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A PROSPECTIVE STUDY OF ABDOMINAL MALIGNANCIES PRESENTING AS ABDOMINAL EMERGENCIES IN A TERTIARY CARE HOSPITAL

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ABSTRACT :

Background: This study shows the various malignancies that we have encountered in the study period, their pattern of distribution, modes of presentation, and methods of management. The unusual aspect of this study is the emphasis on emergency surgery, the problems that were encountered by the general surgeons, when we saw a malignancy as the cause and how we managed them.

Aim: To know the incidence of malignancies in acute abdominal emergencies,To identify the most common malignancy in emergency presentation

Results: In the study population, 28% and 21% of patients fall under the age group of 56-65 and 46-55 years respectively. The lowest percent of 6% and 4% were recorded in the age group of 15-25 and 76-85 respectively. Hence, abdominal emergencies are seen in patients around the fifth decade and higher and mostly were men, around 74% as compared to women with 26%.

Conclusion: Gastric outlet obstruction was the major presentation in gastric carcinoma with a few presenting as perforation. However, colo-rectal carcinoma was presented with obstruction alone with no cases of perforation reported. Co-morbid conditions such as diabetes greatly influence rectal carcinoma.This study indicates that the surgeons should suspect malignancy as a cause for abdominal emergencies and react accordingly to reduce morbidity and mortality.

Keywords:Abdominal malignancy,gastric outlet obstruction.

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INTRODUCTION:

The abdomen is a box of surprises. The general surgeon has to have in his armamentarium not only a good command of anatomy, but also of surgical physiology and pathology in even the most normal cases. Clinical experience is equally as important as the knowledge of anatomy and physiology of the abdominal cavity and an understanding of the pathophysiological process at work.

Even when no surprise is anticipated, one field where the surgeon has to be more careful and cautious is while performing emergency surgeries. An oncological surgical emergency can be defined as an acute and potentially life threatening condition resulting from a malignancy or its treatment which requires emergency surgical intervention (Bosscher et al., 2015).

Often, not so rare circumstances may occur that the surgeon is stumped by a small tumor sitting at the place of obstruction or the site of perforation where he was planning to operate. Acute complications occurring in the tumour may bring attention to the tumor for the first time, in some cases at an early stage in the disease process when the tumor is surgically resectable.

This is one of the most challenging circumstances where the management completely changes and not only the surgeon has to manage the emergency, he also has to plan for future management of the malignancy. Moreover, generally malignancy is a disease of old age.

Age plays a crucial role and is important to be considered when assessing the acute abdominal emergency, because the clinical presentation varies with age in certain pathologies. The older the patient, the more important is to “think cancer” (Sebbane et al., 2011). Old patients tend to have multiple co- morbid conditions which have to be kept in mind. The surgeon has to balance various factors and take an appropriate decision in a short time. A good and competent general surgeon must be able to deal with and manage such cases with little mental preparation.

Over the years, management of cancer, both elective as well as emergency has undergone vast changes. Previous radical surgeries now have become conservative due to supplementation by chemotherapy and radiotherapy. Inoperable tumors have become operable; and radical surgeries have become possible even in emergencies, all due to the advancements in medicine and technology

This study shows the various malignancies that we have encountered in the study period, their pattern of distribution, modes of presentation, and methods of management. The unusual aspect of this study is the emphasis on emergency surgery, the problems that were encountered by the general surgeons, when we saw a malignancy as the cause and how we managed them.

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AIM AND OBJECTIVES OF THE STUDY:

- To know the incidence of malignancies in acute abdominal emergencies.
- To identify the most common malignancy in emergency presentation
- To study the demographic factors such as age, sex, dietary habits and its correlation with different malignancies.
- To identify the common presentation of such malignancies.
- To analyse the procedural interventions.
- To study the effect of co morbid factors on survival rate.

MATERIALS AND METHODS:

Patients who were admitted in emergency department in Sree mookambika college of medical sciences between May 2022 to April 2023, with abdominal emergencies ranging from acute appendicitis to perforations, intestinal obstruction and peritonitis – either localized or diffuse. Detailed history, physical examination and investigations for emergency surgery including X-Ray Chest and abdomen, Ultrasound abdomen and CT abdomen.

