Prevalence of Pancreatic Duct Leakage after EUS-guided Pancreatic Fluid Collection Drainage (PPAP Study)

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Background: In patients with pancreatic fluid collection (PFC; pseudocyst or walled-off necrosis (WON)) requiring EUS-guided PFC drainage (EUS-PFD), it is still controversial to perform universal endoscopic retrograde pancreaticography (ERP) for the evaluation of possible pancreatic duct leakage (PDL). Routine ERP may cause unnecessary post ERP pancreatitis (PEP); whereas, it might cause morbidity of recurrent symptoms if no performing.

Objective: To know the prevalence of PDL in this group of patients and compare clinical data between the group of patients with PDL and without PDL, classified as group A and B, respectively.

Methods: From January 2013 to April 2017, all consecutive patients who underwent EUS-PFD were prospectively identified using database in Gastrointestinal Endoscopy Excellence Center, King Chulalongkorn Memorial Hospital. PDL was defined as either symptomatic recurrence of PDL or leakage proven by pancreatogram (n=7). Biliary pancreatitis was the most common etiology in 6/14 (42.9%) and 4/11 (36.4%) patients in group A and group B, respectively (p=0.50). No significant difference in group A versus group B in terms of number of patients with severe pancreatitis (6/14 versus 5/11 patients, respectively), mean PFC diameter (113 versus 136 mm, respectively), single PFC (7/14 versus 6/11 patients, respectively), location of PFC in head: body: tail (2:9:3 versus 1:5:5 patients, respectively), Balthazar score grade D:E (11:3 versus 6:5 patients, respectively), number of patients with WON (4/14 versus 3/11 patients, respectively), and plastic stent for drainage (3/14 versus 6/11 patients, respectively) (Table 1). The technical success rate was 100%. Number of patients with evidence of chronic pancreatitis (CP) in group A were significantly higher than group B (6/14 versus 0/11 patients, p=0.02). ERP was performed in 7/14 versus 6/11 patients in group A and B patients, respectively (p=0.57). No post-ERCP pancreatitis (PEP) was observed. Symptoms of PDL were noted in 10/14 patients of group A (p<0.001).

Conclusion: About half of patients with PFC requiring EUS-PFD are identified as having PDL. There is no procedure related complications in patients with ERP. Routine ERP is suggested in patients with EUS-PFD to minimize the risk of recurrence symptom, based on the results of this present study especially in CP patients.

Keywords: Pancreatic fluid collections (PFC), Pancreatic duct leakage (PDL), Endoscopic retrograde pancreaticogram (ERP), EUS-guided pancreatic fluid collection drainage (EUS-PFD), Wall-off necrosis (WON), pseudocyst, EUS-guided pseudocyst drainage, EUS-guided necrosis