

An Analytical Study on Surgical Emergencies in Rural Medical College Hospital

Ramesh Kumar¹, Bhadrinath^{2*}

^{1,2}Associate Professor, Department of General Surgery,
Gouri Devi Institute of Medical Sciences & Hospital, Durgapur, West Bengal, India.

ABSTRACT

Background: The common Surgical emergencies encountered in India and worldwide are Perforation of viscus, Peritonitis, Bowel obstruction, Ischaemia of the Bowel, Acute appendicitis and Renal calculi and Urinary obstruction. At least 62% of surgical operations performed are for emergencies. There is little information regarding the clinical spectrum and outcome of emergency abdominal operations for, specialized units in India. The major causes of abdominal emergencies vary from region to region and even with in the same region socioeconomic, cultural geographical factors may affect the pattern.

Aim of the Study: To know the pattern of surgical emergencies in teaching hospital.

Materials and Methods: We have conducted this study for 9 months from December 2021 to August 2022, in the department of General Surgery in Gowridevi Medical College.

Results: We have conducted this study in 170 total number of patients. Out of these 170, males are 82, females are 56 and children are 32. 29 patients died because of various reasons.

Conclusion: Surgical emergencies are very common in India

and worldwide, in rural past of India the mortality is very high. Early diagnosis and early intervention can reduce the mortality and morbidity.


Keywords: Perforation, Intestinal obstruction, Abdominal Infections, Penetrating injuries, Mortality.

*Correspondence to:

Dr. Bhadrinath,
Associate Professor,
Department of General Surgery,
Gouri Devi Institute of Medical Sciences & Hospital,
Durgapur, West Bengal, India.

Article History:

Received: 19-12-2021, **Revised:** 06-01-2022, **Accepted:** 23-01-2022

Access this article online	
Website: www.ijmrp.com	Quick Response code 
DOI: 10.21276/ijmrp.2022.8.1.023	

INTRODUCTION

Surgical emergencies are commonly encountered in surgical practice. General surgical emergencies commonly seen in first and second level hospitals are Acute appendicitis, Intestinal obstruction, Peritonitis, Cholecystitis, Bleeding peptic ulcer, Acute pancreatitis, Renal calculi and Retention of urine. Among children, appendicitis and torsion of testis and sigmoid volvulus. Males are more commonly affected than females.¹

The traumatic conditions are Lacerated liver, Ruptured spleen, Perforation of visceral organs because of penetrating injuries. The annual death rate from surgical emergencies in united states in 1935 was 38 per 100,000 population or 3% of all deaths in that year. In western countries all general surgical emergencies are responsible for 3% to 5% deaths. Strangulated Inguinal hernias are common in Sub Saharan Africa, 4 in 1000 hernias can become strangulated, if untreated these hernias can become gangrenous with in several hours. Acute appendicitis is rare in villages, but increasingly common with development and more western diet containing less fibre and more meat. Appendicitis is common in urban areas than rural areas. Removal of an inflamed appendix is a straightforward procedure. Even in late cases complicated by perforation and abscess formation, drainage will

resolve the acute problem unless generalized perforation has developed.² Intestinal obstruction caused by adhesions, volvulus, worm infection or intussusception. The common causes are inguinal hernia, less commonly the lower end of the large intestine can spontaneously twist on itself (sigmoid volvulus), producing on obstructed bowel. The common cause of intestinal obstruction in children is heavy infestation with ascaris worms can lead to bells of living worms large enough to obstruct the lumen.³ Another common cause is septic infection with abscess and perforated peptic ulcer and bleeding from oesophageal varices, Acute inflammation of gall bladder, acute cholecystitis and urinary obstruction by stones and masses.⁴

Global health policies have not accorded provision of emergency medical services the desired attention especially in low- and medium-income nations. In these countries, prevention of communicable diseases and reduction of maternal mortality are given greater priority. In advanced countries, prompt emergency medical care is provided through well-organized social insurance systems in addition to efficient pre-hospital and hospital medical attention by well-trained and well-equipped paramedical and medical personnel.

MATERIALS AND METHODS

This study has been conducted for 9 months from December 2021 to August 2022, in Gowridevi medical college in the department of General surgery consent has been obtained from the patient's relatives by giving consent form in their local language. After obtaining complete history, all the patients were examined in detailed and advised investigations. The investigation advised are complete blood picture, random blood sugar, blood urea, serum creatinine, serum electrolytes, ultrasound abdomen, CT Scan abdomen, bold grouping and cross matching and special investigations like endoscopy, urethroscopy. After collecting the data, it has been compiled in systematic manner and computerized by using MS Office.

