

### **Feasibility Study of EUS-NOTES as a Novel Approach for Peroral Cholecysto-Gastrostomy**

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#### **Abstract**

*Background:* EUS-guided cholecysto-gastrostomy might be a useful minimally invasive procedure used for salvage drainage in advanced pancreaticobiliary cancers, but also for drainage of the gallbladder in acute cholecystitis in patients deemed unfit for laparoscopic surgery.

*Objective:* Direct EUS-guided cholecysto-gastrostomy with placement of a double flanged expandable metal stents.

*Design/Setting:* This was an animal pilot/feasibility study.

*Interventions:* The feasibility of EUS-guided cholecysto-gastrostomy through a transgastric approach was tested in five pigs. Specially designed EUS-guided devices for initial access in the gallbladder and a double flanged expandable metal stent were used in this study.

*Result:* The results showed the feasibility of EUS-guided cholecysto-gastrostomy based on prototype devices for access in the gallbladder and transgastric stent placement.

*Limitations:* Survival feasibility study with prototype devices in a small number of animals.

*Conclusions:* EUS guided cholecysto-gastrostomy in a porcine model is feasible but technically demanding due to anatomical limitations of the pig and/or complexity of the procedure and the preliminary stage of development of the accessory devices.

*Abbreviations:* NOTES - Natural Orifice Translumenal Endoscopic Surgery; EUS - Endoscopic Ultrasound; EUS-FNA - Endoscopic Ultrasound Fine Needle Aspiration.

**Key words:** NOTES, EUS, cholecysto-gastrostomy, bilio-digestive anastomoses

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