

## Early Experience with Pancreatic, Periapillary malignancies: Case Reviews, Management Guidelines and Discussion

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### Abstract

Pancreatic and periampullary cancer is an important health problem for which no simple screening test is available. Cigarette smoking has a strong aetiological association, other risk factors include chronic pancreatitis, adult onset diabetes, hereditary pancreatitis and familial pancreatic cancer.

Treatment aim at palliative surgery to relieve symptoms, resectional surgery with the intent to cure, biliary stenting to relieve jaundice and lastly various modalities for pain management. There is increasing use of chemotherapy and radiotherapy, both as palliative measures, but the benefit remain questionable, until further multicentric trials are conducted.

We report five cases of pancreatic and periampullary malignancies who underwent some form of intervention in our unit in the last three months. Two of the cases underwent resectional surgery with the intent of cure, whereas the other two had palliative surgery and one underwent biliary stenting. Adjuvant chemotherapy was given to one who had undergone resectional pancreaticoduodenectomy, others were discharged with no adjuvant therapy.

**Key words:** pancreatic periampullary cancer, resectional surgery, palliative, pancreaticoduodenectomy.

### Introduction

Resection of pancreatic and periampullary carcinoma has traditionally been associated with high morbidity rate 40-60% and a mortality of around 30%. The dismal prognosis even after resection, has led to a nihilistic approach by many physicians. Gudjonsson concluded, after extensive review of 80,000 patients with pancreatic carcinoma, with an overall 5-year survival of 0.4%, that "pancreatic resection was wasteful of resources." However recently the mortality rate has decreased dramatically to <5% and several series of over 100 consecutive resection without a death have now been reported, leading to a more optimistic view in favour of resection.

In 1935, Whipple et al. described a two-stage pancreaticoduodenectomy for the treatment of carcinoma of the ampulla of Vater. In the report, the distal stomach, pylorus and proximal duodenum were preserved. In 1941, Whipple reported the first successful one stage radical pancreaticoduodenectomy in which the distal stomach, pylorus and duodenum were removed. Since then, a number of technical modifications have been reported.

The treatment of pancreatobiliary malignancy are largely centred around palliative surgery to relieve symptoms, resectional surgery for cure, and endoscopic and percutaneous biliary stenting to relieve jaundice. There have been three controlled trials of palliation of obstructive jaundice by stenting or surgical by pass but the results do not favour one method for use in all cases. The advantages of stenting include fewer immediate complication and shorter initial treatment time whereas surgery has better long term patency. Mortality rates at 30 days and median survival are similar with both techniques.

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Most patients requiring relief of obstructive jaundice will be adequately treated by placement of a plastic stent; surgical bypass may be preferred in patients likely to survive more than six months.

### Patient Review

#### Case -1: Resectional surgery

77yrs old male, admitted with history of generalized weakness, weight loss, loss of appetite and jaundice since last couple of months, treated with alternative medicines in the past with no relief was investigated liver function tests revealed features of obstructive

jaundice. Ultrasound showed a hypoechoic lesion at the region of distal CBD and head of pancreas with dilatation of the intrahepatic biliary radicals. CT scan showed a mass lesion at the distal CBD. The ERCP was performed which confirmed cholangiocarcinoma of the distal CBD. Whipples Pancreaticoduodenectomy was performed with operative findings of mass at distal CBD, with induration at the head of pancreas. Pancreaticojejunostomy was done with dunking of the pancreatic remnant into the jejunum and a feeding tube 6fr was left in the pancreatic duct for drainage. Incidentally the patient was detected to

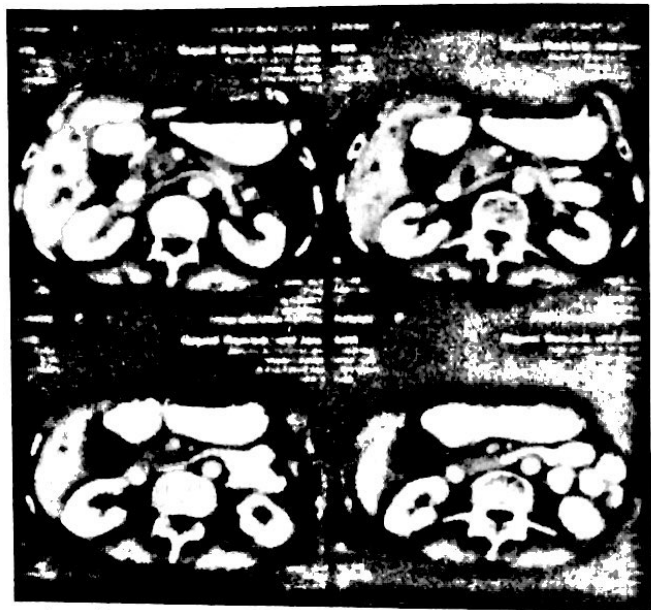


Figure 1 & 2 showing ERCP and CTscan of the patient showing dilatation of the CBD and intrahepatic biliary radicals . cholangiocarcinoma of the distal CBD is seen in the ERCP.No ascites or lymphadenopathy and liver appears normal.

