## SUPPLEMENTARY

### Current trends in the management of difficult CBD stone in Korea: Survey

1. What is your gender?
   ① Male
   ② Female

2. What is your age?
   ① 31–40
   ② 41–40
   ③ 51–60
   ④ 60 or more

3. What is your specialty?
   ① Gastroenterology
   ② Hepatobiliary surgeon
   ③ Other

4. In what kind of hospital are you currently working?
   ① Primary care center
   ② Secondary community hospital
   ③ Academic teaching hospital
   ④ Tertiary academic medical center

5. How long have you been in ERCP?
   ① 1–2 years
   ② 3–5 years
   ③ 6–10 years
   ④ More than 10 years

6. How many ERCPs do you perform yearly?
   ① Less than 100
   ② 100–300
   ③ 300–500
   ④ 500–1,000
   ⑤ More than 1,000

7. In your working place is it available to perform EUS intervention and/or radiologic intervention (PTBD)?
   ① Both available
   ② Radiologic intervention only available
   ③ EUS intervention only available
   ④ Not available

8. In your working place, what kind of instruments do you use for the peroral cholangioscopy (POC)?
   ① Spyglass DS
   ② Direct POC with ultra-slim endoscope
   ③ Mother-baby scope
   ④ Both Spyglass DS and direct POC with ultra-slim endoscope
   ⑤ Not available

9. How do you think of the size criteria of large common bile duct stone?
   ① 10–12 mm
   ② 12–15 mm
   ③ 15–20 mm
   ④ 20–30 mm
   ⑤ More than 30 mm

10. In case of large common bile duct stones, what kind of techniques do you prefer to obtain the adequate opening of ampullar orifice?
    ① EST only
    ② EST with EPBD
    ③ EST with EPLBD
    ④ EPBD only
    ⑤ EPLBD only

11. In order to perform EPLBD (endoscopic papillary large balloon dilation), what balloon diameter do you prefer?
    ① 10 mm
    ② 12 mm
    ③ 13–15 mm
    ④ 16–18 mm
    ⑤ 19–20 mm

12. During EPLBD (endoscopic papillary large balloon dilation), how long do you apply the EPLBD to ampulla orifice?
    ① 30 sec
    ② 60 sec
    ③ 2 min
    ④ 3 min
    ⑤ 5 min

13. What is your preferred salvage measures for the stone extraction after the failure of mechanical lithotripsy for difficult bile duct stones?
    ① Temporary biliary stent placement for follow-up ERCPs
    ② POC with electrohydraulic lithotripsy (EHL)
    ③ POC with laser lithotripsy (LL)
    ④ Percutaneous transhepatic cholangioscopy
    ⑤ Bile duct stone extraction with EUS rendezvous technique
    ⑥ Extracorporeal shock wave lithotripsy, ESWL

14. For the patients with Billroth-II, what kind of endoscope do you prefer to use initially?
    ① Cap-fitted forward endoscope
    ② Side-view conventional ERCP endoscope
    ③ Single balloon enteroscope
    ④ Double balloon enteroscope
    ⑤ Cap-fitted pediatric colonoscope
    ⑥ Anterior-oblique endoscope

15. For the patients with radical total gastrectomy with Roux-en-Y esophagojejunostomy, what kind of endoscope do you prefer to use initially?
    ① Cap-fitted pediatric colonoscope
    ② Single balloon enteroscope
    ③ Double balloon enteroscope
    ④ PTCS
    ⑤ EUS-intervention

16. What is your second choice after the failure of initial approach for the patients with surgically altered anatomy, such as Billroth-II or Roux-en-Y gastrectomy or esophagojejunostomy?
① Single balloon enteroscope
② Double balloon enteroscope
③ Cap-fitted pediatric colonoscope
④ PTCS
⑤ EUS-intervention

17. In case of surgically altered anatomy, what kind of techniques do you prefer to obtain the adequate opening of ampullar orifice?
① EST only
② EST with EPBD
③ EST with EPLBD
④ EPBD only
⑤ EPLBD only

18. In case of periampullary diverticulum, what kind of techniques do you prefer in difficult cannulation situation for the bile duct with your first method?
① ERPD placement and then precut access
② Double guidewire technique
③ PTCS
④ EUS intervention
⑤ Others

19. For the patients with bleeding tendency, such as liver cirrhosis, end stage renal disease, chronic kidney disease or anti-thrombotic agents, what kind of techniques do you prefer to obtain the adequate opening of ampullar orifice?
① ERBD placement first
② Minor EST
③ EPBD
④ Minor EST followed by EPBD
⑤ Self-expandable metal stent (SEMS)

Thank you for your participation.