

# Cross Sectional Study on Socio Demographic and Clinical Profile on Acute Abdomen in a Tertiary Care Hospital Hyderabad, Telangana

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## ABSTRACT

A cross sectional study on socio demographic and clinical profile of acute abdomen was conducted in a tertiary care teaching hospital in Suraram, Hyderabad, Telangana. It was retrospective and record based study, 170 in-patient case sheets from the department of General surgery admitted in emergency with acute abdomen from 1st July 2021 to 30st June 2022 were collected from Medical record department of Hospital. Socio demographic and clinical details were collected from the case sheets in to a pre structured data sheet and the data was analyzed by SPSS (version 21.0) software.

Four most common causes of acute abdomen found in our study are acute appendicitis accounting 30% of total number of admissions, followed by acute cholecystitis with 21.2%, acid peptic diseases with 18.23% and renal calculi contributed fourth common cause of acute abdomen accounting 12.4%. Acute appendicitis was the leading cause in males whereas acute cholecystitis was the leading cause in females. Majority of cases 74.75% were treated conservatively and 25.35% cases were treated with surgery. 85.9% of cases were treated without any complications. Mortality was very negligible due to referral to higher centers. Similar results were observed in studies conducted in India and abroad.

**Keywords:** Socio demographic profile, clinical profile, acute abdomen.

## INTRODUCTION

A cross sectional study on socio demographic and clinical profile of acute abdomen was conducted in a tertiary care teaching hospital in Suraram, Hyderabad, Telangana. It was retrospective and record based study, 170 in-patient case sheets from the department of General surgery admitted in emergency with

acute abdomen from 1<sup>st</sup> July 2021 to 30<sup>st</sup> June 2022 were collected from Medical record department of Hospital. Socio demographic and clinical details were collected from the case sheets in to a pre structured data sheet and the data was analyzed by SPSS (version 21.0) software.

The majority of patients presenting with acute abdominal pain have associated

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symptoms (e.g., nausea, vomiting, diarrhea and constipation) that are often helpful in making a diagnosis. Additionally, constipation may point towards an intestinal obstruction. The causative pathologies of the acute abdomen range from intra-abdominal to extra-abdominal and metabolic diseases. Common causes of acute abdominal pain include acute appendicitis, acute cholecystitis, acute bowel obstruction, urinary colic, perforated peptic ulcer, acute pancreatitis, acute diverticulitis, and nonspecific, nonsurgical abdominal pain<sup>3</sup>. Therefore a multidisciplinary approach is imperative and early consultation is the key in order not to unnecessarily delay treatment. Two thirds of patients do not require operative management.

The general rule is that any pain which is persistent for a period of more than 6 days is usually caused by a disease of surgical significance. This led to the common misconception that the acute abdomen is synonymous with the surgical abdomen. However, not all cases of acute abdomen are best treated with surgery.

Most cases of acute abdomen can be diagnosed clinically by the presence of abdominal pain, abdominal tenderness, guarding and rigidity. There should be a certain diagnostic modality which confirms the diagnosis and the surgeon should feel safe and accurate in deciding which patients require immediate surgical intervention. Although imaging modalities like X-rays, Ultra sonography<sup>4</sup> (USG), CT scan and MRI, are available and can diagnose accurately.

The aim of the study is to explain socio-demographic and clinical profile of surgical cases of acute abdomen reported to the tertiary care teaching hospital with following objectives.

- To explain the most common causes of acute abdomen.
- To explain the socio-demographic details in relation to the cause of acute abdomen.
- To explain the clinical presentation and management in relation to the disease.

- To know about post-operative complications and mortality.

Clinching an early diagnosis of cause for acute abdomen is imperative for the emergency management of acute abdomen patients. Misdiagnosis and delay in the treatment can lead to complications and death. This study is useful for accurate diagnosis for establishing better infra structure, good treatment protocol and will help to invariably a superior management.

