

Pancreaticoduodenectomy Outcomes, Single Center Experience

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Abstract

Pancreatic cancer is a disease with a poor prognosis and one of the most frequent causes of death from cancer in Europe and North America. Radical surgical resection is the only curative option, but unfortunately more than 80% of patients present unrespectable disease, in our study we reviewed all patient who underwent pancreatic-duodenectomy for curative intend between 2010 to 2018.

Keywords: Pancreatic-Duodenectomy; Whipple; Pancreatic Neoplasm; Periampullary Neoplasm

Introduction

Pancreatic cancer is a disease with a poor prognosis and one of the most frequent causes of death from cancer in Europe and North America. It is the fourth most common cause of cancer death in men and the fifth in women [1]. The prevalence of this pathology is increases with age where Patients 20 - 29 years old have an annual incidence of 0.1 cases of pancreatic cancer per 100,000 population, while patients older than 80 have an annual incidence of 87.2 cases per 100,000 population [2]. Moreover, the radical surgical resection is the only curative option, but unfortunately more than 80% of patients present unrespectable disease. Furthermore, only about 15 - 20% of those individuals with pancreatic cancer will be found to be eligible for surgery with Median survival from diagnosis is around five months [3]. The survival is higher for the others peri-ampullary neoplasms like distal bile duct cancer (20 - 25%), Ampullary cancer (30 - 40%) and duodenal cancer (50 - 60%) [4]. The causes of pancreatic cancer are unknown, but we consider risk factors like smoking and tobacco usage, alcohol consumption, coffee, history of diabetes or chronic pancreatitis [5].

In this study we present the surgical experience in a regional unit, analyzing the postoperative outcome, survival and determining factors that influence the survival after treatment of respectable pancreatic cancer and periampullary neoplasms with attention to evaluate the evolution of surgical technique, clinical postoperative outcomes.

Method

This is a retrospective review of the data of all patients who underwent pancreaticoduodenectomy (PD) for periampullary tumor in King Abdul-Aziz University hospital (KAUH) during the period from 2010 to 2018. We collected all patient's data and information through KAUH computer system (phoenix), that it stored in secure devise.

In This study we included 36 patients who underwent PD for different periampullary tumors (benign and malignant lesions) at our Center. With exclusion of Patients who failed to complete the PD procedure due to the presence of locally advanced or distant metastatic

disease that was not detected in preoperative radiological workup. Patients characteristics registered were age, gender, presenting symptoms, past medical history and presence of comorbidity with American Society of Anesthesiology (ASA) score, ECOG score, operative time, pathological findings, estimated blood loss, major postoperative complications, operative mortality which defined as death within one month of operation and post-operative length of stay

Our Aim of this study was to report our experience in the management of resectable pancreatic cancer and peri-ampullary malignancies with attention to evaluate the postoperative outcomes compared to international figures. Statistical analysis of the data in this study was performed using SPSS software for windows, version 20.

Results and Discussion

In our department of General surgery at King Abdul-Aziz University Hospital, between January 2010 and January 2018 we did total of 36 cases of PD, of whom 13 female, 23 male, mean age 62.6 years. Most of the patients had ECOG score of 0 with percentage 91.7%, In the other hand 66.6% of the patients has ASA score of 3, while 19.4% has ASA score of 2, upon reviewing the history the most frequent complain was Jaundice 69.4%, followed by abdominal pain 38.9% (Table 1). Comorbid diseases were present in 38% of patient, majority has Diabetes Miletus followed by high blood pressure (Table 2).

	Yes	
	N patient	Percentage
Hx of Abdominal pain	14	38.9%
Hx of N/V	11	30.6%
Jaundice	25	69.4%
Itching	11	30.6%
Loss of wt	12	33.3%
Loss of appetite	12	33.3%
Change bowel happit	7	19.4%
Fever	8	22.2%
Back pain	1	2.8%

Table 1: Most frequent complain.