General examination – Look for dehydration, tachypnea, tachycardia, signs of volume compromise, fever.Local examination – guarding/rigidity, tenderness, distension, absent bowel sounds.Histopathoogical examination was conducted in relevant patients.They were followed in the post-operative period and subsequent to their discharge.

Inclusion criteria are Adult patients (age 15 – 85 years),Abdominal emergency surgery(surgery for laparotomies, intestinal obstruction, peritonitis, hemorrhage),Histopathological report suggestive of malignancy.Exclusion criteria are Pediatric patients & below the age of 15 years,Traumatic abdominal emergencies,Elective surgeries and patients who were previously worked up suspecting such malignancies.

As we have studied the malignancies presenting as emergencies (Being a study of malignancies in emergency surgery), this study gives a general idea of the incidence of cases presenting with complications, either resulting due to these malignancies or due to some other cause. Most patients with malignancies do not present with such problems, they are diagnosed rather with their classical features of presentation pertaining to the organ involved.

This study involves only the patients, who primarily presented with emergency complications and who were attended surgically, whereas another set of patients who are diagnosed with malignancies and are on treatment and develop complications in the later course of the disease due to malnutrition or

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paraneoplastic syndromes or metastasis, are not included.

A greater subset of patients with medically treatable complications were not dealt with as they were mainly treated by the physician and the medical oncologist in our institution. (Due to a limited number of cases, statistical analysis could not be done.).Due to short period of the study, complete follow-up of all the patients was not possible .

All the details of the patients were meticulously recorded and details verified with the case sheets. All variables pertaining to patient details, were recorded in preformed worksheet to ensure uniformity in recording and eliminating any bias.

The data of each patient were collected in a proforma specially designed for this study and included demographic details, clinical features, past medical history, interval between onset of symptoms and admission, operative findings, procedure performed, biopsy report, post-operative complications and duration of stay in the hospital.Statistical analysis was done using the statistical package for social sciences (SPSS).Different statistical methods were used as appropriate. Mean ± SD was determined for quantitative data and frequency for categorical variables. The independent t- test was performed on all continuous variables. The normal distribution data was checked before any t-test. The Chi-Square test was used to analyze group difference for categorical variables.A p- value < 0.05 was considered significant.

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RESULTS:

MODE OF PRESENTATION IN PATIENTS

Mode of Presentation	Percentage of Patients
GO obstruction	9
Gastric perforation	8
Large bowel obstruction	35
Appendix perforation	1
Caecal perforation	1
Duodenal perforation	9
GB malignancy	1
Ileal perforation	3
Jejunal perforation	5
Small bowel obstruction	27
Large bowel perforation	1

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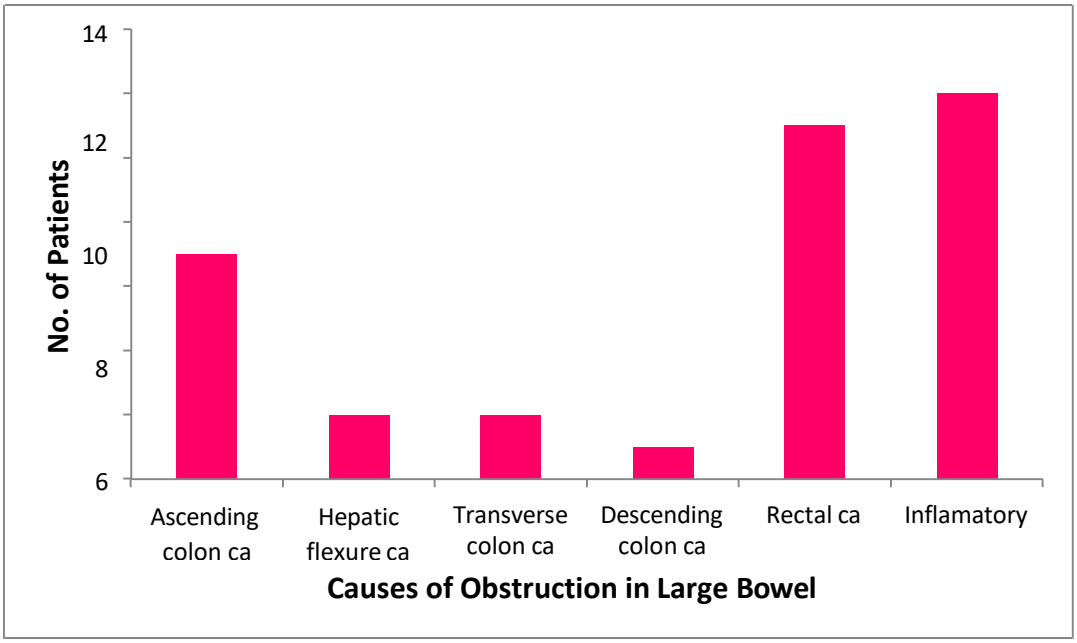
CAUSES OF OBSTRUCTION IN LARGE INTESTINE