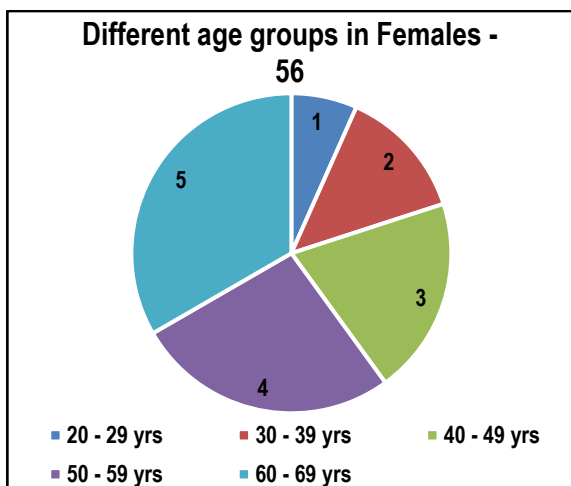
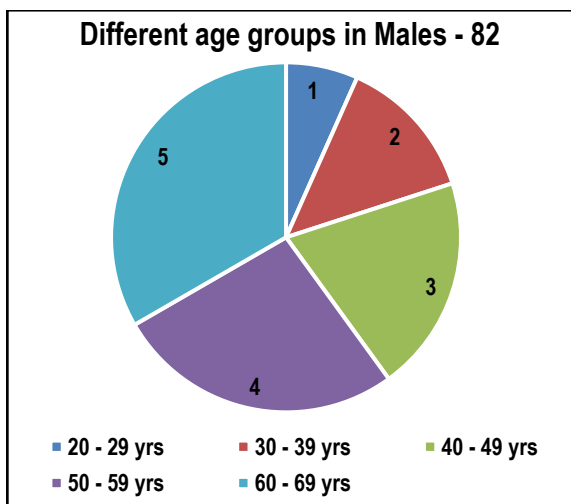
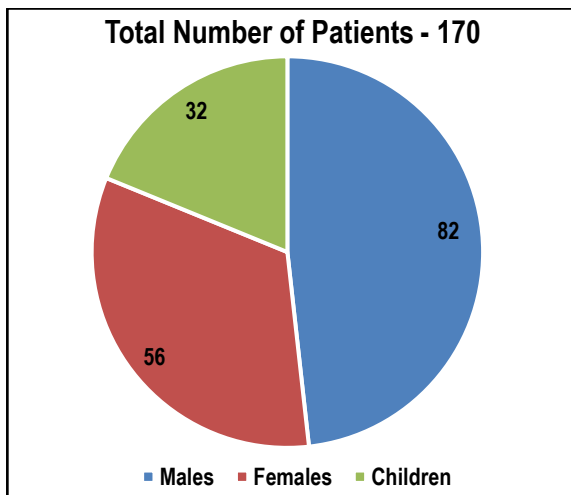


Table 1: Total number of patients Age Wise

Age in Years	No. of Patients (M) - 82	No. of Patients (F) - 56
20 – 29 yr	15 (18.29%)	10 (17.85%)
30 – 39 yr	12 (14.62%)	7 (12.5%)
40 – 49 yr	10 (12.19%)	9 (16.07%)
50 – 59 yr	27 (32.92%)	16 (28.57%)
60 – 69 yr	18 (21.94%)	14 (25.2%)

Table 2: Total number of Children Age Wise

Age in Years	No. of Children (32)
4 – 8 yr	14 (43.75%)
9 – 12 yr	10 (31.25%)
>12 yr	8 (25.0%)

Table 3: Different Causes of Surgical Emergencies

Causes	No. of Patients (M) - 82	No. of Patients (F) - 56
Acute Appendicitis	21 (25.62%)	8 (14.28%)
Peritonitis	18 (21.95%)	7 (12.5%)
Intestinal Obstruction	14 (17.07%)	14 (25.0%)
Renal Colic	19 (23.17%)	13 (23.21%)
Acute Cholecystitis	7 (8.53%)	8 (14.28%)
Others	3 (3.65%)	6 (10.71%)
Mortality	21 (25.62%)	8 (14.28%)

Table 4: Common Clinical Features

Clinical Features	No. of Patients (M) - 82	No. of Patients (F) 56
Pain abdomen	79 (96.25%)	48 (88.53%)
Distention of abdomen	71 (86.58%)	45 (80.87%)
Constipation	43 (52.43%)	28 (50.0%)
Fever and Vomiting	72 (87.80%)	51 (91.07%)
Oliguria and Others	26 (31.70%)	12 (21.42%)