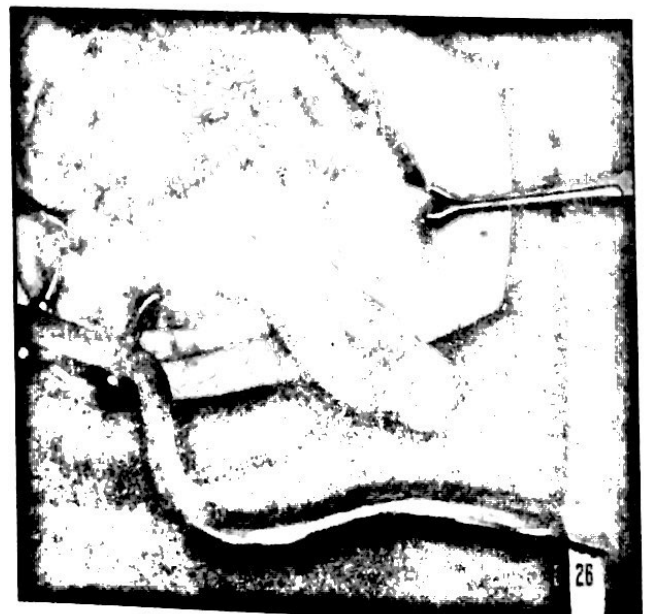
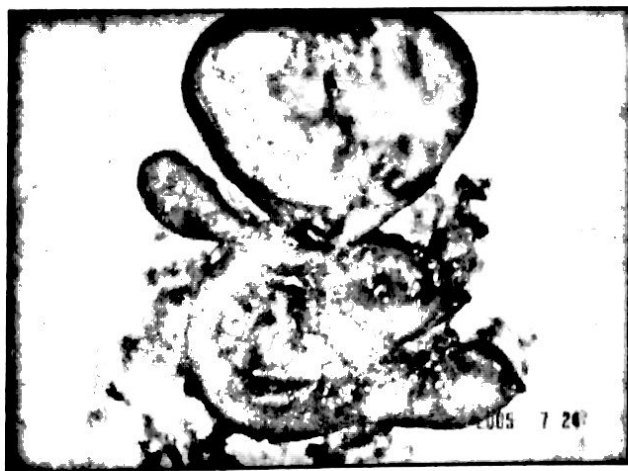


Figure 3 & 4 showing Completion of pancreaticoduodenectomy with anastomosis and the mucocoele of the appendix

have mucocele of the appendix which too was removed. Post operative period was uneventful and the patient was discharged after two weeks. No adjuvant therapy was planned. Histologically tumour was limited to the distal CBD, with no infiltration to the pancreas and no involvement of the lymphnodes.

#### Case 2: Palliative by-pass

44yrs female, presented with history of jaundice and weight loss of 3 months duration. On abdominal examination she had an enlarged liver with palpable gall bladder. With the provisional diagnosis of malignancy of the pancreatic head, various investigations were carried out. Ultrasound showed a hypoechoic mass 3.7cm in size at the pancreatic head. CT scan showed a similar lesion but distal CBD mass could not be ruled out. ERCP attempted was unsuccessful. Due to progressive jaundice it was decided to explore and perform resectional surgery or a by pass. Surgery confirmed a hard mass 4x4 cm at the head of the pancreas invading the portal vein. Resection was not possible and therefore a triple by- pass was performed.



Post operatively the patient developed wound infection which was managed conservatively, and the patient discharged at a later date. Three months later on follow-up the patient was asymptomatic and comfortable.

#### Case 3: Resectional surgery

44 yrs female patient, admitted with obstructive jaundice was investigated, USG showed enlarged liver with dilated intrahepatic radicals and CBD, with an ovarian dermoid cyst. CT scan revealed a small ampullary mass which was confirmed with ERCP. During ERCP a stent was also placed. A healthy young patient with a small ampullary mass, resectional surgery was contemplated.