Causes of obstruction in Large Bowel	No. of Patients
Ascending colon ca	7
Hepatic flexure ca	2
Transverse colon ca	2
Descending colon ca	1
Rectal ca	11
Inflammatory	12



When the patients with large bowel obstruction were clinically examined, 12 were due to inflammatory reasons and the balance 23 due to carcinoma. The site of the carcinoma was higher in the rectal column (11 patients), followed by ascending colon (7 patients), hepatic flexure and transverse colon (2 cases each) and descending colon (1 patient).

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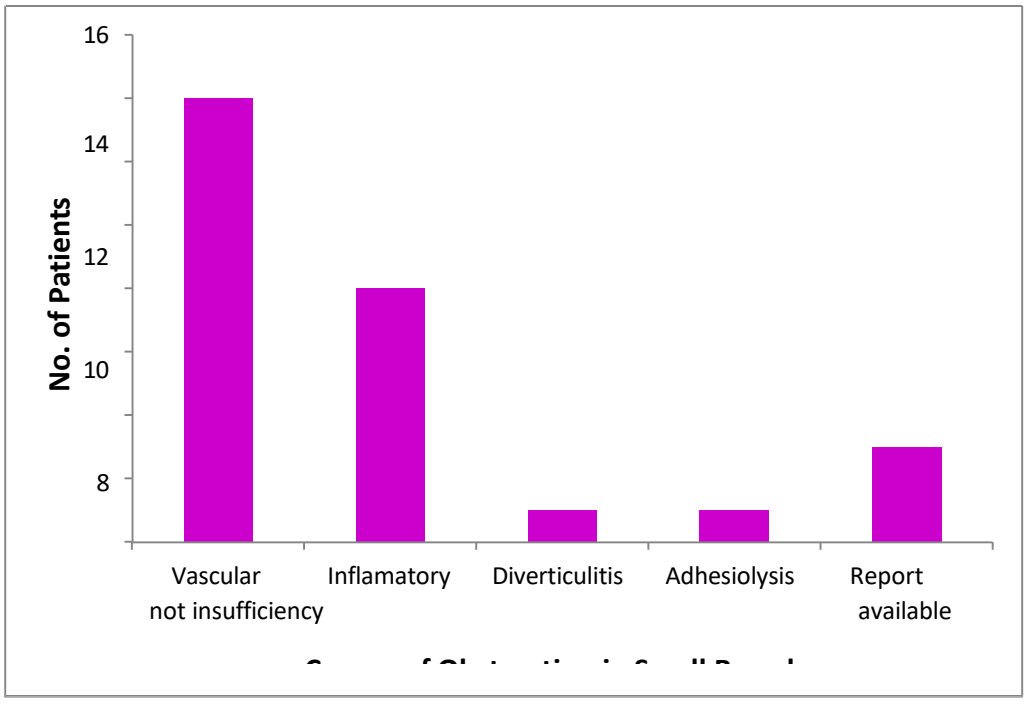
CAUSES OF OBSTRUCTION IN SMALL INTESTINE

Causes of obstruction in Small Bowel	**No. of Patients**
Vascular insufficiency	14
Inflammatory	8
Diverticulitis	1
Adhesiolysis	1
Report not available	3