## MATERIALS AND METHODS

A cross-sectional retrospective study on socio-demographic and clinical profile of acute abdomen was conducted in a tertiary care teaching hospital at Suraram, Hyderabad, Telangana. 170 in patient case sheets of General surgery were collected from the department of medical records. Study was conducted from 1<sup>st</sup> July 2021 to 30<sup>st</sup> June 2022, for a period of one year after obtaining permission from institutional ethics committee. Names of the patients were kept anonymous and absolute professional secrecy was maintained during the study.

Patients admitted in the emergency department of hospital with surgical causes of acute abdomen were considered for this study and those with medical causes and gynecological origin of acute abdomen was excluded.

The following data was collected from the in-patient case sheets.

- IP Number.
- Age.
- Sex.
- Marital status.
- Locality.
- Religion.
- Nutritional habits.
- Seasonal distribution, Educational qualification.
- Smoking, alcohol and other addictions.
- Any genetic predisposition of the disease.

- Any associated co-morbid condition present.
- Clinical presentation of the case.
- Diagnostic methods used to evaluate the case.
- What is the cause of acute abdomen
- Number of cases treated conservatively
- Number of cases requiring emergency surgery
- Any postoperative complications developed
- Any specific treatment protocol followed
- Any cases referred to higher centers and reasons
- Duration of stay in hospital.
- Whether discharged with full recovery
- Death due to complications if any during first 24 hrs of surgery.
- Death due to complications if any during postoperative period.

Data was collected in to a pre structured data sheet and entered in Microsoft Excel spread sheet; data was analyzed by SPSS (version 21.0) software.

## RESULTS

A Cross sectional, retrospective and record based study was conducted in a tertiary care teaching hospital Hyderabad, 170 case sheets of surgical causes of acute abdomen in which 86 of male sex and 84 of female sex were collected from MRD of hospital and the following results were observed (Table 1 and Figure 1 to 4).

## DISCUSSION

A cross sectional, retrospective study on socio-demographic and clinical profile of acute abdomen was conducted in a tertiary care teaching hospital at Suraram, Hyderabad, Telangana. A total of 170 case sheets among which 86 belong to males and 84 belong to females were collected from Medical Records Department of the hospital. Socio-demographic and clinical details were collected from the case sheet and analyzed statistically by using SPSS software. We noticed 6 most common clinical diagnoses in our study area. We found statistical significance of age in association with clinical presentation ( $p=0.000$ ) and sex in association with clinical diagnosis ( $p=0.018$ ),

**Table 1: Socio demographic results of study population.**

Socio-demographic details	Findings	Socio-demographic details	Findings
Total study population	Males 86, Females 84	Locality	85 Urban, 85 Rural
Religion	Hindu 145, Muslim 24 and Christian 1	Nutrition	Vegetarian 7, Mixed diet 163
Season	Summer 1, Rainy 118 and Winter 51.	Personal habits	No habits 136, Smoking 11, alcohol 23.
Genetic	No genetic predisposition 169, genetic predisposition 1.	Cases recurrences	7 recurrent and 163 new cases
Co morbidity	Hypertension 6, Diabetes mellitus 5 both hypertension and diabetes 8, Asthma 2, Hypo Thyroid 8, Epilepsy 4. No co-morbidity 137.	Investigations	USG 92, endoscopy 12, CT scan 3, Liver function test 2, X ray KUB 2, ERCP 1, Widal test 1, Clinical diagnosis 56.
Management	Conservative 127, Surgery 43.	Postoperative complication	Nil 42, Complication 1.
Referral	Referred to higher centre 9	Discharge	Full recovery 137, Left against medical advise 17, Abscond 4
Death	1		

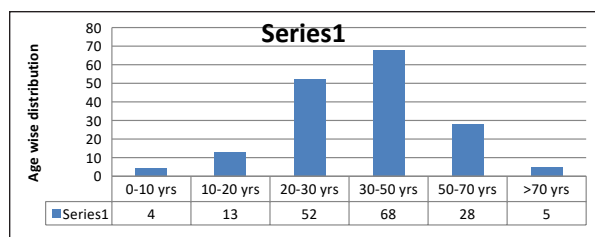


Fig. 1: Age wise distribution of study population.

