CLINICAL EXPERIENCE WITH PANCREATICODUODENECTOMY AT A TERTIARY CARE CENTRE

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Abstract- Background: The goal of this study was to evaluate the Whipple pancreaticoduodenectomy in 30 patients from 2020 to 2022 in our hospital by analysing the figures pertaining to the patient demographics, clinical features, intraoperative parameters, pathology and post operative complications. Methods**:** This was a non-randomized retrospective observational study that was conducted at the Department of surgical oncology, Chirayu Cancer Hospital, Bhopal from June 2020 to June 2022. Fourteen of the patients underwent pre-operative ERCP with CBD stenting and were operated after a period of three weeks. Inclusion Criteria: A total of 30 patients undergoing pancreaticoduodenectomy were recruited in the study. Exclusion criteria: The patients with distant metastasis, superior mesenteric artery involvement, or extensive portal vein involvement were considered unresectable, hence excluded from the study. Patients with cardiorespiratory compromise or with uncontrolled diabetes were also excluded from the study. Results: Analysis have shown that the mean age was 56.5 years and 22 patients were males and 8 were females. The mean operation time was 330 minutes and the average hospital stay was 12 days. The most common clinical feature was found to be jaundice in 26 patients (86.6%). Only 6.66% patients had a benign etiology and majority of patients had neoplasms (93.34%). Most common complication after surgery was found to be wound infection (23.33%) which contributed to the morbidity and lengthened the hospital stay but did not play a role in the post operative mortality. 2 patients died in the post operative period due to pulmonary complications and multi organ failure respectively.

Keywords: Carcinoma, Pancreaticoduodenectomy, ERCP, Clinical features, Post operative complications, Biopsy

DECLARATIONS:

- Ethics approval and consent to participate: There were no ethical implications in the study
- Consent for publication: Not applicable
- Availability of data and materials: The datasets generated and/or analysed during the current study are not publicly available due [taken from the institutional archives] but are available from the corresponding author on reasonable request.
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INTRODUCTION

The majority of pancreatic neoplasms and malignant lesions in the duodenum's peri-ampullary zone must be treated with pancreaticoduodenectomy. In 1935, Whipple et al. suggested pancreaticoduodenectomy as a treatment for peri-ampullary cancer.[1] The pancreaticoduodenectomy then developed into the preferred procedure for patients with pancreatic head, ampulla, distal bile duct, and duodenal cancer.[2] The goal of this study was to evaluate the Whipple pancreaticoduodenectomy from 2020 to 2022 in our hospital by analysing the figures pertaining to the patient demographics, clinical features, intraoperative parameters, pathology and post-operative complications.

AIM

To study and evaluate the patient demographics, clinical features, intraoperative parameters, pathology and post operative complications of 30 patients undergoing pancreaticoduodenectomy at a tertiary care centre.

METHODS

This was a non-randomized retrospective observational study that was conducted at the Department of surgical oncology, Chirayu Cancer Hospital, Bhopal from June 2020 to June 2022. Fourteen of the patients underwent pre-operative ERCP with CBD stenting and were operated after a period of three weeks.

INCLUSION CRITERIA: A total of 30 patients undergoing pancreaticoduodenectomy were recruited in the study.

EXCLUSION CRITERIA: The patients with distant metastasis, superior mesenteric artery involvement, or extensive portal vein involvement were considered unresectable, hence excluded from the study. Patients with cardiorespiratory compromise or with uncontrolled diabetes were also excluded from the study.

RESULTS

SYMPTOMS	NO. OF PATIENTS	PERCENTAGE
Jaundice	26	86.6%
Weight loss	17	56.6%
Anorexia	14	46.6%
Pain abdomen	5	16.6%
Nausea & vomiting	4	13.3%

