Original Research Paper Volume - 4 | Issue - 1 | January - 2020 | ISSN (O) : 2663-0729 | ISSN (P) : 2663-0710

AN ANALYTICAL STUDY OF SURGICAL EMERGENCIES IN A TERTIARY CARE HOSPITAL-A RETROSPECTIVE STUDY

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ABSTRACT

Surgical emergencies in our setup form the major part of admissions in general surgery department. It also requires a lot of manpower including a surgical team, technicians and staff to help in prompt intervention and preparation for emergency surgery. The role of the surgeon and his team is very important in making the right diagnosis and planning for the emergency surgery. The resources needed in handling an emergency case includes the availability of radiological equipments, availability of an emergency OR and its staff, availability of appropriate surgical instruments and also the availability of a good ICU and post-op care. This study is aimed to identify the common cases related to surgical emergencies in Sree Balaji medical hospital, Chennai.

KEYWORD

appendicectomy, splenectomy, solid organ injuries

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INTRODUCTION:

Surgical emergencies form the bulk of surgical admissions. Surgical emergencies needs immediate attention and prompt action to minimise morbidity and mortality risk. General surgery is a speciality which deals with both emergency admissions as well as elective procedures. Emergency surgical admissions account for 46% to 57% of all surgical admissions[1]. Apart from trauma, acute abdominal pain is a common physical complaint accounting for emergency department visits and is also the leading cause of hospital admissions.

Surgical emergencies in our setup form the major part of admissions in general surgery department. It also requires a lot of manpower including a surgical team, technicians and staff to help in prompt intervention and preparation for emergency surgery. The role of the surgeon and his team is very important in making the right diagnosis and planning for the emergency surgery. The resources needed in handling an emergency case includes the availability of radiological equipments, availability of an emergency OR and its staff, availability of appropriate surgical instruments and also the availability of a good ICU and post-op care. This study is aimed to identify the common cases related to surgical emergencies in Sree Balaji medical hospital, Chennai.

OBJECTIVE OF STUDY:

This one year analytical study included all emergency cases who reported in general surgical emergency room for a period of January 2018 to December 2018 in Sree Balaji Medical hospital, Chennai. The patients undergoing major surgical procedure within 24hours in casualty were recorded. Patients referred internally from indoor admission of other specialities and burn patients as well as obstetrical and paediatric surgical emergencies were excluded, as there were separate team to deal with these patients. All the data were compiled and analysed statistically by using descriptive statistical methods. Patients with emergency surgical conditions are received at the accident and emergency unit of the hospital where the initial resuscitation is done. Those with minor conditions requiring emergency surgical procedure are taken to the emergency theatre and may be discharged home from the Accident and Emergency unit. We decided to analyse the surgical emergencies that have presented in our hospital for one year. This study analyses the spectrum and pattern to establish the most common surgical emergency presentation.

METHOD OF DATA EXTRACTION:

From the medical registry

INCLUSION CRITERIA:

1. Major surgical cases that warrant immediate surgery under Regional or General Anaesthesia.

EXCLUSION CRITERIA:

1. Minor surgical cases
2. Burns cases
3. Obstetrics and paediatric emergencies
4. Urological emergencies
5. Head injuries

RESULT:

During the one year study period, 705 surgical emergencies were recorded, Out of which Appendicitis accounts to 46.3% of the cases, all emergencies warranting laparotomies (perforation, intestinal obstruction, solid organ injury post-trauma) accounts to 26% of the cases, perianal abscesses

accounts to 14.3%, obstructed or strangulated hernia accounts to 11% of the cases and torsion testis 2.26%. The mainstay treatment of all patients with surgical emergencies required prompt intervention, immediate surgery and hospital stay of about 3-10days.

DISCUSSION:

Surgical emergencies that come to the casualty can be classified as those caused due to trauma(trauma) and those due to acute abdominal conditions(non-trauma). Trauma cases that warrant surgical intervention are mostly solid organ injuries or bowel injuries in need for laparotomies. Non-trauma cases includes all acute abdominal conditions like appendicitis, intestinal obstruction and obstructed or strangulated hernias. Other emergency cases include torsion testis and perianal abscess.

