Original research article

The prevalence of abdominal malignancies in patients who present with acute abdomen and the different presentations in which they present are being examined

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Abstract

Aim: 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.

Materials and Methods: The study was conducted in the Department of General Surgery, Lord Buddha Koshi Medical College and Hospital, Saharsa,Bihar, India for 18 months.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 400 patients who were operated for non-traumatic acute abdomen 73 patients i.e. 18.25% were found to have intra-abdominal malignancy. Carcinoma colon was the commonest malignancy, 52.05%. Carcinoma stomach and rectum were the next most common malignancy. Commonest presentation was as a case of intestinal obstruction, 79.45% followed by perforation 23.28%.

Conclusion: 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: Abdominal malignancies, Incidence, Intestinal obstruction, Perforation

Introduction

Abdominal discomfort is one of the most frequent causes for a trip to the emergency room (ED), accounting for around 5%–10% of all ED visits.[1] Since the reasons are multiple, it provides a diagnosis problem for emergency physicians. While most abdominal pain in adults is benign, up to 10% of patients in emergency rooms have a serious or life-threatening origin or need surgery. It presents a diagnostic problem for emergency doctors and there are a variety of reasons, ranging from benign to life-threatening illnesses. There are a variety of causes, including gastrointestinal, urological, and gynaecological issues.[2] Despite extensive evaluation, a quarter of patients usually remained with a non-specific cause, but now with latest radiological imaging advances that number has decreased.[3] The elderly patients have atypical presentations with longer duration of pain at presentation.[4] Associated features such as vomiting, guarding and tachycardia were of diagnostic value, whereas other features were not very useful.[5]

Abdominal pain is a common complaint among paediatric patients arriving at the EDs worldwide. Abdominal pain may be a result of underlying traumatic or non traumatic pathology.[6,7] Non traumatic abdominal pain is associated with both medical and surgical conditions and these can range from a benign, self-limiting condition such as constipation to a life-threatening emergency such as appendicitis.[8-10]

It is the most common cause for non-trauma-related hospital admissions.[11,12] 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.[13] 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. This research aims to investigate the presentation of cancer in the emergency room as acute abdominal emergencies, as well as the prevalence of malignancies within acute surgical abdominal emergencies.

Material and methods

The study was conducted in the Department of General Surgery, Lord Buddha Koshi Medical College and Hospital, Saharsa,Bihar, India for 18 months ,Institutional ethical approval was obtained before conducting this study.

Inclusion criteria

All the patients who visited the casualty wing with acute abdominal emergencies requiring emergency laparotomy 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.

Sample selection

The sample size was calculated using a prior type of power analysis by G* Power Software Version 3.0.1.0 (Franz Faul, Universitat Kiel, Germany). The minimum sample size was calculated, following these input conditions: power of 0.80 and $P \leq 0.05$ and sample size arrived were 400 participants.

Methodology

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.

Statistical analysis

The recorded data was compiled and entered in a spreadsheet computer program (Microsoft Excel 2010) and then exported to data editor page of SPSS version 19 (SPSS Inc., Chicago, Illinois, USA). Descriptive statistics included computation of percentages and means.

Results

Table 1: Age wise distribution

Age (in years)	Malignancy (%)
≤20	0
20-30	1 (1.36)
30-40	6 (8.21)
40-50	14(19.17)
50-60	36 (49.31)

Above 60	16 (21.91)
Total	73 (100.0)

Table 2: Distribution of site involved

Final diagnosis	Malignancy (%)
CA appendix	3 (4.10)
CA colon	38 (52.05)
CA rectosigmoid	11 (15.06)
CA rectum	7 (9.58)
CA small bowel	3 (4.83)
CA stomach	10 (13.69)
Cholangio CA	1 (1.36)
Total	73 (100.0)

Table 3: Sex distribution of the study

Gender	N=400	Malignancy N=73
Male	250	41
Female	150	32

Table 4: Distribution of presenting symptoms

Presenting symptoms		Number (%)
History of abdominal pain		14 (19.17)
Abdominal tenderness		15 (20.54)
loss of weight		16 (21.91)
Abdominal distension	<2 days	15 (20.54)
	2-7 days	43 (58.90)
	>7 days	8 (10.95)
Obstruction		58 (79.45)
Perforation		17 (23.28)
Vomiting		12 (16.43)
Constipation		13 (17.80)
Bowel sounds		4 (5.47)
Bleeding PR		16 (21.91)
Low grade pain		12(16.43)
Diarrhoea		9 (12.32)

Discussion

In our sample, approximately 73 percent of patients who presented to the emergency room for an urgent abdominal emergency involving laparotomy had cancer (18.25 percent) Muriche et al found that about 20% of malignancies presented as an emergency in their report.[14] Malignancy with emergency appearance was found to be 32.33 percent in females and 41 percent in males in our sample (16.4 percent). Just seven of the 73 malignancy patients were under the age of 40. Incidence of acute presentations of GI malignancy, especially colorectal carcinoma, was 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]

Out of the 73 malignancy patients only 7 patients were below the age of 40 years. Incidence of acute presentations of GI malignancy, especially colorectal carcinoma, was highest among the elderly age group. 52 (71.12 %) of the patients detected with malignancy were above 50 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.[15]

Obstruction was the most common presentation of malignancy in our study constituting about obstruction (79.45%) 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.[16]

Perforation was the 2nd most common presentation for malignancy in our study 17 (23.28%) among 73 malignancies detected 10 (13.69%) were carcinoma stomach patients, all of whom presented with perforation. This is in agreement with the study conducted by Roviello et al in 2006 in Italy.[17]

In colon cancer, Vijayakumar et al. found 92 percent obstruction and 8% perforation, and 100 percent perforation in gastric cancer.[18] Small bowel tumours were responsible for 3 (4.83%) of all malignancies, or 3 cases out of 73. Many of them presented with acute intestinal obstruction, equivalent to a study in Kilpauk that found that 100% of small bowel tumours presented with obstruction. Two cases of appendix carcinoma were discovered in this study. Appendicular abscess accounted for 4.10 percent of the cases, while intestinal obstruction accounted for the remainder. Cholangiocarcinoma was discovered in one of the two gall bladder perforations.

Conclusion

The prevalence of malignancies in the general population is on the rise. Following the analysis of this report, it can be concluded that a significant proportion of gastrointestinal malignancies are detected in a tertiary treatment centre along an emergency pathway. Many patients who had no preoperative signs or symptoms of malignancy were diagnosed with cancer on the operating table. Acute GI malignancies manifest themselves most often in the elderly. This is something to keep in mind when running an emergency department. More study is required in the field of surgical oncological emergencies.

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