In the 1970s, Polish surgeons did not actively participate in the development of surgery of the pancreas, but this does not mean that they were unfamiliar with this area of surgery. In 1972, Prof. S. Ziarek (then associate professor), a follower of Prof. S. Szyszko, published a textbook entitled „Chirurgia trzustki” (“Surgery of the pancreas”) (1). He wrote chapters concerning pancreatitis and pancreatic tumors based on 743 references. Even at this early time, one of the sections in the book dealt with transplantation of the pancreas. Since that time, the treatment of acute pancreatitis (AP) has undergone many changes. In the late 1970s/early 1980s treating acute necrotic pancreatitis was a serious and painful procedure. At that time, we removed kilograms of necrotic tissues under the assumption that these necrotic tissues included pancreatic tissues. We were then surprised to see computed tomography imaging performed one week after the surgery demonstrating the presence of an almost intact pancreas. We were unable to interpret this finding and did not feel that covering up our result was appropriate. Now, we know that we predominantly removed peripancreatic fat from the extraperitoneal space.

The treatment of mild acute pancreatitis has undergone only minor changes. We still use the same medical therapy that was recommended then. However, while then it was claimed that this type of AP could be medically treated, now we know that it should be medically treated. We now also understand that the pro-surgical treatment views held by Prof. Ziarek are incorrect. Current recommendations overlap more with the findings of R.H. Fitz, a revolutionary anatomist and pathologist from Boston, who, at the turn of the 20th century, noted that „survival in AP depends on the extensiveness of the necrotic process and that surgical intervention can only complicate the course of AP” (2).

Current guidelines, prepared both by JPN (Japanese Guidelines) and IAP (International Association of Pancreatology) call for surgical intervention in AP when it is complicated by infected necrosis with accompanying sepsis in patients with organ complications, in poor general condition, and without improvement despite intensive medical treatment for 72 hours (3, 4, 5). Many authors believe that minimally invasive procedures (percutaneous drainage, endoscopic drainage, minimally invasive surgery) in infected pancreatic necrosis in critically ill patients can be introduced at an earlier stage, before the surgical therapy is necessary (6). As such, they can be viewed as a bridge between medical and surgical treatment.

Nutrition is an important aspect of AP therapy. An important change seen over the years was the abandonment of prolonged placement of a gastric probe, leading to starving patients and requiring intestinal and parenteral nutrition. The development of gastroenterology and the introduction of endoscopy including papillotomy has decreased the number of severe complications in biliary AP. We share the view that surgical intervention in AP is an exception and can be justified only by extensive necrosis, infection, and the patient’s clinical con-
dition. In our experience, it is important to completely remove necrotic tissue during the first intervention because any subsequent intervention increases the probability of infecting the necrosis with additional microbial strains. To this end, we have used an ultrasonic dissector in our Clinic since 1998. Many years of experience have demonstrated that this method is effective, decreasing the number of required surgical interventions and shortening hospitalization times. Other improvements in AP therapy in our Clinic involve packing the laparostomic cavity with setons introduced into a perforated plastic sleeve and preventing the adherence of fabric to the surface of surrounding organs and bleeding from the granulation. It seems that insertion of setons soaked with a contrast medium (e.g., uropolin) to the laparostomic wound before CT imaging is also useful. This helps to differentiate between previously non-penetrated spaces from spaces controlled by laparostomic wounds, and it prevents secondary abscesses from being overlooked.

In 1973, a year after the older author of this paper started his professional career, Fortner resected the whole pancreas, part of the stomach, fragments of portal vein, regional lymph nodes (type I resection), and a fragment of hepatic artery and superior mesenteric artery in a type II resection (7). The only available Polish textbook on the pancreas at the time was by Prof. S. Ziarek, who claimed that radical treatment of pancreatic cancer is only surgical, a view that is still held today. He also listed contraindications to surgical treatment that are also still current. However, we must disagree with a statement made by Di Carlo that „radical surgery in the pancreatic cancer is a chimera” (8).

