International Surgery Journal
Joseph PT et al. Int Surg J. 2020 Jul;7(7):2185-2188
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: http://dx.doi.org/10.18203/2349-2902.isj20202818

Original Research Article

A study on the incidence of abdominal malignancies presenting as acute abdomen in an emergency department

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Received: 26 February 2020
Revised: 21 May 2020
Accepted: 28 May 2020

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ABSTRACT

Background: Acute abdomen is one of the most common symptoms that bring a patient to an emergency department. An abdominal malignancy may be the cause of acute abdomen at least in a number of cases. The problem with this is the poorer outcome associated with it due to the lack of preoperative evaluation and preparation and also possible contamination that occurs in case of a perforation. This study aimed at studying the incidence of abdominal malignancies in the patients presenting as acute abdomen and the various presentations in which they present.
Methods: Patients who presented with non-traumatic acute abdominal pain in the emergency department at our hospital who required surgery for acute abdomen were taken for the study and the incidence of malignancy in these cases were statistically assessed.
Results: Out of the 375 patients who were operated for non-traumatic acute abdomen 62 patients i.e. 16.53% were found to have intraabdominal malignancy. Carcinoma colon was the commonest malignancy, 51.6%. Carcinoma stomach and rectum were the next most common malignancy. Commonest presentation was as a case of intestinal obstruction, 72.6% followed by perforation, 20.9%.
Conclusions: In the era were the incidence and early detection of abdominal malignancies are on a rise, a significant portion of these cases present with acute abdominal symptoms and the morbidity associated with such a presentation is of importance. Early detection of the disease by screening is the solution for this.

Keywords: Acute abdomen, Emergency laparotomy, Malignancy

INTRODUCTION

Abdominal pain is one of the most common reasons for an emergency department visit, accounting to about 5% to 10% of all visits.[1] It is the most common cause for non-trauma-related hospital admissions.[2,3] It poses a diagnostic challenge for the emergency physicians as the causes are numerous. It poses a diagnostic challenge for the emergency physicians as the causes are numerous, ranging from benign to life-threatening conditions. Causes include gastro-intestinal, urological, and gynaecological among others.[1] Malignancies emanating from intra-abdominal organs are often considered to be associated with abdominal pain and a proportion of these are diagnosed in Emergency department. To the best of our knowledge, not much of the studies have systematically focused on acute abdominal pain as a symptom preceding the detection of an intra-abdominal malignancy. With this study we try to analyze the presentation of cancer as acute abdominal emergencies into the emergency department and the incidence of malignancies among acute surgical abdominal emergencies.

METHODS

The study was conducted in the Department of General Surgery and in the casualty wing in Government Medical College, Thrissur after approval from institutional research committee. The study duration was one year i.e. from 1st March 2017 to 28th February 2019. This was an observational study.

Inclusion criteria

All the patients who visited the casualty wing with acute abdominal emergencies requiring emergency laparotomy during this period in Government Medical College, Thrissur, were included in the study.

Exclusion criteria

Those who were not willing to give consent and those who were diagnosed with malignancy earlier were excluded from the study.

Patients or their caretakers were interviewed in the casualty wing, after obtaining proper informed consent. Details were collected regarding the onset, type, duration and other details pertaining to the pain, details regarding abdominal distension, bleeding per rectum (PR), provisional diagnosis of treating surgeon, as well as follow up histopathology report (HPR) and final diagnosis. Percentages, mean, and quartile deviation were used to explain the baseline and clinical characteristics of study subjects.

RESULTS

A total of 375 patients were included in this study. Of these, 243 were males and 132 were females. Of these 62 (16.53%) patients had malignancy. Out of the 243 males, 15% were diagnosed to have malignancy, compared to 21% in females. 74.19% of the patients detected with malignancy were above 50 years. The age wise distribution of the malignancy is depicted in Table 1.

Table 1: Age wise distribution.

Age (in years)	Malignancy (%)
≤20	0
21-30	2 (3.2)
30-40	3 (4.8)
41-50	11 (17.7)
51-60	15 (24.19)
61-70	15 (24.19)
>71	16 (25.80)
Total	62

Carcinoma colon was the most common malignancy (51.6%) in this study, with carcinoma stomach and Carcinoma rectum being the second most common. The Anatomical origin of malignancy is depicted in Table 2.

Table 2: Distribution of site involved.

Final diagnosis	Malignancy (%)
CA appendix	2 (3.2)
CA colon	32 (51.6)
CA rectosigmoid	9 (14.5)
CA rectum	5 (8.06)
CA small bowel	3 (4.83)
CA stomach	9 (14.5)
Cholangio CA	1 (1.5)
Neuroendocrine TR small bowel	1 (1.5)
Total	62

CA: cancer.

