CHAPTER 15
Endoscopic Treatment of Pain and Complications of Chronic Pancreatitis
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Introduction

Chronic pancreatitis (CP) is a common disease in industrialized countries, occurring with an incidence of approximately five to ten cases in 100,000. The main cause of this disease is alcohol abuse (appr. 75%); other causes are rare (e.g., drug-induced CP). About 20%–25% of the cases are idiopathic. The resulting exocrine and less frequent endocrine pancreatic insufficiency can be controlled by medicament substitution [1]. Nevertheless, many patients suffer from recurrent pain attacks which lead to impairment of their life quality. Those severe abdominal pains comprise an important indication for surgical or endoscopic interventional therapy [2]. Furthermore, during disease progression there may be some morphological changes, such as pseudocysts and intraductal stone formation. These changes can also be cured with nonoperative measures.

The endoscopic treatment of CP has become increasingly important during the past 10 years. Techniques that were originally designed for the biliary system have recently been applied as well to the pancreatic system [2]. The indications for and up-to-date results of endoscopic interventional measures are presented in this report.

Pancreatic Duct Stricture:
Pancreatic Duct Sphincterotomy, Pancreatic Duct Prosthesis

There are various theories about what causes pain in CP. One of the most accepted, but quite controversial [3], is that of increased intraductal and intraparenchymal pressure. Consequently, surgical drainage measures were developed; in the past 15 years these have been widely replaced by endoscopic techniques [4].

Candidates for endoscopic drainage are patients with so-called obstructive pancreatitis: ductal strictures or intraductal stone formation prohibit pancreatic excretion through the duct of Wirsung; this leads to fluid retention, with subsequent retrograde ductal dilatation [5]. Primary endoscopic treatment is pancreatic duct sphincterotomy (pEST). pEST can be the only thera-
py applied, but in most cases it serves as a preparatory measure for further endoscopic intervention [6]. Compared with biliary duct sphincterotomy, pEST seems to be associated with a higher incidence of complications, with an up to 5% risk of bleeding in some cases. Nevertheless, in specialized gastrointestinal centers pEST is a safe procedure [6].

Fuji et al. [7] reported the results of pEST in patients with strictures in the pancreatic sphincter area or in close proximity to it; 21 of 22 patients benefited from this measure. A review of the literature shows that in 54%–88% of cases patients improved clinically after undergoing pEST for stricture or stone formation [8]. A retrospective analysis of our contingent of patients reveals that 23 of 34 (67%) with a dominant ductal stricture in the papillary area and prestenotic dilatation have shown a remarkable reduction of pain symptoms within a follow-up period of 36 months after pEST; 17 patients reported a median weight gain of approximately 4 kg [9].

In case of dominating stenosis of the duct of Wirsung in the head of the pancreas or the proximal body, a pancreatic duct prosthesis may be implanted, in analogy with biliary duct stenosis (Fig. 1). In 90% of cases this method is technically successful. In case of occlusion or migration of the stent, prosthesis replacement is indicated. In certain cases this is done at regular intervals of 2–3 months (standardized protocol of prosthesis exchange) [10]. A good prognostic parameter of the method’s efficacy is the sonographically measured reduction of pancreatic duct diameter [2].

Clinical improvement is observed following successful stent implantation in 74%–94% of cases (Table 1). In a follow-up period of 7.4±6.3 months, 62% of patients are free of pain and 59% even show a weight gain of about 7±5 kg (2–22 kg) [11]. In 82% of endoscopically treated cases further stationary treatment is not required [11]. Other authors [12] report similar pain-free intervals after endoscopic therapy in as many as 66% of patients after 11 months. In a retrospective analysis we have examined 23 patients treated

Fig. 1a–c. a Chronic pancreatitis with duct obstruction and prestenotic dilatation. b After insertion of pancreatic duct endoprosthesis. c Reduction of the duct diameter following removal of the endoprosthesis