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Research Article

ANALYSIS OF FREQUENCY OF MALIGNANT LESIONS OF AMPULLARY AND PERIAMPULLARY REGION IN PATIENTS WITH OBSTRUCTIVE JAUNDICE

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Introduction: Ampullary lesion are common in male patients and in people above 60 years especially in heavy smokers, alcohol, coffee, high fat, high protein, low fruit and low vegetable intake. **Objectives:** The basic objective of the study is to analyse the frequency of malignant lesions of ampullary and periampullary region in patients with obstructive Jaundice.

Material and methods: This cross-sectional study was conducted in Aziz Bhatti Shaheed Teaching Hospital, Gujrat from February 2018 till July 2018. Biopsy specimen of 94 patients was enrolled for the study using inclusion criteria. Sample size was estimated by using 5% level of significance with expected frequency of 57% ampullary carcinoma as reported by a study conducted on patients with ampullary masses, with 10% margin of error. The sample size calculated was 94 by using WHO calculator for single proportion.

Results: Total 92 patients were included in this study. Mean age of all patients was 58.20 ± 12.02 years. Mean age of male and female patients was 57.69 ± 12.07 and 59.18 ± 12.03 years respectively. Age range for male patients was 35-76 years and for female patients age range was 45-80 years.

Conclusion: It is concluded that frequency of malignant lesions of ampullary and periampullary region in patients with obstructive Jaundice is quite high.

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INTRODUCTION:

Ampullary lesion are common in male patients and in people above 60 years especially in heavy smokers, alcohol, coffee, high fat, high protein, low fruit and low vegetable intake. The patient of ampullary growth presents with painless obstructive jaundice, anorexia, weight loss and pale colored stools with silver streaks (mostly seen in ampulla tumors) [1]. The causes of ampullary and periampullary cancer are not known however the risk factors most consistently identified is cigarette smoking which is around 25 to 30%. Carter et al in 2008 suggest that, histologically, ampullary tumors is classified as either pancreaticobiliary or intestinal, and that the behavior of the tumors reflects the classification. The intestinal ampullary adenocarcinomas is similar to that of their duodenal counterparts, whereas pancreaticobiliary tumors follows a more aggressive course, similar to pancreatic adenocarcinomas [2].

Ampulla may be involved by malignant lesions. Malignant lesion include adenocarcinoma, colloid carcinoma, hepatoid adenocarcinoma, neuroendocrine tumors. Other malignancies include lymphoma, carcinoid, stromal tumors including lipomas, GIST (gastrointestinal stromal tumors) Kaposi sarcoma [3]. Carcinoid tumors are 3% of the ampullary tumors and are more aggressive than duodenal carcinoid tumors. Adenocarcinoma may arise from villous or tubulovillous adenoma. It is associated with multiple polyposis syndrome and neurofibromatosis. Colloid carcinomas have greater association with intraductal papillary mucinous neoplasm and tubular and tubulovillous adenomas. Hepatoid adenocarcinoma is a rare condition produces alpha feto protein in blood and similar tumors are found in ovary, lung and stomach [4]. Large cell tumor, a neuroendocrine carcinoma is a highly aggressive tumor. Lymphomas more commonly follicular have high incidence in duodenum but usually in periampullary region. They may mimic pancreatic adenocarcinoma and they are associated with multiple small polyps [5].

All ampullary carcinomas are associated with p53 mutation and there is accumulation of abnormal gene product which is detected immunohistochemically. On the basis of autopsy investigation malignant lesions of the ampulla are found to range between 0.063 and 0.21% [6].

OBJECTIVES:

The basic objective of the study is to analyse the frequency of malignant lesions of ampullary and periampullary region in patients with obstructive Jaundice.

MATERIAL AND METHODS:

This cross sectional study was conducted in Aziz Bhatti Shaheed Teaching Hospital, Gujrat from February 2018 till July 2018. Biopsy specimen of 94 patients was enrolled for the study using inclusion criteria. Sample size was estimated by using 5% level of significance with expected frequency of 57% ampullary carcinoma as reported by a study conducted on patients with ampullary masses, with 10% margin of error. The sample size calculated was 94 by using WHO calculator for single proportion.

Sample collection

Formalin fixed specimen of mass/lesions of ampullary/periampullary region biopsies were received in the Histopathology department from the department of Endoscopy after ERCP.