Trauma remains the most common cause of death for all individuals between the ages of one to 44 years and is the third most common cause of death regardless of age. It is also the number one cause of years of productive life lost. 10% of these fatalities are attributable to abdominal injury. The Indian fatality rates for trauma are 20 times that for developed countries.[1] The frequency of intra-abdominal injuries continues to increase worldwide. Most Common mode of injury is Road Traffic Accident constituting 66% of the patients.[1] Khadilkar et al and Mehta et al have studied patients with blunt trauma abdomen, in their study also they have found out RTA being the most common mode of injury. Spleen is the most common organ involved, followed by liver and kidney.[2] All intra-abdominal injuries with haemodynamic instability are surgical emergencies and were rushed for laparotomies. Torsion testis also occurs due to trauma and needs emergency surgery. All trauma cases that required emergency laparotomies followed by admission for hospital stay were only included for this study. Those cases that were treated in casualty and discharged were excluded.These include minor lacerations that required suturing and all other emergency minor cases that were discharged on the same day.

Non-trauma cases were mostly acute abdominal conditions and acute abscesses like perianal abscess. Acute abdominal pain also constitute a significant percentage of emergency admission worldwide and comprises one of the largest group (non traumatic) of people presenting as general surgical emergency.

In our study, cases were collected for a period of one year.
The following chart provides the data that was collected from

Surgical emergencies in SBMCH

SURGICAL EMERGENCIES	PERCENTAGE
Acute appendicitis	46
Emergencies warranting laparotomies	26
Obstructed/strangulated hernia	11
Torsion testis	2
Perianal abscess	14

January 2018-December 2018.
Acute Abdominal Emergencies:

1.Appendicitis:
Appendicitis is common in cities, towns, and rural areas and removal of an inflamed appendix(appendicectomy) is a straightforward procedure. If left untreated; could lead to perforation and finally generalised/ fecal peritonitis.

2.Laparotomies:
Indicated for gastric/ duodenal ulcer, transaction due to trauma, Adhesions and Volvulus.The most common cause of intestinal obstruction is incarcerated hernia. If treated early, the morbidity of the patient can be reduced; these conditions become difficult problems if allowed to progress to a later stage resulting in sepsis.

3.Perianal abscess:
Perianal abscess presents with acute perianal pain and an emergency incision and drainage should be done to relieve the patient of pain.

4.Incarcerated and Strangulated Inguinal Hernias:
Incarcerated hernia is a cause of intestinal obstruction. If the intestine is not viable, Resection and anastomoses was performed.

5.Torsion testis:
Torsion testis is one of the common cause for acute scrotal pain post trauma. Emergency exploration of the scrotum with untwisting of the testis should be done within 4hours post-trauma. If delayed, can lead to testicular gangrene.
According to Anjali Verma et al, Urgent surgical intervention was carried out in 17.60% of the patients presenting in emergency, laparotomy was the most frequent operation perform ed, followed by appendicectomy.[1] However, Masood et al reported that urgent surgical procedures were carried out in 22.8% patients, appendicectomy being the most frequent operation performed.

Our study also concludes that the most common surgical emergency that presents to the casualty is acute abdomen with appendicitis (46%) as its cause and the most common emergency surgery performed was emergency open appendicectomy.

The second most common cause is emergencies warranting laparotomies. These include perforation, intestinal obstruction and solid organ injuries. Among these, perforation is the leading cause for emergency laparotomies. Among the solid organ injuries, most common injury was splenic injury and the most commonly done surgery was splenectomy.

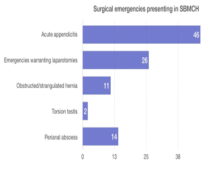
As observed from the study, the following measures should be taken in order to improve the morbidity and mortality associated with surgical emergencies.[3]

» Surgical treatment of acutely ill patients must take priority over planned, elective surgery when necessary.

» Services must be consultant-led and senior doctors must be involved throughout the patient's care with multi-stake holder approach should be undertaken. The seniority of the surgeon involved in the operation must match the clinical need of the patient (ie high risk patients need to have surgery carried out by or under the direct supervision of a consultant surgeon and consultant anaesthetist).

» A greater focus on pre- and postoperative care arrangements is required to ensure the early involvement of anaesthetists and critical-care specialists.

» Planning and provision of resources such as access to emergency theatres and availability of diagnostic investigations must be carefully managed.



EMERGENCIES WARRANTING LAPAROTOMIES

SURGICAL EMERGENCY	PERCENTAGE
Perforation	12
Intestinal obstruction	10
Solid organ injury	4

Conclusion :

We conclude that the most common emergency surgical procedure performed in SBMCH is appendicectomy. The

results of this study are helpful in planning better emergency service delivery to patients and in focusing and improving the training of surgical residents.

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