Out of 27 cases of small bowel obstruction, no incidence of malignancy was observed. Vascular insufficiency (14 out of 27 patients) was found to be the chief cause, followed by inflammation (8 cases),

INCIDENCE OF MALIGNANCY (%) BY SEX

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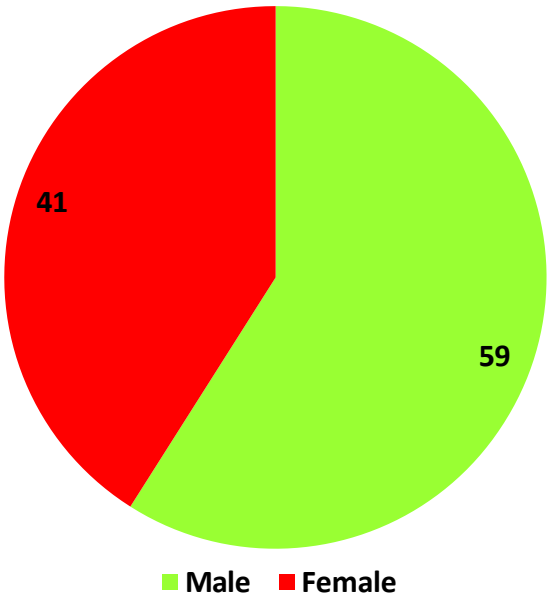

Among the study group, 31 patients were found to have malignancy, whereas the rest were mainly due to inflammation, acute or chronic vascular insufficiency. Among the patients with malignancy, 59% were male and 41% were female.

INCIDENCE OF MALIGNANCY BY AGE GROUP

Age Group	Incidence of Malignancy
15-25	0
26-35	6
36-45	3
46-55	6
56-65	12
66-75	4
76-85	0

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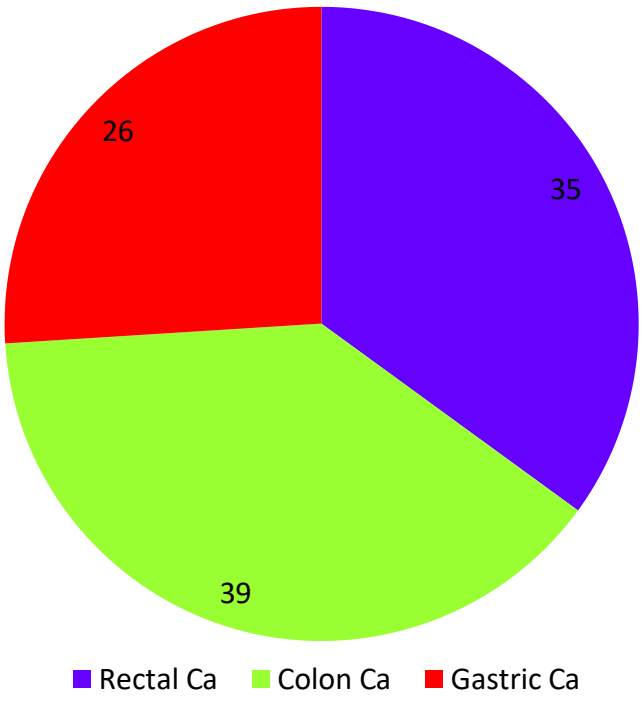
The age group of 56-65 years was found to have higher incidence of malignancies and there was no incidence of malignancy in the extreme groups of 15-25 and 76-85 years of age. Six patients each were in the age group of 26 – 35 and 46 – 55.

TYPE OF CARCINOMA IN MALIGNANT PATIENTS (%)

Type of Carcinoma	Percentage of Patients
Rectal	35
Colon	39
Gastric	26



Among the patients observed with carcinoma, colon carcinoma had a higher incidence with 39%, closely followed by rectal carcinoma with 35% and lower incidence of gastric carcinoma with 26%.

