Recent Trends in Management of Ampullary Carcinoma

Essay

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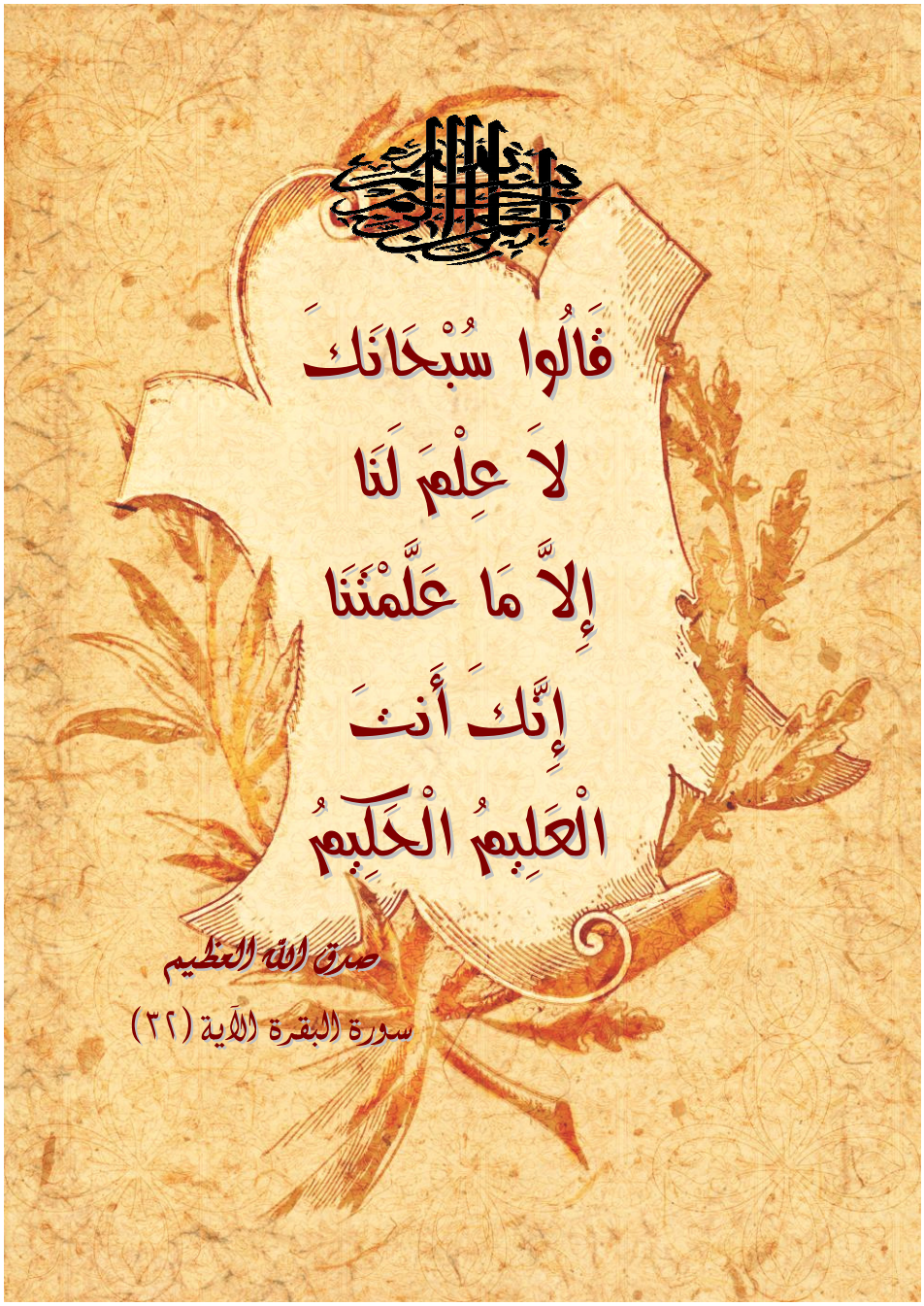
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Contents

