Chapter 17
Pancreaticoduodenectomy: Past and Present

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1 The History of the Pancreaticoduodenectomy

The surgical treatment of periampullary carcinoma has evolved greatly over the last 100 years, as has been summarized in several recent texts (1–3). The first reported successful resection of an ampullary carcinoma was performed by William S. Halsted at the Johns Hopkins Hospital in 1899 (Fig. 17.1). In a patient who presented with obstructive jaundice, he described a local, transduodenal approach to resection with reanastomosis of the pancreatic and bile ducts to the duodenum (4). Three months after the initial operation, the obstructive jaundice recurred, necessitating a re-exploration and cholecystoduodenostomy for decompression. The patient expired 6 months later and an autopsy revealed recurrence of the ampullary carcinoma into the head of the pancreas and duodenum.

This transduodenal approach to resection became the procedure of choice for most surgeons dealing with ampullary cancers in the early twentieth century. However, during this same time period, some surgeons were reporting the use of an en bloc pancreaticoduodenectomy for treatment of this disease. The first such resection was credited to Codivilla, but this patient did not survive the postoperative period (5). In 1912, Walther Carl Eduard Kausch, a German surgeon, performed the first successful two-stage pancreaticoduodenectomy (Fig. 17.2) (6). In the second stage of Kausch’s operation, he anastomosed the distal pancreatic remnant to the distal end of a partially resected duodenum. Two years later, Hirschel described the first one-stage pancreaticoduodenectomy, wherein he reimplanted the pancreatic duct into the duodenum, created a gastrojejunostomy, and connected the common bile duct to the duodenum using a rubber tube (7).

Some 20 years later, in 1935, Allen Oldfather Whipple presented three cases at the annual meeting of the American Surgical Association. He described a two-stage operation for the resection of ampullary carcinoma (8). His first stage involved ligation of the common bile duct, with creation of a cholecystogastrostomy and gastrojejunostomy. In the second stage, he removed the pancreaticoduodenal specimen and ligated the pancreatic duct, closing the pancreatic capsule over the neck, and draining the retroperitoneum (Fig. 17.3). In the 1940s, he began performing a one-stage operation, which involved reconstruction with an end-to-end...
Fig. 17.1  William Stewart Halsted of The Johns Hopkins Hospital. (Reprinted with permission from Schulick RD, Yeo CJ. Whipple procedure: 1935 to present. In: Evans DB, Pisters PWT, Abbruzzese JL (eds.) Pancreatic cancer. New York, Springer-Verlag, 2002, 126)

Fig. 17.2  Walther Carl Eduard Kausch.