



CODEN [USA]: IAJPBB

ISSN: 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES

<http://doi.org/10.5281/zenodo.3525172>

Available online at: <http://www.iajps.com>

Research Article

ANALYSIS OF PREVALENCE OF NEUROENDOCRINE TUMORS IN THE AMPULLA OF VATER AND PERIAMPULLARY REGION

Muhammad Asad Shahzad¹, Ghulam Murtaza², Aamir Suhail³

¹Basic Health Unit Matrian District Lodhran

²Bahawalpur Victoria Hospital

³Government Rural Dispensary Niwani District Bhakkar

Abstract:

OBJECTIVE: To see the frequency of malignant lesions of ampullary and periampullary region in patients with obstructive Jaundice and its association with smoking. **METHODOLOGY:** This analytical study was conducted in Bahawal Victoria Hospital, Bahawalpur during 2018 to 2019. Total 94 patients were included in the study. Patients selection was done by using a pre-defined inclusion and exclusion criteria. The collected samples were processed for histopathology and only data of the patients present with obstructive jaundice, ampullary swelling and periampullary masses were recorded in the specially designed proforma for this study. **RESULTS:** Mean age of all patients was 58.20 ± 12.02 years. Age range of patients was 35 -80 years. Gender distribution shows that there were 66% male and 34% female patients. Male patients were greater in number as that of female patients. Smoking status shows that 47% of the patients were smokers. According to histopathology report there were 72(77%) patients who had malignancy. There were 34% patients who had well differentiated adenocarcinoma, 13.8% had moderately differentiated adenocarcinoma and 12.8% had chronic non specific enteritis. These are the top 3 tumors diagnosed with histological findings. Other types of tumors can be seen in above table. **CONCLUSION:** 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. The proximity of these ampullary and periampullary malignancies close to the vital structures of pancreaticobiliary system results in clinical challenges to be faced in managing these pathologies.

Corresponding author:

Muhammad Asad Shahzad,
Basic Health Unit Matrian District Lodhran

QR code



Please cite this article in press Muhammad Asad Shahzad et al., *Analysis Of Prevalence Of Neuroendocrine Tumors In The Ampulla Of Vater And Periampullary Region.*, Indo Am. J. P. Sci, 2019; 06(10).

INTRODUCTION:

The word Ampulla mean flask like dilatation of a tubular structure. The location of the ampulla is at the major duodenal papilla. The ampulla of vater is 1.5 cm long and is the site where the common bile duct and the pancreatic converge. It marks the area, where the celiac trunk stops supplying the gut and the superior mesenteric artery takes over, thus is an important landmark of anatomical transition from foregut to mid gut, It is surrounded by muscular fibers forming a sphincter named as sphincter of Oddi. The other name for the ampulla of vater is hepatopancreatic papilla.(2)

The Periapillary region is the area around the ampulla > Periapillary tumors are those arising out of or within 1cm of the papilla of Vater, including ampullary, pancreas, bile duct and duodenal tumors.(3)

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).(4) 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%.(4) Carter et al in 2008 suggest that, histologically, ampullary tumors is classified as either pancreatobiliary 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 pancreatobiliary tumors follows a more aggressive course, similar to pancreatic adenocarcinomas.(5)

Objectives

The main objective of the study is:

1. Frequency of malignant lesions of ampullary and periampullary region in patients with obstructive Jaundice.

MATERIAL AND METHODS:

This analytical study was conducted in Bahawal Victoria Hospital, Bahawalpur during 2018 to 2019. Study was conducted on patients presenting in the department of endoscopy with ampullary or periampullary masses presenting with obstructive jaundice and who were underwent ERCP procedure in the endoscopy department. Purpose of this study was explained to all patients. Informed consent was taken from all patients. All patients were enquired about the symptoms, previous history of jaundice, any previous medical history including dietary history such as intake of fatty food, high protein, alcohol and especially cigarette smoking, history of fever, pale colored stools, pain in abdomen, icterus, vomiting, nausea and weight loss. 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. Gender distribution shows that there were 66% male and 34% female patients. Male patients were greater in number as that of female patients.