History	Yes	
	N patient	Percentage
DM	14	38.9%
HTN	13	36.1%
Dyslipidemia	2	5.6%
Cardiac ds	1	2.8%

Table 2

Of the patient with pancreatic malignancy 72.2% were stage 1 and 27.8% stage 2. All operation was done for curative intent no single operation was palliative. A midline laparotomy incision was used routinely, no single case was done laparoscopic nor robotic. Non-Pyloric preserving pancreaticoduodenectomies were routinely done. Furthermore, the sequence of anastomosis to the jejunum was pancreatic jejunostomy, hepaticojejunostomy, and gastrojejunostomy. Two drains were inserted all the time, at the pancreatic anastomosis and at the hepatic-jejunostomy.

The operation lasts an average of 454 minutes (7h and 34 minutes), The mean operative blood loss is 1000 ml (ranges from 200 ml to 7000 ml). The usual Post-operative length of stay was 20 day, 90% of the patient has 2 days stay in ICU for post-operative observation.

Overall the major morbidity rate was 22.2%, one patient required reoperation for compartment syndrome, that needs urgent decompression surgery, the major morbidity was intraabdominal collection, that mandate percutaneous drainage and intra venous/oral antibiotics none of them needed reoperation. Superficial wound infection was recorded in six patients, two of them had wound dehiscence. We also faced two cases of post-operative bleeding that was controlled using coil in the intervention radiology department. First patient had the bleeding from a branch of the superior mesenteric artery while the other patient had the bleeding from superior mesenteric vein branch. Single case of delayed gastric emptying, upper endoscopy and barium swallow study confirm the diagnosis, in which he was managed with oral erythromycin and metoclopramide. Eventually the patient was able to tolerate soft diet. We encountered two cases of leak, both patients had a leak from the pancreatic-jejunoanastomosis, resulting in intra-abdominal collection. It was successfully controlled after insertion of percutaneous drain.

We had one mortality, the same patient who had compartment syndrome that needed an urgent surgical Intervention, decompression surgery was done, but patient didn't tolerate the operation and passed away a day after.

Conclusion

Pancreatic cancer is the fourth leading Cause of death among malignancy related deaths in United states [6]. The disease prognosis is poor. Around 15 - 20% of the patients have resectable cancer on presentation, but near 20% of these patients survive to 5 years [7]. The survival is best for those patients with malignant disease which is localized to the pancreas. The operation involving removal of the pancreatic head with duodenum, part of stomach and distal CBD and three anastomosis, This kind of operation has 30 - 40% risk of morbidity and 5% mortality [8], it ranges from mild morbidity as wound infection, and sever as anastomotic leak or even hemorrhage [9] thus such operation has to be done in specialized center with experienced surgeon.

In our experience we had similar major morbidity and mortality rate to the worldwide average. We think this kind of operation has been improved over the last decade, surgeons are now more competent to do these difficult operations. We also think that the low volume in our center make it challenging to assess accurately the outcomes and the survival rate.

Bibliography

1. Greenlee RT, *et al.* "Cancer statistics, 2000". *CA: A Cancer Journal for Clinicians* 50.1 (2000): 7-33.
2. TS Rial, *et al.* "Resected periampullary adenocarcinoma:5-years survivors and their 6- to 10-years follow-up". *Surgery* 140.5 (2006): 764-772.
3. G Crile Jr. "The advantages of bypass operations over radical pancreatoduodenectomy in the treatment of pancreatic carcinoma". *Surgery, Gynecology and Obstetrics* 130.6 (1970): 1049-1053.
4. A Rocca, *et al.* "Primary giant hepatic neuroendocrine carcinoma: a case report". *International Journal of Surgery* 12.1 (2014): S3-S11.
5. M Hidalgo. "Pancreatic cancer". *New England Journal of Medicine* 362.17 (2010): 1605-1617.
6. Hand F and Conlon KC. "Pancreatic cancer". *Surgery* 37.6 (2019): 319-326.
7. Li D., *et al.* "Pancreatic cancer". *Lancet* 363.9414 (2004): 1049-1057.

8. Hoshal VL, *et al.* "Personal experience with the whipple operation: Outcomes and lessons learned". *American Surgeon* 70.2 (2004): 121-125.
9. Puppala S, *et al.* "Hemorrhagic complications after whipple surgery: Imaging and radiologic intervention". *American Journal of Roentgenology* 196.1 (2011): 192-197.

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