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EUS-guided Ethanol Lavage with Paclitaxel Injection (EUS-EP) for Cystic Lesions of the Pancreas (CLP): Long-term Outcomes

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Background:

EUS-guided intervention has been recently used for the treatment of CLP. Preliminary reports showed the safety and feasibility of EUS-guided intervention. Treatment responses varied among studies as previous studies involved small number of patients and short-term follow-up. The present study analyzed the treatment response of EUS-EP over longer period among a larger study population, and factors which may influence the treatment response.

Methods:

Fifty-one patients were enrolled for EUS-EP by the following inclusion criteria; 1) uni- or oligolocular cyst, 2) indeterminate tumors for which EUS-FNA was required, and 3) CLPs showing size growth during the observation period. Under EUS-guidance, cyst fluid aspiration, ethanol lavage and injection of paclitaxel were performed. The safety of EUS-EP was analyzed by monitoring the patients during the first 30 days. Forty-two patients were followed for > 12 months, and 4 patients underwent surgery and 5 patients were lost during follow-up. The treatment response and its predictors were analyzed. Using CT images, the volume CLP was calculated by computer estimations of the areas on each axial image and slice thickness. Response is defined as follows; 1) complete resolution (CR): < 5% of original volume (OV), 2) partial resolution (PR): 5 to 25% of OV, 3) persistent cyst: > 25% of OV.

Results:

Mean diameter and estimated volume were 31.8 mm (17-68 mm) and 14.09 mL (1.16-68.74 mL), respectively. Twenty CLP were oligolocular. Mean CEA level was 463 ng/mL (1-8190). The presumed diagnoses were 9 MCNs, 15 SCAs, 2 pseudocysts and 25 indeterminate cysts. The median follow-up was 20.6 months. Mean volume of CLP decreased from 14.09 mL to 3.31 mL. CR was observed in 28 patients, PR in 6 patients, and a cyst persisted in 12 patients. CR was achieved by 6 months in 10 patients and after 6 months in 17 patients. Of 12 patients with persistent cyst, 4 patients underwent surgical resection. Histopathologic findings demonstrated focal remnant mucinous epithelium in 2 patients, full epithelial ablation in 1 patient, and neuroendocrine tumor in 1 patient. In univariate analysis, EUS diameter (< 35mm) and original volume (< 16mL) were predictive of cyst resolution. In multivariate analysis, original volume and type of CLP were predictive. Splenic vein thrombosis as procedure-related complication occurred in 1 patient.

Conclusions:

EUS-EP appears to be a safe method for treating CLP. Complete resolution of CLP was achieved in 60%. Smaller cystic lesion and nonmucinous cyst were predictive of complete resolution.