Clinical history of patients shows that 69(73.4%) patients had Jaundice, 50(53.2%) patients had fever, 64(68.1%) patients had vomiting complaint, 58 (61.7%) patients had complaint if weight loss and 83 (88.3%) patients reported pain in abdomen.

TABLE 01: EXTENT OF TUMOR AS PER RADIOLOGICAL FINDINGS

	Frequency	Percent
Periapillary Region	20	21.3
Lower end of CBD	1	1.1
Duodenum	8	8.5
Ampulla	65	69.1
Total	94	100.0

According to radiological findings 20(21.3%) patients had tumor in perampullary region, 1(1.1%) patient had tumor in lower CBD region, 8(8.5%) had tumor in duodenum and 65(69.1%) patients had tumor in ampulla. It was seen that about 69.1% of patients had tumor in ampullary region as compared to other regions.

DISCUSSION:

Tumors in the periampullary region arise in the papilla of Vater and the two centimeters surrounding it. Histologically, they could originate in the duodenal wall, pancreatic tissue, the wall of the distal bile duct or the structures of the ampullary complex. The papilla of Vater is formed by the confluence of the pancreatic duct and the bile duct and by the sphincter of Oddi that surrounds it. (6) The sphincter of Oddi also has components for the bile duct and pancreatic duct which are outside the papilla. 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%. (7) 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%. 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.(8)

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 (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:

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.

REFERENCES:

1. Wilentz RE, Chung CH, Sturm PD, Musler A, Sohn TA, Offerhaus GJA, et al. K-ras mutations in the duodenal fluid of patients with pancreatic carcinoma. *Cancer*. 1998;82(1):96-103.
2. Berthelemy P, Bouisson M, Escourrou J, Vaysse N, Rumeau JL, Pradayrol L. Identification of K-ras mutations in pancreatic juice in the early diagnosis of pancreatic cancer. *Annals of internal medicine*. 1995;123(3):188-91.
3. Caldas C, Hahn SA, Hruban RH, Redston MS, Yeo CJ, Kern SE. Detection of K-ras mutations in the stool of patients with pancreatic adenocarcinoma and pancreatic ductal hyperplasia. *Cancer research*. 1994;54(13):3568-73.
4. Bluemke D, Fishman E. CT and MR evaluation of pancreatic cancer. *Surgical oncology clinics of North America*. 1998;7(1):103.
5. 64. Cantisani V, Morteale KJ, Levy A, Glickman JN, Ricci P, Passariello R, et al. MR imaging features of solid pseudopapillary tumor of the pancreas in adult and pediatric patients. *American Journal of Roentgenology*. 2003;181(2):395-401.
6. Inokuma T, Tamaki N, Torizuka T, Fujita T, Magata Y, Yonekura Y, et al. Value of fluorine-18-fluorodeoxyglucose and thallium-201 in the detection of pancreatic cancer. *The Journal of nuclear medicine*. 1995;36(2):229-35.
7. Higashi T, Saga T, Nakamoto Y, Ishimori T, Fujimoto K, Doi R, et al. Diagnosis of pancreatic cancer using fluorine-18 fluorodeoxyglucose positron emission tomography (FDG PET)—Usefulness and limitations in “clinical reality”—. *Annals of nuclear medicine*. 2003;17(4):261-79.
8. Goldstein HM, Zornoza J, Wallace S, Anderson JH, Bree RL, Samuels BI, et al. Percutaneous fine needle aspiration biopsy of pancreatic and other abdominal masses. *Radiology*. 1977;123(2):319-22.
9. Livraghi T, Damascelli B, Lombardi C, Spagnoli I. Risk in fine-needle abdominal biopsy. *Journal of Clinical Ultrasound*. 1983;11(2):77-81.
10. Harewood GC, Wiersema MJ. Endosonography-guided fine needle aspiration biopsy in the evaluation of pancreatic masses. *The American journal of gastroenterology*. 2002;97(6):1386-91