Statistical analysis

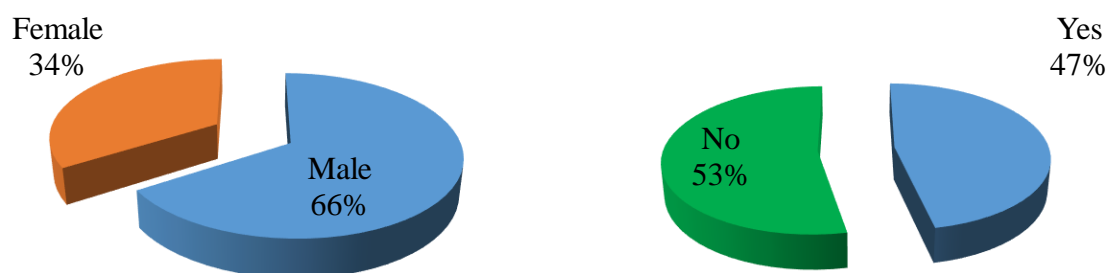
All data was entered into a standard proforma. Data was coded and entered using SPSS version 16. Analytical statistics, frequencies and percentages were computed for qualitative variables of gender and clinical features like, nausea, vomiting, pain in abdomen, obstructive jaundice.

Results

Total 92 patients were included in this study. Mean age of all patients was 58.20 ± 12.02 years. Mean age of male and female patients was 57.69 ± 12.07 and 59.18 ± 12.03 years respectively. Age range for male patients was 35-76 years and for female patients age range was 45-80 years.

TABLE 01: DESCRIPTIVE STATISTICS FOR AGE OF PATIENTS (YEARS)

	<i>Male</i>	<i>Female</i>	Total
	62	32	94
<i>Mean</i>	57.69	59.18	58.20
<i>SD</i>	12.07	12.03	12.02
<i>Minimum</i>	35.00	45.00	35
<i>Maximum</i>	76.00	80.00	80



SMOKING STATUS OF PATIENTS

TABLE 02: Histological Diagnosis Of Tumors In Relation To Smoking Status Of Patients

	Smoking		Total
	Yes	No	
<i>Well differentiated Adenocarcinoma</i>	19	13	32
<i>Poorly differentiated Adenocarcinoma</i>	4	4	8
<i>Periampullary Carcinoma</i>	2	6	8
<i>Moderately differentiated Adenocarcinoma</i>	5	8	13
<i>Moderate to poorly differentiated Adenocarcinoma</i>	1	1	2
<i>Mild to moderate degree of chronic non specific Enteritis</i>	4	2	6
<i>Cmalignant Round Cell tumor</i>	0	1	1
<i>Gastrointestinal Stromal tumor</i>	0	1	1
<i>Chronic nonspecific Enteritis</i>	3	9	12
<i>Chronic nonspecific Duodenitis</i>	1	2	3
<i>Carcinoma Insitu</i>	4	2	6
<i>Carcinoid tumor</i>	1	1	2
Total	44	50	94

Chi-Square= 10.14, p-value= 0.518 (Insignificant: p-value>0.05).

According to p-value histological diagnosis of tumors had insignificant association with smoking status of patients. i.e. (p-value=0.518) Rest of the details can be seen in above table.

DISCUSSION:

The primary ampullary tumors originate in the epithelium of the bile duct, the pancreatic duct or the duodenal mucosa. Ampullary and periampullary tumors are infrequent, but have a malignancy rate of more than 90%. Periampullary tumors comprise 5% of malignant gastrointestinal tumors, while ampullary tumors comprise less than 1%. The overall prevalence of resected periampullary cancers show in 50%-70%, cancer of the head of the pancreas, ampullary cancer in 15%-25%, biliary cancer in 10% and duodenal cancer in 10% [6]. The prognosis and survival of patients depends on the tissue of origin and the tumor stage. Survival of

these patients is greatest for ampullary and duodenal tumors (4 to 5 years), intermediate for bile duct tumors (3 years) and lowest for pancreatic tumors (less than 1 year). Accurate histological classification is not always possible, even after careful histopathological sample review [7].

In this study mean age of patients was 58.20±12.02 years. Male patients were greater as compared to female patients. Frequency of malignancy shows that there were 77% of patients who had malignancy [8,9]. All periampullary cancers arise from their respective epithelia and almost all are adenocarcinomas. Other tumors in the ampullary and periampullary region are basically ampullary villous adenomas or tubulovillous adenomas, hemangiomas, leiomyomas, leiomyofibromas, lipomas, lymphangiomas and neuroendocrine tumors [10].

CONCLUSION:

It is concluded that frequency of malignant lesions of ampullary and periampullary region in patients with obstructive Jaundice is quite high. Malignancy occurs more commonly in the ampulla of Vater than any other area in the small intestines. Given its proximity to vital structures of the pancreaticobiliary system, management of pathology involving the ampulla of Vater is a clinical challenge.

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