# Pancreatic endotherapy and quality of life in chronic pancreatitis

Chronic pancreatitis (CP) is associated with various adverse events, such as pancreatic fluid collection, splenic vein thrombosis, pancreatic duct (PD) stones, PD strictures, and malabsorption. Pain is the most common symptom of CP and can be difficult to manage.[1] Recurrent hospitalizations from adverse events of CP, need for endoscopic or surgical treatments, and chronic pain can substantially affect the quality of life in these patients.[1,2] Pancreatic endotherapy (PET) includes various interventions such as ERCP with PD stenting, treatment of PD stones with electrohydraulic lithotripsy or extracorporeal shock-wave lithotripsy, and EUS-guided celiac plexus block (EUS-CPB). PET is a powerful tool in managing adverse events in CP patients, potentially leading to improved pain relief and quality of life.[3]

In this issue of *Gastrointestinal Endoscopy,* Han et al[4] report a prospective analysis of 120 patients with CP who underwent endotherapy. Quality of life, pain levels, and opiate use were assessed at 1-, 3-, 6-, and 12-month follow-up visits. Treatments were as follows: 49.2% patients received therapeutic PD stenting, 32.5% received EUS-CPB, 16.7% underwent PD stone lithotripsy, and 1.7% underwent pseudocyst drainage. Significant improvements in quality-of-life scores were noted at follow-up times of 1, 3, 6, and 12 months. Improvements in pain levels were seen at 1- and 6-month follow-up visits but not at 12-month follow-up visits.

A few studies have previously evaluated the impact of PET on quality of life. In a randomized controlled trial (RCT) comparing endoscopic transpapillary treatment (dilation, stenting with or without lithotripsy) with surgical pancreaticojejunostomy in patients with CP with a distal obstruction of the PD, the physical and mental health of the patients was evaluated by the use of a SF-36 questionnaire, and the patients were followed up for 2 years.[5] Improvements in SF-36 scores were noted in both groups, although improvement in the physical health component score was significantly higher in the surgery group. Another RCT (ESCAPE) comparing endoscopic and surgical treatments in CP patients showed improvements in SF-36 scores in both groups with no significant difference between groups.[6] A long-term analysis of the ESCAPE trial revealed that the improvement in quality-of-life scores persisted at a mean follow-up time of 98 months.[7] These RCTs used SF-36, which is a more generic quality-of-life assessment tool. By contrast, Han et al[4] used the PANcreatitis Quality of Life Instrument (PANQOLI), which is an 18-item CP-specific quality-of-life instrument. PANQOLI includes subscales for emotional function, physical function, role function, and self-worth. By using PANQOLI, Han et al were able to assess the quality of life across different subdomains; hence, it is more informative than SF-36 used in the previous studies. Han et al demonstrated significant improvement in role function and emotional function at all follow-up time points. Significant improvement was noted in self-worth at every follow-up point except 3 months. Significant improvements were seen for the subdomain of physical function at 1, 3, and 6 months but not at 12 months. Of note, when these RCTs comparing surgery versus endotherapy were done, PET was less well developed with fewer practitioners performing these procedures. Nowadays, many gastroenterologists can perform PET to a high level, potentially shifting patients to less-invasive therapies.

> Pain is the most common symptom of chronic pancreatitis, and it substantially affects the quality of life in these patients.

Pain is the most common symptom of CP, and it substantially affects the quality of life in these patients.[8] Han et al[4] found that significant improvements in pain (demonstrated by a decrease in the Visual Analog Scale score) were seen at the 1-month and 6-month follow-up points but not at the 1-year follow-up visit. However, decrease in opioid use was seen at all follow-up points. All of the PET modalities used in this study, including PD stenting, lithotripsy, and CPB, can potentially lead to pain reduction, and the choice of treatment depends on the presence of structural abnormalities such as stone or stricture. In patients with PD stricture with upstream ductal dilatation, serial stenting plus stricture dilation should be considered. In patients with obstructing PD stones, PET should be aimed at the treatment of stone (electrohydraulic lithotripsy, extracorporeal shock-wave lithotripsy) with or without PD stenting. In patients with no structural abnormalities, EUS-CPB can be considered for symptomatic relief. EUS-CPB can also be used as an adjunct to the treatments already mentioned in patients with PD stones or strictures for optimal pain control. The ESCAPE trial included patients with CP and dilatated PD,


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and endoscopic treatments included serial ERCPs, PD stenting, and treatment of stones.[6] Complete or partial pain relief was observed in 16 of 41 (39%) patients in the endoscopy group at the end of follow-up observation (18 months). EUS-CPB is commonly performed in CP patients for symptomatic pain relief and is technically easy to perform, with a low rate of adverse events. One meta-analysis evaluating the efficacy of EUS-CPB found that it is effective in alleviating abdominal pain in 51.46% of patients with CP.[9]

This study by Han et al[4] did a fine job of evaluating the quality of life as the primary outcome in contrast to previously published studies that mostly assessed pain as the primary outcome. One of the major limitations of this study is the short-term follow-up time of 1 year. Given the chronicity of this condition and the risk of recurrence of adverse events such as stones, strictures, fluid collections, and recurrent pain flares, studies with long-term follow-up times are needed to further evaluate the efficacy of PET in CP patients. Additionally, the sample size of this study is relatively small, and all of the procedures were performed by experienced endoscopists in a single tertiary care center.

In summary, PET can be impactful in CP patients in improving quality of life and pain and can lead to improved outcomes. Future studies should focus on better identification of CP patients who can benefit from PET and also on the formation of individualized treatment plans to increase the number of patients who can benefit from PET. Large-scale multicenter RCTs and prospective studies evaluating the quality of life with long-term follow-up times are required to make definite conclusions.

## DISCLOSURE

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*Abbreviations: CP, chronic pancreatitis; EUS-CPB, EUS-guided celiac plexus block; PANQOLI, PANcreatitis Quality of Life Instrument; PD, pancreatic duct; PET, pancreatic endotherapy; RCT, randomized controlled trial.*

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