The first resection of the pancreas in Chair and Clinic of Gastrointestinal Surgery was performed by Prof. Z. Górka. Though the surgery was a very long procedure, it was a complete success. The patient eventually died of myocardial infarction many years later. „Sleeve-like” anastomosis of the pancreas with a section of intestinal loop was a particular success of our teacher. It allowed doctors to operate on the pancreas in a safe manner, with a very low number of fistulae at the anastomotic site. In passing, it is worth emphasizing that, even now, there is no homogenous, widely accepted definition of pancreatic fistula.

In 2006, Buttirini listed several definitions of pancreatic fistula that were generated between 1992 and 2006 (9). There are no uniform descriptions of methods of restoration of continuity of the gastrointestinal tract; in particular there is no agreement on the distance between respective anastomoses. Over the years, we used a single-method Whipple resection as modified by Waugh. Currently we use the same method but with the resection of the gall-bladder and biliary-intestinal anastomosis performed as close to the liver hilus as possible. We have learned about the pathophysiology of various types of reconstructions of the gastrointestinal tract after pancreateoduodenectomy from our extensive surgical experience. Examination of C13 isotope absorption and oral-cecal passage rate has assisted us in this goal. Thus, we can rationally use various methods of restoration of continuity of gastrointestinal tract. New anastomatic techniques (e.g., „duct-to-mucosa”) have also been useful. The use of a compression anastomosis clip (CAC) in biliary-intestinal and intestinal-intestinal anastomoses is the latest development in our Clinic. We have had positive experiences in the use of compression clips (CC) in closing intraduodenal pancreatic section after middle segment resection of the pancreas (resection of body and tail of the pancreas) (fig. 1, 2). There is still a need for studies of extended lymphadenectomy. For many years there have been different opinions on this issue. Ten to twenty lymph nodes should be removed during a standard lymphadenectomy, while 20-40 should be taken out during a radical extended lymphadenectomy. Despite the definite clinical advantage of an extended lymphadenectomy, it has also been shown to contribute to stage migration (10). Our findings support Hermanek’s results showing „jumping metastases”. Hermanek estimates that their incidence is 3% (10). This indicates that the pancreas has a surprisingly high lymphatic drainage rate, which is not completely understood. When we were performing an extended radical pancreateoduodenectomy in one of our patients, we found 3 metastatic lymph nodes in the 16th group of lymph nodes, without any metastases in the remaining lymph node groups (34 lymph nodes). If we were to perform a standard or radical PD, we would not have found them. The problem of metastases in pancreatic cancer can be traced by considering micrometastases in
so called “occult” lymph nodes, which are impossible to detect by computed tomography imaging. De-Qing Mu et al. claim that the incidence of micrometastases in “occult” lymph nodes is 50% (11). This problem looks even more drastic when we examine resected lymph nodes with histological methods and compare the result of such an examination with the results obtained using molecular biology technology (12, 13).

Underestimation of clinical staging seems to contribute to a poor 5-year survival even in the most specialized centers. Improvement of surgical technique and staging the cancer on adequate lymphadenectomy with immunohistochemical examination of lymph nodes will help doctors to more realistically evaluate the results of treatment of pancreatic cancer. In addition, coordinated efforts of centers that perform surgical treatment of pancreatic cancer may lead to the creation of a web-based registry of pancreatic tumors.

Surgery of the pancreas places special requirements on both the doctor well as the treatment center. Pancreatoduodenectomy depends on the surgeon’s experience and the medical center (14). If the surgery is performed by a less experienced surgeon, the peri-procedural mortality increases by 361%, while, in esophageal cancer surgery, this increase is only 130% (15). Thus, we think that the discussion of where to perform pancreatic surgery is appropriate. As doctors at our center have performed over 1000 pancreatoduodenectomies, we feel that it is our duty to point out the requirement for appropriate treatment centers.

REFERENCES

8. Andrén-Sandberg A: Abstract of abstracts focusing on pancreatic cancer. What was discussed in 2004? Meeting of the American Pancreatic Association (APA); 4-5 Nov. 2004; Chicago, USA. World Congress on Gastrointestinal Cancer; 16-19 June 2004; Barcelona, Spain.

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