Whipples pancreaticoduodenectomy was performed, with excision of the dermoid. Surprisingly stent placed at ERCP had migrated and was not to be found at surgery.

Patient made good postoperative recovery; since the patient was young we referred the patient to Bhaktapur Cancer Hospital for adjuvant therapy.



Figure 5 & 6 showing Specimen of the pancreaticoduodenectomy with the excised dermoid cyst, 2nd specimen showing ampullary mass

#### Case 4: Palliative segment III by-pass

60 years female patient admitted with history of pain abdomen and jaundice of 3 weeks duration. Abdominal examination was inconclusive and an ultrasound showed a large CBD calculus. Cholecystectomy with CBD exploration was planned. During surgery a mass was noted at the Hartmann's pouch infiltrating into the common

hepatic duct. CBD was opened to find the growth extending into both the right as well as the left hepatic ducts. Cholecystectomy with excision of the hard mass from the hepatic duct for biopsy was done. Subsequently segment III was exposed and a hepaticojejunostomy was performed. Histopathological examination confirmed Gall bladder carcinoma with infiltration into the

common hepatic duct. Postoperatively, the jaundice decreased but a month later the patient was re admitted with refractory ascites, and expired 45 days post surgery.



*Figure 7 & 8 showing Exposure of the segment 3 with the jejunum being anastomosed*

### **Case 5 : Biliary Stenting**

40 Yrs old patient who had presented with obstructive jaundice, later was diagnosed as a case of cholangiocarcinoma, distal CBD. The patient had undergone ERCP which was followed with a plastic biliary stenting six months back. On follow up the stent had blocked and the patient had developed deep jaundice. We reassessed the patient for possibility of resectional surgery, but on CT scan was found to have multiple liver metastasis. So the patient was discharged with palliative internal drainage.

### **Guidelines for Management**

The diagnosis of pancreatic cancer should be considered in patients with adult onset diabetes who have no predisposing features or family history of

diabetes. It also should be excluded during the investigation of patients who have had an unexplained episode of acute pancreatitis. When pancreatic malignancy is suspected, selective use of CT, ERCP or MRCP will accurately delineate tumour size, infiltration and presence of metastasis.

Attempts should be made to obtain tissue diagnosis, but failure to obtain histological confirmation should not delay surgical management in suspected cases of malignancy.

Resectional surgery is the only definite treatment for these malignancies, pancreaticoduodenectomy being the most appropriate procedure. Most patients requiring relief of obstructive jaundice will be adequately treated by placement of stents, surgical by-pass may be preferred in patients expected to live more than six months.

Certain trials have shown a survival benefit with multimodal therapy compared with resection alone, but more randomized trials are awaited to confirm the results. Adjuvant as well as neoadjuvant chemoradiation therapy have been tried and studies suggest there may be improvement in locoregional control but no significant survival benefit.

Pain is another distressing factor in pancreatic malignancy. Pain relief should be achieved using a progressive analgesic ladder. Neurolytic celiac plexus block is an effective means of pain relief and can be considered at time of palliative management or by percutaneous or endoscopic approach.

Attention to dietary intake with pancreatic enzyme supplements should be used to maintain weight and increase quality of life.

### **Discussion**

The three main features of pancreatic cancer are weight loss, pain and jaundice. Persistent back pain with severe and rapid weight loss are features of unresectability. Jaundice draws attention to ampullary tumours at a relatively early stage which accounts for their higher resectability. There are no clinical features which clearly define a patient group with potentially curable pancreatic or periampullary carcinoma.

The treatment of these malignancy are resectional surgery with the intent of cure, palliative surgical bypass procedures and percutaneous and endoscopic stenting to relieve jaundice. In our case review too all these modalities of management have been put to use after individual evaluation of the

patients. In one of the young patient with ampullary carcinoma the patient was subjected to adjuvant chemotherapy following pancreaticoduodenectomy. One patient was subjected to Biliary stenting where the prognosis was very poor and survival was expected in months.

Though recent studies describe a significantly lower hospital mortality rate in high volume centres as compared to the low volume centres, study from Netherlands reported that 46% of the pancreaticoduodenectomies were performed in small-volume centres (less than five resections a year). It has been suggested that doctors in low volume centre treat more high risk patients with more co-morbidity and more advanced disease, which would influence the outcome negatively. In our country we do not have these specialized centres for management of pancreatic malignancies and hence it's the low volume centres, which have to perform majority of these demanding surgeries.

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