Surgical and Interventional Perspective in Chronic Pancreatitis

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20.1 Introduction and Therapeutic Indications

Chronic pancreatitis (CP) is characterised by the progressive destruction of the pancreatic parenchyma with coincident replacement by fibrous tissue (Di Magno et al. 1993; Kloeppe and Maillet 1993). As the disease evolves, clinical manifestations and anatomic changes progress forcing an evolving therapeutic approach, be it surgical or interventional, to these complex patients (Cavallini et al. 1998). In recent years, the level of sophistication of our knowledge of the epidemiology, etiological factors, and concurrent increasing availability of new therapeutic options has significantly altered our approach. The following chapter will attempt to reassess the role of surgery for patients with CP.

Clinical and therapeutic decisions are made based on: (1) the presence of determined signs and symptoms; (2) the natural history of the disease, its physical impact and effect on the quality of life (QOL) and (3) the presence or absence of morphologic alterations that are amenable to surgical intervention.

20.1.1 Signs and Symptoms

During the course of the disease, the most frequent treatment indication is the presence of pain defined as severe and disabling (Pederzoli et al. 1994). Less common indications of treatment are the presence of a pseudocyst, biliary tract and/or duodenal involvement and the suspicion of a tumor (Russel 1998). Infrequent (although compelling) indications for rapid treatment include haemorrhage and portal hypertension (Seiler et al. 1998), stenosis of the colon (Bradley 1982a) and the onset of pancreatic ascites, pleural effusion and internal fistulas (Neoptolemos and Winslet 1990). It is evident...
from the varied spectrum of complications that no single or “universal” approach to the disease exists and that treatment must be based on other factors.

20.1.2 Development of the Disease

The goal of surgical or interventional therapy is to improve the patient’s quality of life (Knoefel et al. 1997). This has led to the steady increase of minimally invasive (e.g. endoscopic) therapies replacing “traditional” surgical treatments (Bassi et al. 1998). The two approaches are complementary. Guidelines are continually being outlined to help the clinician towards an optimal therapeutic choice; however, endoscopic approaches will be favored over surgical when the outcome of treatment is equivalent (Binmoeller et al. 1995). Nevertheless, there are few controlled short or long term clinical trials that have compared the results and impacts of the different therapeutic options. Not surprisingly, therapeutic choices are still based on local experience and expertise rather than on medical evidence. Moreover, the absence of a more precise definition of a “painful and disabling” symptom actually makes comparison of inter-institutional experiences considerably less reliable. Many scores and/or questionnaires have been proposed to attempt to make evaluation of pain in CP more “objective” (Beger et al. 1989; Knoefel et al. 1997).

20.1.3 Morphological Aspects Evaluated with Imaging

Further important information to help determine which therapeutic choice to adopt can be obtained from imaging, especially computed tomography (CT) and magnetic resonance (MRI) (Freney 1998). Imaging studies have not only contributed substantially to the recognition of the disease and its complications, but have also “added” further disease classification and pathogenetic elements. The radiologist can diagnose the illness, and his description becomes a guide in choosing the therapy.

One complication of CP that cross-sectional imaging greatly aided in defining is the entity of Groove pancreatitis. It has been reported that in about 20% of CP cases a scarring in the “groove” region (between the medial duodenal wall and the pancreatic head) occurs (Becker and Mischke 1991; Ioth et al. 1994). We have observed a distinct entity of cystic dystrophy of the duodenal wall as a “subset” of complications occurring in patients with chronic groove pancreatitis (Colardelle et al. 1994; Procacci et al. 1997; Falconi et al. 2000).

As of today, however, there is poor correlation between the imaging findings of dilatation of the pancreatic duct and patient symptoms (Nealon et al. 1988; Nealon and Thompson 1993). In truth, there is not enough clinical information at the moment to warrant surgical therapy or endoscopic stenting of every dilated duct in CP patients.

20.2 Clinico-morphologic Correlation and Therapeutic Choices

It has been highlighted how the same symptom, for example pain, can occur in patients with a wide spectrum of morphological alterations to the pancreas and how a careful radiological description can help the clinician in deciding on the therapy that is best tailored to the particular pattern of the disease. The aim of this section is to outline the different approaches to the disease in relation to the symptoms and the morphology.

20.2.1 Pain

Pain, typically debilitating and overwhelming, is the most common clinical manifestation occurring during the course of the disease. There are two hypotheses offered to explain the source of this pain. The first relates the pain to an increase in intraductal and/or parenchymal pressure related to difficulty in discharging pancreatic juice in the duodenum (Bradley 1982b; Ebbehoj et al. 1984; Ebbehoj 1993). The second and more recent, however, maintains that pain is linked to the release of neurotransmitters into the inflamed mass (Bockmann et al. 1988). If the clinician believes the first hypothesis, he will opt for any therapy that can relieve ductal pressure whereas, if the clinician believes the second hypothesis, he maintains that this objective can only be reached by resection of the part of the gland principally involved. What is true is that both theories are probably complementary: in fact, the long-term