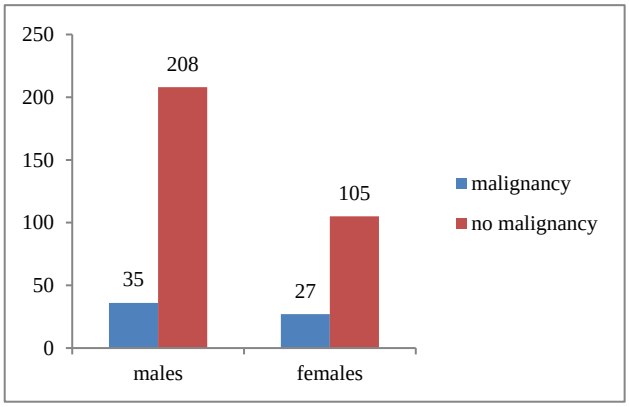

Figure 1: Sex distribution of the study.

Table 3: Distribution of presenting symptoms (n=62).

Variables	GI malignancy positive
	Number (%)
History of earlier pain	46 (34)
Abdominal tenderness	61 (16)
Rebound tenderness	57 (17)
Distension	
<2 days	15 (19)
2-7 days	22 (63)
>7 days	6 (60)
Vomiting	42 (15)
Constipation	51 (66)
Bowel sounds	8 (5)
Bleeding PR	17 (30)
Loa	57 (28)
Low	45 (62)
Diarrhoea	12 (26)

The most common presentation of malignancy was obstruction (72.6%) followed by perforation (20.9%). Patients who ended up having malignancy, were found to be suffering from low grade pain for longer durations than non-malignant cases. Most of them had previous episodes of abdominal pain, colicky being the most common type of pain pattern. Abdominal distension, bleeding PR and constipation were found to be more associated with malignancy, probably because colon

malignancies were the predominant ones. Most of the carcinoma cases had loss of appetite and loss of weight. The presenting symptoms are depicted in Table 3.

DISCUSSION

The incidence of malignancy among patients presenting to emergency department with acute abdominal emergency requiring laparotomy in our study was about 16.53%. In a study conducted by Muriche et al, about 20% of the malignancies had emergency presentation.[4] In our study incidence of malignancy with emergency presentation among females is 21% and among male is 15%.

Of the 62 malignancy patients only 8 patients were below the age of 40 years. Incidence of acute presentations of GI malignancy, especially colorectal carcinoma, were highest among the elderly age group. About 50% of malignancy diagnosed patients were more than 60 years. This is in accordance with the study conducted by Waldron et al in 1986, were 58% of malignancies occurred in patients of more than 70 years age group compared to 43 % in patients less than 70 years age group.[5]

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Obstruction was the most common presentation of malignancy in our study constituting about 72.6% probably because carcinoma colon was the most common histopathological diagnosis. According to the article published in the journal surgical clinics of North America, primary colorectal cancer causes 53% of acute large bowel obstruction requiring surgery.[6]

Perforation was the 2nd most common presentation for malignancy in our study (20.9%). Among 62 malignancy detected, 9 were carcinoma stomach patients, all of whom presented with perforation. Gastric carcinoma contributed to 13% of all gastroduodenal perforations. This is in agreement with the study conducted by Roviello et al in 2006 in Italy.[7]

Among the acute presentations of carcinoma colon, intestinal obstruction is the most common one and for CA stomach, perforation is the most common presentation. Out of 46 cases of colorectal carcinoma in this study, only 4 cases presented with perforation and rest of the cases presented with intestinal obstruction. This is in agreement with the study conducted in 2017, Kilpauk Medical College, Chennai by Vijayakumar et al.[8] Their study showed 92% obstruction and 8% perforation in colon malignancy and 100% perforation in gastric malignancy.

Small bowel tumours contributed to 6% of malignancies, i.e. 4 cases among 62 malignancies. All of them presented with acute intestinal obstruction, similar to the study in Kilpauk which showed 100% presentation by obstruction in small bowel tumours.[8]

In this study two cases of carcinoma appendix was detected. One presented as a case of appendicular abscess and the other as intestinal obstruction. Among 13 cases of appendicular abscess, one turned out to be malignant. Out of the two gall bladder perforations one turned out to be cholangiocarcinoma. One case of malignant neuroendocrine tumour of small bowel was detected in a case of intestinal obstruction.

Non gastrointestinal malignancies may also present with gastrointestinal symptoms. In this study there were 2 such cases. One is a case CA ovary and the other is CA adrenal.

CONCLUSION

The incidence of malignancies in the general population is showing a rising trend. After analyzing this study one can conclude that, a substantial proportion of gastrointestinal malignancies are diagnosed through an emergency route, in a tertiary care center. Many patients without any tell-tale features of malignancy in the preoperative period were diagnosed with malignancy on the operating table. Acute presentations of GI malignancies are especially more in elderly age group. This needs to be kept in mind while managing an emergency room. There is growing need of further research work in the field of surgical oncological emergencies, so that efficient tackling of emergency oncological resections can be done. Focus to be given to screening programs to detect aggressive malignancies at an early date. Above all, rising incidence of malignancies to be kept in mind while managing emergency rooms, which will enable a medical officer to offer the best treatment regimen for the critically ill patients.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Joseph PT, Lisha NP, Roshan R, Neduvanchery S. A study on the incidence of abdominal malignancies presenting as acute abdomen in an emergency department. Int Surg J 2020;7:2185-8.