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ORIGINAL ARTICLE

Outcome of Palliative Surgery in Advanced Pancreatic Cancer in Sudanese Patients in Ibn Sina Specialized Hospital

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Abstract :

Introduction: Pancreatic cancer is the 4th leading cause of death and due to late presentation, the curative procedures are more challenging and difficult. Pancreatic cancer is not uncommon in Sudanese patients and usually presents late. The aim of this study was to assess the outcome of palliative surgery in advanced pancreatic cancer and to reflect our local experience.

Methodology: It was a prospective cross-sectional hospital-based study. It included 92 patients with advanced pancreatic cancer in Ibn Sina Specialized Hospital. Data were collected and variables; age, gender, origin and clinical features were measured. Patients were classified based on type of surgery (single, double or triple bypass). Data collected and analyzed by using statistical package for social sciences (SPSS) computer program version 20. Qualitative data were analyzed by using descriptive statistic t test and pearson chi_square. The *P* value was considered significant if <0.05 .

Results: The mean age of the study was 65.4, (+/-13SD) male to female ratio was 1.8:1. The majority of the patients (36%) were from northern state; namely Shwaiga, Mahas, Bederia and Gaalian and 22% from Western state namely Baggara, Jamoia and Foor. Nearly two-third of the patients had double bypass, and the remaining were equally single and triple bypass. The main presenting symptoms were jaundice, dyspepsia and vomiting and it is significantly common among alcohol consumers. Dyspepsia was statistically early symptoms and serum aspartate transaminase (AST) and alkaline phosphatase (ALP) were statistically high. There was less than 30 % of those who survived more than one year. There was no statistically significant difference between type of bypass and the outcome.

Conclusion: The outcome of those patients was not affected by modality of bypass. Dyspepsia was the earliest complain and high serum aspartate transaminase (AST) and alkaline phosphatase (ALP) could be important prognostic factors. pancreatic cancer is common in certain populations.

Key word: palliative surgery, advanced pancreatic cancer, bypass surgery, jaundice.

Introduction:

Pancreatic cancer is considered to have the worst prognosis in last decade with 6% 5year survival rate, and extremely difficult to treat ⁽¹⁾

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Environmental and genetic factors are playing a major role in the incidence of disease. Patients are usually diagnosed in advanced stages, metastatic or locally advanced disease and are usually not candidates for curative resection. Palliation in these patients focuses on relief of biliary obstruction and gastroduodenal obstruction. Palliative treatment modalities can be done as surgical or endoscopic.⁽²⁾

Prognosis of pancreatic cancer is still poor even in completely resected patients; multimodal regimes might improve prognosis. Additionally, advances in surgical technique and preoperative management have reduced operative mortality and improved outcome.⁽³⁾

The objective of this study was to compare the outcome of surgery as palliative treatment in Sudan with international figures and detect risk factors and new modalities for prognosis and follow up.

Materials and Methods:

It was a prospective cross-sectional hospital-based study. It included 92 patients with advanced pancreatic cancer in IbnSina specialized hospital in the period from Jan 2017 to Jan 2018 including a total number of patients who were admitted and consented to the study and excluding those who refused. Data were collected and variables; age, gender, origin and clinical feature were measured, patients were classified based on type of surgery (single, double or triple bypass). Preoperative and post operative assessment of clinical features and laboratory investigations were collected by designed questionnaire and analyzed by using statistical package for social sciences (SPSS) computer program version 20. Qualitative data were analyzed by using descriptive statistic t test and pearson chi square. The *P* value was considered significant if <0.05 .

Results:

This study involved 92 patients diagnosed as advanced pancreatic cancer in Ibn Sina hospital clinically and by using laboratory and radiological diagnostic tools during period of study from January 2017 to January 2018. Nearly 50% of patients age between (61-70) years, the mean age was 65.4(+/-13SD) the ratio between males and females was 1.8:1. There was 65.2% of males and 34.8% of females who presented with advanced pancreatic cancer.

According the origin of patients the results showed that 37% were from center of Sudan and 23.9% from west, 21.7% from north, 12% from west and 5.4% from south of Sudan. Certain tribes showed increased susceptibility of pancreatic tumor incidence more than others, like Shawaiga, Mahas, Bediria and Gaalia from north and Albaggara, Jomoaa and Alfor from west of Sudan.

Nearly 94.6% (n=87) of the patients presented with deep jaundice, which was progressive and most of them used traditional managements before admission (p=0.00).

There were 68.5% (n=63) of the patients who had history of dyspepsia during last year before jaundice (p=0.021) and duration of at least one month. up to one year.

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Many of patients complained of vomiting (n=57) 61.9%,(p=0.03) in duration between 1 week to 6weeks. (p=0.00).There were 28.2% (n=26)of them had diabetes mellitus (DM) type2 and none of them was type1,no obvious correlation between diabetic patients and the incidence of pancreatic cancer or the survival in one year follow up (p=0.283), on the other hand 10.8% (n=10) of patients consume alcohol in the form of local alcohol (aragy or mareesa)for at least 10 years of their lives (p=0.017). There were 22.8%(n=21) of the cases who smoked more than 10 cigarettes per day, and only 3 of them still smoking.

