

There are no conflicts of interest.

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