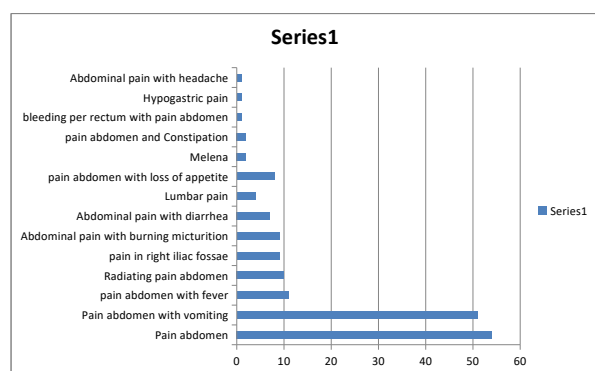


Fig. 2: Clinical presentation in study population.

p value less than 0.05 was considered statistically significant.

Age wise distribution shows 2.4% of cases from 0 to 10 years, 7.6% from 10 to 20 years, 30.6% from 20 to 30 years, 40% from 30 to 50 years, 16.5% from 50 to 70 years and 2.9 % cases are above 70 years. Highest number of cases of acute abdomen were reported in 30 to 50 years age group, and second highest were reported in above 50 years of age group in our study population.

In locality wise distribution we observed an equal numbers of cases from both urban and rural areas. Majority of patients in our study group i.e. 85.3% belong to Hindu community, 14.1% were Muslims and very less number of patients 0.6% were from Christian community, the percentage distribution almost representing their population percentage.

Regarding Dietary habits, 95.9% of study group consumed mixed diet and remaining 4.1 % are vegetarians. Most of the cases of acute abdomen i.e. 69.4% presented to the emergency department during the rainy season, 30% reported in winter and only 0.6% cases reported during summer. Highest

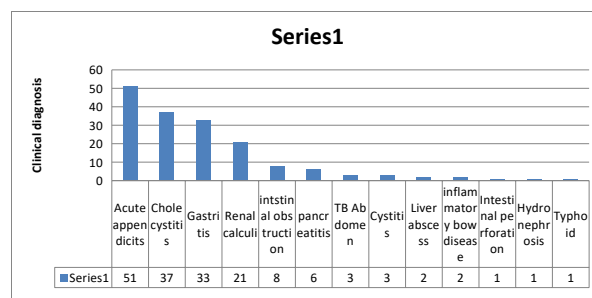


Fig.3: Clinical diagnosis in study population.

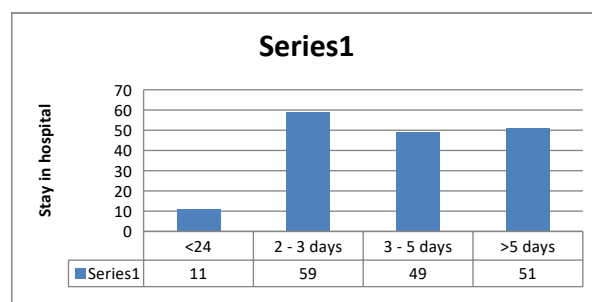


Fig. 4: Duration of stay in hospital.

number of acute abdomen cases was reported in rainy season. Regarding personal habits, 80% of the patients are neither smokers nor alcoholics, whereas the remaining 20% are smokers and alcoholics. In our study we noticed very least percentage of cases (0.6%) having genetic predisposition.