Table 1: Statistics of symptoms

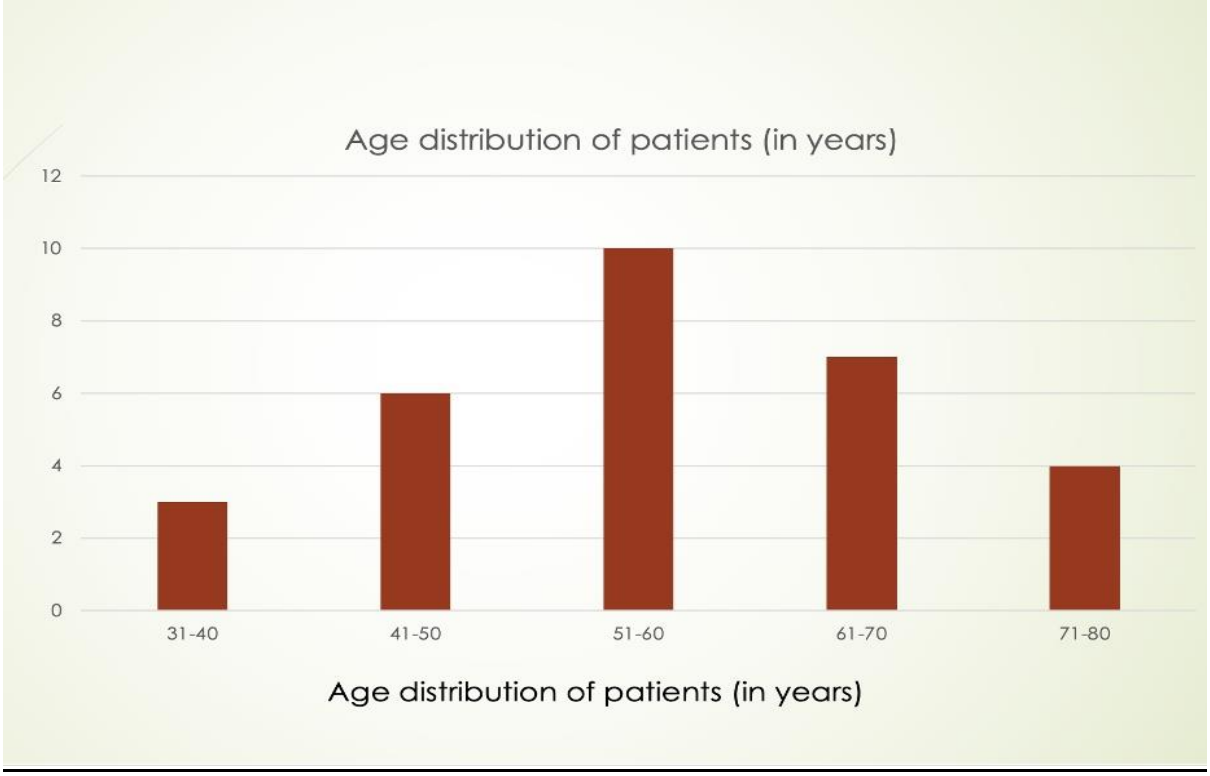

Figure 1: Age distribution of the patients

POST OPERATIVE DIAGNOSIS	NO. OF PATIENTS	PERCENTAGE
Pancreatic head adenocarcinoma	13	43.33%
Distal bile duct adenocarcinoma	6	20%
Ampullary carcinoma	5	16.66%
Duodenal Carcinoma	4	13.33%
Benign	2	6.66%

Table 2: Post operative diagnoses and their frequency

COMPLICATIONS	NO. OF PATIENTS	PERCENTAGE
Wound infection	4	13.33%
Pancreatic leak/fistula	4	13.33%
Pulmonary Complications	3	10%
Intraabdominal collections	2	6.66%
Postoperative hemorrhage	2	6.66%
Death	2	6.66%
Reoperation	1	3.33%

Table 3: Post operative complications with their occurrence rates

Analysis have shown that the mean age was 56.5 years and 22 patients were males and 8 were females. The mean operation time was 330 minutes and the average hospital stay was 9-10 days.
The most common clinical feature was found to be jaundice in 26 patients (86.6%).
Only 6.66% patients had a benign etiology and majority of patients had neoplasms (93.34%).
Most common complication after surgery was found to be wound infection (13.33%) which contributed to the morbidity and lengthened the hospital stay but did not play a role in the post operative mortality.
2 patients died in the post operative period due to pulmonary complications and multi organ failure respectively.
20 patients underwent the Dunkin pancreaticojejunostomy while the other 10 underwent duct to mucosa depending on the surgeon preference but it showed no significant difference in the patient outcomes.

DISCUSSION:

In this study, we share our experience of past 2 years with 30 PDs. In many ways, this one academic tertiary referral center's experience with this operation is consistent with that of other large centers. The pancreaticoduodenectomy technique is still difficult and extremely morbid. In our series, 73% of patients undergoing PD had a complication. Nonetheless, the majority of

these issues were mild and not life-threatening. Also, there were no specific postoperative problems, such as the need for additional surgeries, that were detrimental to survival.

PD can be carried out in high-volume centres with a tolerable mortality rate. PD is still the best treatment option for many benign and malignant periampullary diseases at this time. The key to reducing morbidity and perioperative mortality from this procedure is cautious patient selection and meticulous technique.[3] In several large volume centres, pancreatoduodenectomy has recently been performed with an operating mortality of less than 5%. However, this operation is still associated with a high incidence of post operative morbidity approaching 50%. A pancreatic fistula is the most important complication, from which approximately 80% of patient deaths result. The incidence of pancreatic fistula varies from 5% to 25% in most series.[4-7] The most important prognostic factors in patients undergoing PD are biology of the tumour, fitness of the patient and ability to achieve negative resection margins. The surgeon only has control over the margins of the resection.[8,9] PD should be approached with caution in patients who had complications from periampullary adenocarcinoma prior to surgery. In patients with periampullary adenocarcinoma, efforts to reduce transfusions and blood loss during surgery appear to be crucial to extending patient survival. If at all possible, negative margins should be achieved during surgery, and preserving the pylorus should be preferred.[10]

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