

Chronic Pancreatitis: Early Diagnosis and Endoscopic Management of Pain

Raffaele Pezzilli

Department of Internal Medicine, Sant'Orsola-Malpighi Hospital. Bologna, Italy

Chronic pancreatitis is a disease which is often characterized by recurrent episodes of abdominal pain accompanied by progressive pancreatic exocrine and endocrine insufficiency, and it sometimes requires multiple hospital stays. The disease is frequently the result of chronic alcohol abuse even if other etiological factors such as genetic alterations, autoimmune disorders and obstructive disease of the biliary tract and the pancreas have recently been postulated [1]. The early diagnosis and management of chronic pancreatitis remains a challenging puzzle for most doctors. Thus, it is important to obtain tissue samples for histological diagnosis. For this reason, the report that samples of pancreatic tissue may be obtained by performing biopsies during the course of endoscopic ultrasonography is of particular interest. In a prospective, open, consecutive study, Garcia-Iglesias *et al.* [2] studied 14 patients suffering from alcohol-related chronic pancreatitis. All patients underwent endosonography associated with fine needle biopsy for the differential diagnosis of a pancreatic mass located in the head of the pancreas with a median size of 2.8 cm. Two to three tissue samples were obtained from each pancreatic mass, the histological features evaluated were the presence of acini, ductal epithelium, fibrotic tissue (collagen), and inflammatory infiltration. The echo-endoscopic parenchymal and ductal criteria of chronic pancreatitis were also evaluated (hyperechoic foci, hyperechoic strands,

lobularity, cysts, calcifications, duct dilation, duct irregularity, hyperechoic duct margins, visible side branches, and intraductal calcifications). Adequate tissue samples for histological evaluation were obtained in all cases. Infiltration by inflammatory cells was observed in all tissue specimens. Samples included pancreatic acini in 37.5% of the cases, with 2-13 acini in each. In the remaining 64.3% of the cases only ductal epithelium and fibrotic tissue were observed. Biopsies obtained from patients with mild to moderate endosonographic changes of chronic pancreatitis contained pancreatic acini. In contrast, biopsy samples from more severe cases showed only ductal epithelium with fibrotic components. No fine needle biopsy related complications were recorded. This study is important because it demonstrates that obtaining pancreatic tissue samples by endosonography-guided fine needle biopsy is feasible and safe; the procedure makes it possible to evaluate the histological changes of chronic pancreatitis and, finally, pancreatic fine needle biopsy could help towards a better understanding of the disease.

It is well-known that pain represents the main problem of patients affected by the disease. Among the various clinical variables examined as possible factors related to chronic pancreatitis (pancreatic calcifications, pseudocysts, Wirsung duct dilatation, pancreatic insufficiency, diabetes), only pain is able to significantly impair all aspects of

the quality of the life assessed using validated questionnaires [3, 4], thus confirming that pain control is the main therapeutic option to be taken into account in order to improve the quality of life in patients with chronic pancreatitis. The mechanism of pain in chronic pancreatitis is certainly multifactorial and seems to be based mainly on two mechanisms: ductal hypertension, and neural and perineural inflammation. Medical therapy is generally the first which is attempted based on NSAIDs and often on opioids but it is not always satisfactory and, before narcotic dependence develops, endoscopy or surgery should be considered. As for endoscopic treatment, until now there have been no randomized studies exploring pain relief after extracorporeal shockwave lithotripsy (ESWL) alone versus ESWL combined with endoscopic drainage of the main pancreatic duct in patients with painful calcified chronic pancreatitis; thus, a cooperative European study in this field is welcome [5]. The authors enrolled patients with uncomplicated painful chronic pancreatitis and calcification obstructing the MPD. Fifty-five patients were randomized to ESWL alone (n=26) or ESWL plus endoscopy (n=29). Two years after trial intervention, 38% and 45% of the patients of the ESWL alone group and the ESWL plus endoscopy group, respectively, had presented pain relapse (primary outcome) (odds ratio: 0.77; 95% CI: 0.23-2.57). In both groups, there was a similar decrease in the main pancreatic duct diameter after treatment, and in the number of pain attacks/year (mean decrease: 3.7). Treatment costs per patient were three times higher in the ESWL plus endoscopy as compared to the ESWL alone group. The median delay between the onset of chronic pancreatitis and persistent pain relief in both groups was 1.1 years, as compared to 4 years for the natural history of chronic pancreatitis in a reference cohort; this difference was statistically significant ($P < 0.0001$). In conclusion, ESWL is a safe and effective first line therapy for selected patients with painful calcified chronic pancreatitis; adding systematic endoscopy to

ESWL adds to the cost of patient care without improving the outcome of pancreatic pain.

Keywords Cholangiopancreatography, Endoscopic Retrograde; Diagnosis; Endosonography; Pancreatitis, Chronic; Therapeutics

Abbreviation ESWL: extracorporeal shockwave lithotripsy

Correspondence

Raffaele Pezzilli
Dipartimento di Medicina Interna
Ospedale Sant'Orsola-Malpighi
Via G. Massarenti, 9
40138 Bologna
Italy
Phone: +39-051.636.4148
Fax: +39-051.549.653
E-mail: pezzilli@aosp.bo.it

References

1. Etemad B, Whitcomb DC. Chronic pancreatitis: diagnosis, classification, and new genetic developments. *Gastroenterology* 2001;120:682-707. [PMID 11179244]
2. Iglesias-Garcia J, Abdulkader I, Larino-Noia J, Forteza J, Dominguez-Munoz JE. Histological evaluation of chronic pancreatitis by endoscopic ultrasound-guided fine needle biopsy. *Gut* 2006;55:1661-2. [PMID 17047112]
3. Pezzilli R, Morselli Labate AM, Ceciliato R, Frulloni L, Cavestro GM, Comparato G, et al. Quality of life in patients with chronic pancreatitis. *Dig Liver Dis* 2005;37:181-9. [PMID 15888283]
4. Pezzilli R, Morselli-Labate AM, Frulloni L, Cavestro GM, Ferri B, Comparato G, et al. The quality of life in patients with chronic pancreatitis evaluated using the SF-12 questionnaire: a comparative study with the SF-36 questionnaire. *Dig Liver Dis* 2006;38:109-15. [PMID 16243011]
5. Dumonceau JM, Costamagna G, Tringali A, Vahedi K, Delhay M, Hittelet A, et al. Treatment for painful calcified chronic pancreatitis: extracorporeal shock wave lithotripsy versus endoscopic therapy. A randomised controlled trial. *Gut* 2006 Oct 17; Epub ahead of print. [PMID 17047101]