Acute abdomen in relation to co morbidities, we observed that 80.6% have no co-morbidities. 19.4% of cases are associated with co morbidities among that 11.1% have hypertension with diabetes and 4.7% have hypothyroidism. Epilepsy was found in 2.4% and 1.2% were asthmatics.

Other clinical presentations associated with acute abdomen in our study population was 41.8% of cases presented with pain abdomen in right iliac region, 30% were diffuse abdominal pain with vomiting, 6.5% of cases were abdominal pain with fever and 6.5% with hypogastric pain. The remaining presentations i.e. 5.3% were pain abdomen with burning micturition, 4.1% were abdominal pain with diarrhea, 2.4% with lumbar pain, 1.2% were abdominal pain with constipation, 1.2% with Melena and 1.2% were abdominal pain with headache.

Regarding investigations, 54.1% of cases underwent ultrasonography, 31.2% of cases were investigated with X ray erect abdomen, endoscopy was performed in 7.1%, CT scan in 1.8%, Liver function test in 1.2%, kidney ureter and bladder radiography in 1.2%, ERCP in 1.25% and widal tests were done in 0.6% of cases. Majority of cases were diagnosed by ultrasonography and erect abdominal x ray.

In regard to the clinical diagnosis in our study, 30% of total number of cases was diagnosed as acute appendicitis, out of the total male population it contributed to 31.3% and in female subjects it contributed to 28.57%. Second highest number of cases was diagnosed as acute cholecystitis which is 21.2%, in total male it contributed to 12.79% and females 29.76%. Third common cause of acute abdomen in our study was acid peptic disease, which is 18.23%, among total male population it accounts to 22.09% and in female population it accounts to 14.28%. Fourth common diagnosis was renal calculi which is 12.4% in which majority are males, with 5.84% from total male population and 1.19% from female population. Other clinical diagnosis was intestinal obstruction in 4.7%, pancreatitis 3.5%, TB abdomen 1.8%, liver abscess and cystitis contribute 1.25% each, 1.2% were acute inflammatory bowel disease and remaining other clinical conditions contributed 0.6% each were intestinal perforation, dengue fever, hydro-nephrosis, urinary tract infections, appendicular mass, enteric fever and hemorrhoids.

In total study population, surgery was the treatment of choice in 25.3% only whereas 74.7% cases were treated conservatively. Postoperative complications were negligible around 0.6%, 4.1% cases were referred to higher centers.

Regarding In-patient duration of stay in the hospital, only 6.5% stayed less than 24hrs, 34.7% stayed for 2 to 3 days, 28.8% stayed 3 to 5 day and 30% stayed more than 5 days. Regarding discharges 85.9% of cases were discharged with full recovery, 10 % of cases left against medical advice, and 3.5% of cases were absconded and mortality was only 0.6%.

A study conducted by Ahmadullah Danish<sup>5</sup> titled "Retrospective case series study for acute abdomen" at Aliabad Teaching hospital revealed the most common cause of acute abdomen was acute Appendicitis, second being intestinal obstruction and the third was acute cholecystitis. A study conducted in Japan by Hidero Yoshimoto<sup>6</sup> on "seasonal variations and severity of acute abdomen" revealed acute appendicitis was the most common cause of acute abdomen. In another study conducted at Nigerian Teaching Hospital by John Owoade Agboola<sup>7</sup> et.al. also found similar results. We also observed similar results in our study.

## CONCLUSION

Four major causes of acute abdomen reported in our study are acute appendicitis, cholecystitis, acid peptic diseases and renal calculi. Appendicitis was the leading cause of acute abdomen in males whereas cholecystitis was the leading cause in females. Second highest cases reported in males are acid peptic diseases but in females it was acute appendicitis. Third highest number of cases was cholecystitis in males where as in females it was acid peptic disease. Renal calculus was the fourth commonest cause of acute abdomen in both males and females. Majority of the cases around two thirds were treated conservatively, only 25.3% underwent emergency surgery. Several studies conducted in India and abroad also found similar results.

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