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DISCUSSION:

In the study population, 28% and 21% of patients fall under the age group of 56-65 and 46-55 years respectively. The lowest percent of 6% and 4% were recorded in the age group of 15-25 and 76-85 respectively. Hence, abdominal emergencies are seen in patients around the fifth decade and higher and mostly were men, around 74% as compared to women with 26%. Among the patients admitted with abdominal emergencies, majority of them presented with large bowel obstruction (35%), followed by small bowel obstruction (27%). Out of 35 patients presented with large bowel obstruction, 12 were due to inflammatory reasons, which were non-malignant and the remaining 23 were due to carcinoma. The most prevalent was rectal carcinoma with 11 patients followed by ascending colon carcinoma with 7 patients.

Other forms of presentation were gastric outlet obstruction and duodenal perforation (9% each) and gastric perforation (8%). Generally, patients get admitted with large bowel and small bowel obstructions.While investigating the patients with abdominal emergencies, 31% of them were found to have malignancy as the cause whereas the other 69% were mainly due to inflammation, acute or chronic vascular insufficiency.

The incidence of malignancy in our study was contrary to the findings of Mc Fadden and Zinner (1994)which was 2% of the study population and Kar Ikkili et al.(2017) which was 6.56%. Malignancy mainly presented as large bowel obstruction (74%) and gastric outlet obstruction (26%).On observing the patients with malignancy, higher incidence was observed in the age group of 56 – 65 years, whereas no incidence of malignancy was observed in the extreme age groups of 15 - 25 and 76 – 85 years of age. The lower incidence of malignancy in higher age groups may be due to mortality due to other causes. Among the patients with malignancy, 59% were male and 41% were female.

Colon carcinoma and rectal carcinoma accounted for nearly three-fourths of carcinoma patients (39% and 35% respectively) with one-fourth being gastric carcinoma.The types of carcinoma are highly influenced by sex. Among the male patients, the prevalence rate of colo-rectal and gastric carcinoma was equal whereas in females, the prevalence of gastric carcinoma was less (15%) when compared to colo-rectal carcinoma. The incidence of rectal carcinoma was h Gastric carcinoma was observed above the age of 56 years. This is in line with the findings of (Peter Vasas 2012).Both perforations and obstructions were the presentations in gastric carcinoma. The obstruction was observed in 75% of the patients which was more common than perforation. This is in line with the findings of Peter et al.(2012) and Karikkili et al. (2017), who indicated that the vast majority of the carcinoma patients had obstructions. The study of Lehnert et al.(2000) also revealed similar presentations of carcinoma. The mortality rate in gastric carcinoma was found to be 22.1% which aligns with the study of (Alison L.2012).

Obstruction was the only presentation in colonic and rectal malignancies and none of them presented with haemorrhage. The findings of Barrett et al.(2005) revealed that majority of colo-

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rectal carcinoma presented with bowel obstruction. Mortality rate in colonic malignancies presenting as obstruction was found to be 25% whereas in rectal and gastric carcinoma was 30%.Within the study group, there were 33 known diabetics, out of which 27% were affected by different types of malignancies. The majority of the carcinoma affected diabetics were affected by rectal carcinoma (45%) and 22% each were affected by stomach and colon carcinoma. (Larsen et al. 2005) revealed there was a 1-3 fold increased risk of colo-rectal cancers in Type II diabetics.igher in females as compared to the male population unlike the other two types of carcinoma.

CONCLUSION:

Abdominal emergencies present an interesting challenge to the surgeon to accurately diagnose and manage the underlying cause and provide relief to the patient.Elderly patients in their fifth decade and above are more prone to abdominal malignancy to present as an emergency with majority being male. Intraabdominal catastrophe such as acute obstruction is the typical mode of presentation.

About 31% of the patients with abdominal emergencies turned out to have malignancy and was independent of sex of the patient. Mostly, carcinoma is presented as obstruction in the large bowel, whereas obstruction in the small bowel is rarely malignant.There was almost an equal distribution of gastric, colon and rectal carcinoma in the male population, whereas in females, rectal carcinoma was higher and gastric carcinoma was quite low.

Gastric outlet obstruction was the major presentation in gastric carcinoma with a few presenting as perforation. However, colo-rectal carcinoma was presented with obstruction alone with no cases of perforation reported. Co-morbid conditions such as diabetes greatly influence rectal carcinoma.This study indicates that the surgeons should suspect malignancy as a cause for abdominal emergencies and react accordingly to reduce morbidity and mortality.

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