RESULTS AND DISCUSSION

We have included total no. of 170 patients in this study. Out of these 170 patient's male patients were 48.23%, female patients were 32.94% and children were 18.82% (82; 56; 32 in no respectively). The study conducted by C.K. Ofoegbu, T. Odi et al shows male patients were 59.5%.⁵ The common age group affected is 6th and 7th decade (53%), whereas traumatic emergencies are common in young age group. The cases like intestinal obstruction and perforation peritonitis are more common in old age people. Among children the common age group involved is between 4-8 years. The common diseases affected are ascaris's worm infestation and torsion of testis and some urinary abnormalities.⁶ Different causes of surgical emergencies are acute appendicitis, 25.62% in males and 14.28% in females; peritonitis was observed in 21.95% in males and 12.5% in females; intestinal obstruction in 17.7% of males and 25% of females; renal cholic and urinary retention was seen in 23.7% of males and 23.17% of

females and acute cholecystitis 8.53% of males and 14.28% of females and mortality is in 25.62% of males and 14.28% of females and mortality is due to delay in reaching the hospital, comorbid conditions like diabetes, coronary artery disease, renal failure and massive bleeding. The studies conducted by N.A. Ibrahim, M.A. Oludara et al shows, appendicitis in 31.64%; peritonitis is 26.5% and intestinal obstruction in 22.3% and is 26.5% and intestinal obstruction in 22.3% and renal colic and retention of urine is 26.3%.⁷ The common clinical features are pain abdomen 96.25%; destruction of abdomen in 86.58%; constipation 52.45%; fever and vomiting's 87.65% and oliguria and others in 31.70% of cases. The study conducted by S.B. Naaeder, E.Q. Archampong et al shows almost similar results.⁸ Acute abdomen and urological emergencies were the leading non trauma emergency conditions. Acute urinary retention constituted 70% of the urological emergencies while 53% of the malignancies were breast cancer. Acute appendicitis/perforated appendix and intestinal obstruction were the most frequent indications for surgery. Peritonitis followed perforated peptic ulcer in 16 patients (7.2%) Peritonitis from perforated typhoid ileitis was seen only in one patient.

Surgical emergencies represent more than 50% of surgical admissions and constitutes a major part of the surgery's workload in most parts of the world. Percentage of non-trauma surgical emergencies is reported to be between 32% and 55% and more than 60% requires surgical intervention. 20% to 34% of death noted in one study conducted in Nigeria.⁹ Acute abdomen which includes acute appendicitis, peritonitis, intestinal obstruction, urinary retention, non-trauma neuro surgical, are the leading causes of non-trauma surgical emergencies who are referred have worse outcome than those with similar diagnosis who are directly admitted to the tertiary centre. Studies have shown that most of the developing countries especially Sub-Saharan Africa lacks sufficient infrastructure to carry out what is deemed by the world health organization to be essential for the provision of emergency and essential surgical care with majority lacking adequate basic infrastructure and capacity to provide 24-hour emergency surgical care.¹⁰ The spectrum of surgical diseases to change especially in low- and medium-income countries due to increasing in ageing of population and urbanization for acute abdomen constituted two thirds of non-trauma operations with acute appendicitis / ruptured appendix and intestinal obstruction being the most common diagnosis. Studies shows that surgery for acute appendicitis was the most frequent non trauma emergency procedure. Complicated Hernia is most frequent cause of intestinal obstruction in our study, peritonitis resulting from typhoid infection is becoming rare. Availability of potent antibiotics, improved sanitation and availability of safe drinking water may be responsible for this observation. Nearly 26% of deaths are from non-trauma related conditions. It is also reported that acute abdomen and advanced malignancy are the major causes of death. The study conducted by et al A. Adamu, M. Maigatari shows that acute abdomen 32.5%; urological emergencies 21.6%; Malignancies 13%. Majority of the patients (69%) of who presented late were referred from other hospitals.¹¹ By indication and timing, emergency surgical conditions are the aspects of diseases which present acutely and therefore need surgical intervention. It may be trauma or non-trauma related. Acute abdomen is the most common condition in this study. Urological

