

# Analysis of demographic factors, clinical and investigation findings of patients with pancreatic adenocarcinoma who presented to a tertiary referral center in Sri Lanka

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(Index words: pancreatic adenocarcinoma, demographic and clinical data, tertiary referral center, Sri Lanka)

## Abstract

Pancreatic cancer has a high mortality and morbidity and its incidence has increased over the years. Our objective was to analyze the demographic and clinical data among pancreatic adenocarcinoma patients who presented to the University Surgical Unit, CSTH from 2018 to 2021. Of the 103 patients included, majority were males above the age of 60. The commonest presentation was epigastric pain (54%). 46% were resectable at the time of diagnosis but 50% of the study population were lost to follow up due to a multitude of reasons.

## Introduction

Pancreatic cancer is most often diagnosed in its late stages leading to high mortality and morbidity. Its incidence has risen steadily over the years and 495 773 new cases were detected in 2020 worldwide [1-3].

Following its diagnosis, the median survival time remains low in developed countries despite the advancements in medicine [3]. With the rise in incidence, the expenditure on treatment and patient rehabilitation is an added burden to the health sector [4].

During 2020, the age standardized incidence rates by sex and the age standardized mortality rates per 100 000 population for pancreatic cancer were lowest in the South-Central Asia [1]. In Sri Lanka, there has been a marginal increase in the incidence of pancreatic cancer from 2001 to 2010 with a higher proportion being reported in females [5]. In 2015 the total number of reported new cases was 176 according to the National Cancer Registry [6].

The aim of this study was to analyze the demographic data, clinical status, cancer type, investigation results and the treatment modalities undergone by the pancreatic cancer patients who presented to the Hepato-pancreaticobiliary (HPB) Clinic of the Colombo South Teaching Hospital (CSTH).

## Methodology

All patients already diagnosed with adenocarcinoma of the pancreas using a CECT abdomen and who presented to the HPB clinic of the University Surgical Unit, CSTH, Sri Lanka from 2018 to 2021, August were included in this study. Patient data collected by the doctors working at the HPB clinic with the patient consent for clinic purposes and entered by a research assistant was extracted and used. Ethical approval was not obtained for this study as individually identifiable data was not published and patient anonymity was maintained.

## Results

Of the 2228 patients who presented to the HPB clinic since 2018, 503 patients suffered from pathologies related to the pancreas. These included 331 patients with benign pancreatic pathologies such as acute and chronic pancreatitis and 172 with malignant conditions; 103 patients with adenocarcinoma pancreas and 69 with pancreatic cystic neoplasm. Of the adenocarcinoma patients, 8 had more than 1 field of data missing in the data base and had to be excluded from the analysis leaving only 96 patients.

*Ceylon Medical Journal* 2022; **67**: 59-62

DOI: <http://doi.org/10.4038/cmj.v67i2.9632>

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**Table 1. Demographic factors among patients diagnosed with adenocarcinoma of the pancreas**

		Frequency (n=95)	**Valid percentage (%)
Age at diagnosis	≤ 30 years	3	3.3
	31 - 60 years	29	31.9
	> 60 years	59	64.8
	*Not mentioned	4	-
Gender	Male	52	54.7
	Female	42	44.2
	*Not mentioned	1	-
Duration of symptoms	≤ 1 month	31	49.2
	> 1 month to 6 months	22	34.9
	> 6 months	10	15.9
	*Not mentioned	32	-
ASA value	1	24	27.6
	2	59	67.8
	3	4	4.6
	4	-	-
	5	-	-
	6	-	-
	*Not mentioned	8	-

\* Patients with only one field of data missing were also included in the analysis.

\*\* Calculated without including the 'not mentioned' categories.

Majority of the patients were above 60 years of age while only 3 patients were less than or equal to 30 years. There were more male patients (52) more compared to females (42). Approximately 50% had presented to the clinic within one month of developing symptoms but 16% had a delayed presentation of more than 6 months. 59 patients belonged to ASA 2 category and had comorbidities such as diabetes mellitus, hypertension, dyslipidemia, asthma and ischemic heart disease. There were none for ASA 4 and above.

**Table 2. Frequency and percentages of the individual presenting complaints reported among patients diagnosed with adenocarcinoma of the pancreas**

Presenting symptoms	Frequency (n = 90)*	Percentage (%)
Obstructive jaundice	39	43.3
Epigastric pain	49	54.4
Loss of appetite	39	43.3
Loss of weight	37	41.1
Cholangitis	3	3.3
Dyspeptic symptoms	3	3.3
Altered bowel habits	2	2.2
Umbilical discharge	1	1.1
Incidental finding	5	5.6

\*5 patients whose presenting symptoms were not mentioned in the data base had to be excluded

The commonest individual presenting complaint was epigastric pain seen in 49 people. Both obstructive jaundice and loss of appetite were also common complaints seen among 39 patients. 37 had significant loss of weight and a minority of patients complained of cholangitis and dyspeptic symptoms. It was an incidental finding in 5 patients.

**Table 3. Frequency and the percentages of tumor location, resectability, operability, management and prognosis**

		Frequency (n=95)	**Valid percentage (%)
Location of the tumor	Head and neck	78	82.2
	Body	5	5.5
	Tail	12	12.2
Management	Surgery	37	38.9
	Palliation	58	61.1
Outcome	Alive	12	12.6
	Dead	36	37.9
	Lost to follow up	47	49.5

The tumor was most commonly located in the head and neck region (78 patients) and it was least commonly found in the tail of the pancreas (12 patients) (Table 3). A majority of 58 patients underwent palliative management while only 37 had surgery with curative intent. The commonest location for distant metastasis was the liver as seen in 29 patients among 32 patients with distant metastasis. 28 patients did not show any metastasis while it was not mentioned in 35. Lung and peritoneal metastasis were each seen in 2 patients.

## Discussion

The HPB clinic, CSTH is a referral center for pancreatic cancer in Sri Lanka. The ratio between male and female patients who presented to the clinic was 1.2:1, which was similar to that seen in South-Central Asian countries as reported by the WHO [1].

The strengths in the HPB database were that data belonging to all the patients who present to the clinic are collected and maintained in a specially designed software application. However unfortunately some patient information had not been entered and 50% of the patients couldn't be contacted for follow-up. The possible reasons include the death of the patient being unreported in the database, change of contact numbers or change in residencies. Thus we were unable to do a statistical analysis on patient survival and it should be rectified during data collection in the future.

## Acknowledgements

The authors thank demonstrators, Drs. Thilini Kulasinghe, Varun Sri Skandharaja and the research

assistant, Ms. Hasangi Miyasika of the Department of Surgery, Faculty of Medical Sciences, University of Sri Jayewardenepura for their dedicated data collection and maintenance of the database.

## Author contributions

MJ designed and created the database. SLD extracted data from the database, analyzed, and wrote the manuscript. All authors reviewed and approved the final manuscript.

## Conflicts of interest

All authors had no conflicts of interest and all had access to study data. This was not sponsored by any funding organizations.

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