List of Abbreviations

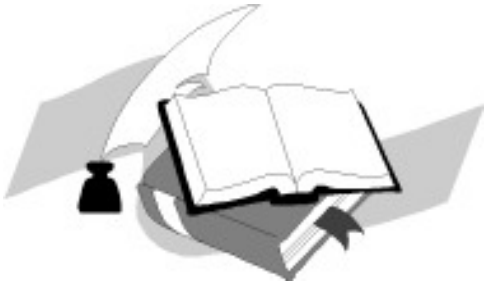
Aov	Ampulla of vater
APBJ	Anomalous Pancreatico-Biliary Junction
CBD	Common bile duct
CCK	Cholecystokinin
CT	Computed tomography
DP	Dorsal pancreatic anlage.
EUS	Endoscopic ultrasonography
EP	Endoscopic papillectomy
FAP	Familial adenomatous polyposis
HGD	High grade dysplasia
HNPCC	Hereditary nonpolyposis colorectal cancer
LGD	Low grade dysplasia
LVP	left ventral pancreatic anlage
MMC	Migratory motor complex
MPD	main pancreatic duct
P.D	Pancreatico-duodenectomy
PP-rich	pancreatic polypeptide rich
RVP	Right ventral pancreatic anlage
TD	Trans-duodenal ampullectomy

List of Tables

List of Figures

List of Figures

Introduction



Introduction

The ampulla of Vater, also known as the hepatopancreatic ampulla, is formed by the union of the pancreatic duct and the common bile duct. The ampulla is specifically located at the major duodenal papilla. The ampulla of Vater is an important landmark, halfway along the second part of the duodenum, that marks the anatomical transition from foregut to midgut (and hence the point where the celiac trunk stops supplying the gut and the superior mesenteric artery takes over ***(Gan,2007).***

Carcinoma of the ampulla of Vater is a rare malignant tumor arising within 2 cm of the distal end of the common bile duct, where it passes through the wall of the duodenum and ampullary papilla ***(Carter, 2008).***

Neoplastic transformation of the intestinal mucosa occurs more commonly near the ampulla than at any other site in the small intestine. Despite this, primary ampullary tumors are rare, with an incidence of approximately four to six cases per million population. They account for only 6 percent of lesions that arise in the periampullary region but are responsible for 20 percent of all tumor-related obstructions of the CBD ***(Benhamiche, 2003).***

Ampullary tumors generally present at an earlier stage than periampullary tumors. Their strategic location may cause early biliary obstruction with jaundice (75%), biliary colic, bleeding or pancreatitis. Serum bilirubin and transaminase typically are elevated. Jaundice may intermittently wax and wane because of central necrosis and sloughing or pressure opening of a minimally obstructed duct ***(Talamini, 2003).***

Diagnostic imaging modalities for patients with suspected periampullary neoplasms include ultrasonography, computed tomography scanning, magnetic resonance imaging (MRI) and magnetic resonance cholangiopancreatography, endoscopic retrograde cholangiopancreatography, percutaneous transhepatic cholangiography and positron emission tomography. With appropriate use of these studies, one should be able to arrive at the diagnosis of pancreatic cancer in more than 90% of patients presenting with the disease ***(Warshaw, 2003).***

Halsted in 1898, was the first who attempted successfully local resection of a periampullary carcinoma, but this patient died 7 months later for a recurrent tumor. Codivilla, was the first to perform en block removal of the entire duodenum with the head of the pancreas for periampullary cancer, and Kausch, performed the first successful such resection using a two-stage approach. A one-

stage pancreaticoduodenectomy was described independently by ***Whipple and colleagues (1935) and Brunschwig (1937) (Holzheimer, 2001).***

Pancreaticoduodenectomy has the benefit of a low recurrence rate, but carries high morbidity (57%) and mortality rates (7%). Conversely, the lower morbidity (19%) and mortality (2%) rates of localized resection of the tumor are associated with higher recurrence rates (23%) (Mean length of hospital stay ranges from 11 to 13 days following localized resection and 15-23 days following pancreaticoduodenectomy ***(Cahen, 2002).***

Since its first description in 1983 by *Suzuk*i et al and the first large case series in 1993 by *Binmoeller* et al, endoscopic ampullectomy has gained widespread acceptance for the treatment of benign adenomas. Eradication can be achieved in 85% of cases with low morbidity and mortality. Furthermore, hospitalization can be avoided in most patients, since endoscopic ampullectomy can usually be performed with conscious or deep sedation on an outpatient basis ***(Inmoeller, 2004).***

Aim of the Work

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This study aims at summarizing and critically analyzing the available evidence on the status and future perspective of localized resection of the ampulla of vater in cases of ampullary carcinoma in comparison to other surgical approaches.