emergency from acute urinary retention is another frequent reason for non-trauma admissions, coming second to acute abdomen in many reports. Global increase in urological emergencies has been observed. This is attributed to ageing population and increase in benign prostatic hyperplasia; a common cause of acute urinary retention. Malignancies are also becoming a more frequent cause of non-trauma surgical emergencies. Incidence of malignant conditions especially breast cancer is increasing in many developing countries. It is, therefore, expected that more cancer patients presenting with complications requiring urgent attention will be presenting to the emergency room. Surgery for acute abdomen constituted two thirds of non-trauma operations with acute appendicitis/ruptured appendix and intestinal obstruction being the most common diagnosis. In reports from institutions in this region and other parts of the world, surgery for acute appendicitis was the most frequent non-trauma emergency procedure. Complicated hernia is the most frequent cause of intestinal obstruction in our practice, similar to finding in a previous report from our institution. In Sierra-Leone, intestinal obstruction due to complicated hernia was the most common indication for emergency abdominal surgery. Only one patient with perforated typhoid was seen during the study period. Peritonitis resulting from typhoid infection is becoming rare among adults and children in Lagos. Improved sanitation, access to portable water and availability of potent antibiotics could be responsible for this observation.

CONCLUSION

Surgical emergencies are very common in India and worldwide, In rural part of India the mortality is very high. Non traumatic surgical emergencies like appendicitis, renal colic, intestinal obstruction, are very common. And traumatic emergencies like penetrating injuries are common in young male patients. Early diagnosis and early intervention can reduce the mortality and morbidity.

REFERENCES

1. T.A. Mai-Phan, B. Patel, M. Walsh, A.T. Abraham, H.M. Kocher, Emergency room surgical workload in an inner-city UK teaching hospital, *World J. Emerg. Surg.* 3 (2008) 19.
2. B.A. Solagberu, A.T. Duze, S.A. Kuranga, A.O. Adekanye, C.K. Ofoegbu, E.O. Odelowo, Surgical emergencies in a Nigerian University Hospital, *Niger. Postgrad. Med. J.* 10 (2003) 140e143.
3. B.O. Mofikoya, G.O. Enweluzo, K.H. Tijani, E.O. Ogunleye, O.O. Kanu, Emergency surgical services in a sub-Saharan African country: can we meet the needs? *Eur. J. Sci. Res.* 43 (2010) 265e271.
4. N. Massira-Mukasa, B.R. Ombito, Surgical admissions to the Rift Valley Provincial General Hospital, Kenya, *East Afr. Med. J.* 79 (2002) 373e378.
5. C.K. Ofoegbu, T. Odi, O. Ogundipe, J. Taiwo, B.A. Solagberu, Epidemiology of non-trauma surgical deaths, *West Afr. J. Med.* 24 (2005) 321e324.
6. W.B. Campbell, E.J. Lee, K. Van de Sijpe, J. Gooding, M.J. Cooper, 25-year study of emergency surgical admissions, *Ann. R. Coll. Surg. Engl.* 84 (2002).
7. N.A. Ibrahim, M.A. Oludara, F.O. Omodele, O.O. Oyedele, Surgical and gynaecological abdominal emergencies in adults: the experience of Lagos State University Teaching Hospital, Ikeja, Lagos State, Nigeria, *Niger. Hosp. Pract.* 5 (2010).

8. S.B. Naaeder, E.Q. Archampong, Clinical spectrum of acute abdominal pain in Accra, Ghana, West Afr. J. Med. 18 (1999).
9. A.R. Walker, Diet and bowel diseases past history and future prospects, S. Afr. Med. J. 68 (1985).
10. R. Poggetti, A. Leppanemi, P. Ferrada, J.C. Puyana, A.B. Peitzman, L. Ansaloni, F. Catena, A.D. Pinna, E.E. Moore, WSES SM (World Society of Emergency Surgery Summer Meeting) highlights: emergency surgery around the world (Brazil, Finland, USA), World J. Emerg. Surg. 4 (2009) 11.
11. A. Adamu, M. Maigatari, K. Lawal, M. Iiyasu, Waiting time for emergency abdominal surgery in Zaria, Nigeria, Afr. Health Sci. 10 (2010) 46e53.

Source of Support: Nil. **Conflict of Interest:** None Declared.

Copyright: © the author(s) and publisher. IJMRP is an official publication of Ibn Sina Academy of Medieval Medicine & Sciences, registered in 2001 under Indian Trusts Act, 1882. This is an open access article distributed under the terms of the Creative Commons Attribution Non-commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

Cite this article as: Ramesh Kumar, Bhadrinath. An Analytical Study on Surgical Emergencies in Rural Medical College Hospital. Int J Med Res Prof. 2022 Jan; 8(1): 105-08.
DOI:10.21276/ijmrp.2022.8.1.023