Laboratory investigations revealed that 93.4% (n=89) of the study population had high total bilirubin mainly direct more than 5mg/dl (p=0.008) and64.1% (n=59) were found to have low serum albumin <3g/dl , and 91.3% (n=84) of the patients had high level of AST more than50iu/l (p=0.05). There were95.6% (n=88) patients who had high readings of ALP more than150iu/l (p=0.005).(Figur 1)

Due to advanced cases, palliative surgery was the option of management. There were three types of surgery performed:15.2%(n=14) cases underwent single bypass surgery,68.4% (n=63) were treated by double bypass and triple bypass preformed for16.3%(n=15) cases (Table 2), only. 98.9% (n=91) patients received adjuvant chemotherapy.

One year mortality rate in this study was 72%(n=67).

Discussion:

This study involved 92 cases of advanced pancreatic cancer in Ibsina hospital. Patients were diagnosed –clinical and investigations and then admitted. They underwent three types of surgical bypass 14(15.2%) single bypass surgery in form of cholecystojejunostomy or duodenal bypass, 63(68.5%) double bypass in form of cholecystojejunostomy plus duodenal bypass, 15(16.3%) triple bypass in form of double bypass plus enteroentrostomy . Study proved no significant difference in outcome through one year of follow up according to type of surgery and no significant increase in overall lifespan of patients, but the dramatic improvement of obstructive jaundice improved the quality of life and decreased frequency of cholangitis and jaundice complication which matches with international literature with preference of double bypass surgery including gastroduodjenostomy cause 20%of patients are developing gastric outlet obstruction (GOO) during time of disease. Double bypass surgery achieved effective palliation in 95% in jaundiced and GOO patients(3).⁽¹⁰⁾

The majority of the patients (36%) were from northern states; namely Shwaiga, Mahas, Bederia and Gaalian and 22% from Western state namely Baggara, Jomoaia and Foor.

With increase incidence than the year before study by 3% which matches with the international study of prognosis of the disease and the ability to be 2nd fatal cancer by 2020.⁽⁴⁾

In the study(n=26) 28.2% were known typ2 DM for more than 1 year and appeared no significant statistic values(p=0.283) as it was described in a study done in 2011 in France - 122 patients of pancreatic cancer 56 of them were diabetic showed similar clinical incidence and prognosis in both groups (diabetes –without diabetes).⁽⁵⁾

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Alcoholic patients were (n=10) 10.8% for more than 10 years of their life, which showed significant statistic value (p=0.017) in one year follow up outcome. Type of alcohol was local (Aragy –Mareesa) which were known by their high ethanol concentration may reach 50%.

In comparison with long time Australian study over 20 years which revealed no significant statistic value between incidence of pancreatic cancer and alcoholic patients, but the higher lifetime alcohol intake was associated with high mortality rate 95% among the patients of pancreatic cancer.⁽⁶⁾

Japanese society of gastroentology raised a red flag about obesity and alcohol consumption as etiologies and progression causes of pancreatic cancer.⁽⁷⁾

On the other hand labratotary investigations of patients revealed a high total bilirubin in 86 patients and high AST in the study 93.4% specially in the local advanced patients more than 50 iu/l. Multicenter cohort study in China from 2004-2013 in association between laboratory incidence and prognosis of advanced pancreatic cancer approved that ,the elevation of AST or ALT and low albumin and high CA19-9 were associated with decreased survival for stage 3 but not stage 4.⁽⁸⁾

We have reserved the palliative non surgical procedures only to high surgical risk patients. In the other cases we have chosen palliative surgery for better long-term results and quality of life in the general series patients as well as in geriatric patients.

Survival rate in the study in one year follow up after palliative surgery was 28% and the international literature account the survival rate over 5 years was 6%.⁽⁹⁾

All patients who presented with jaundice (n=87)94,6% (Table 1) completely responded to palliative surgery and jaundice clinically and laboratory declined from all of them (p=0.00),and it's described in literature by 100% response to surgical bypass of jaundice.⁽¹⁰⁾

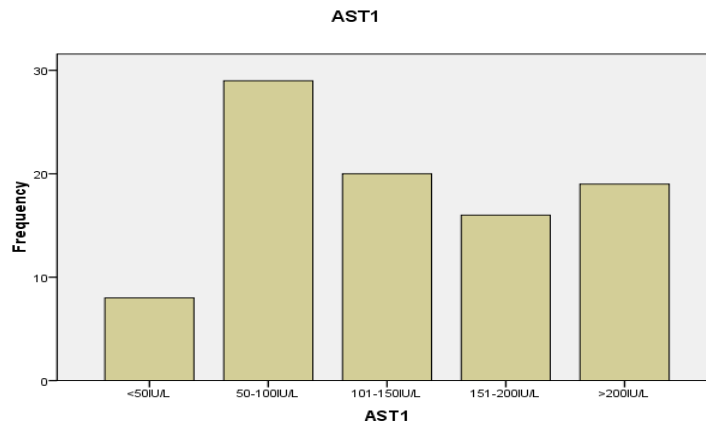
Table(1): Patients who presented with jaundice

jaundice					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	87	94.6	94.6	94.6
	no	5	5.4	5.4	100.0
	Total	92	100.0	100.0	

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Table (2): Typeofoperation2 * Followup1year Crosstabulation

typeofoperation2 * Followup1year Crosstabulation						
Count						
		Followup1year				Total
		improved	static	deteriorated	died	
typeofoperation2	single bypass	1	2	4	7	14
	duoble bypass	0	3	13	47	63
	triple bypass	0	1	2	12	15
Total		1	6	19	66	92



Figur (1): AST 1 level

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