



## Study on Geriatric Abdominal Surgical Procedures in Tertiary Care Hospital

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### Introduction

Life expectancy and the geriatric population have increased steadily in recent decades. Our society is continuing to age and with luck, fortunately this trend is continuing. Advances in healthcare systems have enabled people to live longer and to remain healthy for a significantly greater amount of time. Today, major surgical operations are offered to increasing numbers of geriatric patients. As in other surgical specialties, the frequency of digestive operations performed in elderly patients, and even in subgroups of older patients (i.e.  $\geq 80$  or  $\geq 85$  years) has increased.<sup>13</sup> Senescence or physiological ageing is decreased functional reserve of critical organ systems resulting in decreased ability in coping with operative stress.

Therefore old age should be regarded as a normal, inevitable, biological phenomenon.<sup>1,3</sup> Geriatric population includes people who are 65 years or more of age. Geriatric population is slowly & steadily growing segment of population. Percentage of total geriatric population is increasing since last ten years due to advances in medical sciences & technology, improvement in

the standard of living & economy.<sup>2</sup> there has been sharp increase in the number of elderly person between 1991 & 2001 & it has been projected that by the year 2050, the number of elderly people would rise to about 324 million. Geriatric population is often associated with comorbid factors like Diabetes, Hypertension, Ischaemic Heart Disease, Asthma, Myasthenia gravis etc. which have bearing in terms of risk of anaesthesia & complications during outcome after surgical interventions. There are certain types of age related problems in elderly that may affect the outcome of surgery.<sup>14</sup> Gastrointestinal diseases are a frequent cause of morbidity, mortality and hospital admissions in the geriatric.<sup>15</sup> They present with subtle clinical manifestations and life threatening complications.<sup>13,14</sup> So the study was conducted to evaluate the common causes for emergency abdominal surgeries in geriatric patients and the therapeutic outcome .

### Material and Methods

The study was conducted in the Department of Surgery, Index medical college hospital &

Research centre. It was Prospective and observational study. All the patients of age 65 years & above, who underwent abdominal surgeries in emergency admission in our institute were included in this study. All the necessary laboratory & radiological investigation from the point of anaesthesia & surgical fitness of the patient were done. Patient with advanced malignancies (metastatic disease), Cardiac surgeries, Neurosurgeries, Orthopedic surgeries, ENT surgeries, Ophthalmic surgeries were not

included. The total sample size calculated was 100.<sup>4</sup>The observations of the study was analysed using the Statistics Package for Social Science (SPSS version 16.0; Chicago, Inc., USA) software.

### Observations and Results

Half of the cases were in the age group 65-70 years (50%) followed by 70-75 (30%), 75-80 (13%) and >80 (7%) years. Males constituted 70% of the cases. (Table 1)

**Table 1-** Age and sex distribution of cases

Age in years	Male		Female		Total	
	No.	%	No.	%	No.	%
65-70	35	70	15	30	50	50
70-75	20	66.7	10	33.3	30	30
75-80	10	76.9	3	23.1	13	13
>80	5	71.4	2	28.6	7	7
Total	70	70	30	30	100	100

Most common emergency was perforated peptic ulcers (23%) followed by obstruction due to adhesions (22%). The next common incidence of etiology was appendicitis (20%) seen in geriatric abdominal surgeries. Hernia, cholecystitis and bowel gangrene were less common etiologies.

**Table 2** Etiologies of various abdominal emergencies in geriatric patients

Etiology	No.	Percentage
Perforated peptic ulcers	23	23
Obstruction due to adhesions	22	22
Hernia	7	7
Trauma	8	8
Bowel gangrene	9	9
Appendicitis	20	20
Cholecystitis and ileal perforation	6	6
Other cases	5	5

Ventilator support was the most common additional post operative management seen in geriatric patients (30%), followed by bronchodilators (22%), blood transfusion (15%), inotropic support (12%) and antiplatelet medicines (4%).

**Table 3** Additional post operative management

Management	Number	Percent
Blood transfusion	15	15
Inotropic support	12	12
Bronchodilators	22	22
Anti platelet medication	4	4
Ventilator support	30	30
Secondary suturing	7	7
Other	10	10
Total	100	100

Most common post operative complication seen was surgical site infection (20%) followed by respiratory complications (11%) and cardiac complications (8%). Septic shock was responsible for 50% death in geriatric patients undergoing abdominal surgeries (4 out of 9 deaths).

**Table 4** Post operative complications

Complications	Number	Percent
Respiratory	11	11
Cardiac	8	8
Surgical site infection	20	20
Septic shock	4	4
Death	9	9
No complications	48	48
Total	100	100

### Discussion

In this series we have studied 100 elderly surgical patients (Age  $\geq 65$  years). Half of the cases were in the age group 65-70 years (50%) followed by 70-75 (30%), 75-80 (13%) and  $>80$  (7%) years. Males constituted 70% of the cases. The percentage of males was higher in all the age groups than females. In similar study Anil Jacob Purty et al maximum number of patient in age group 65-75, & male to female ratio to be 2.4:1.<sup>5</sup> Incidence of perforated peptic ulcer was nearly same (23%) in our study as compared to that of Lebeau R study (21.17%)<sup>16</sup> Incidence of appendicitis, trauma and cholecystitis are more in our study as compared to that of Lebeau R et al study. While incidence of hernia and obstruction due to adhesions was less in our study.

Rate of complications was more evident as cardiac complications in our study (8%) as compared to the study of Khoja HR et al (6.45%). While respiratory complications were less (11%) in our study as compared to Khoja et al (15%). Other complications as surgical site infection, septic shock, death were also less as compared to the study performed by Khoja HR et al<sup>(17)</sup>

### Conclusions

Geriatric population is an important subgroup of population undergoing emergency abdominal surgeries. Most common cause being peptic ulcer perforation (23%) followed by intestinal obstruction due to adhesions (22%). Most common cause of death in abdominal emergency in geriatric patients is septic shock. Thus it indicates that more than the age per say, the delay in presentation may be the cause for mortality in this age group.

It is estimated that, by the year 2040, greater than 25% of the population will be seniors. The rapid growth of the aging population has increase the necessity for a better understanding of the needs and outcomes of geriatric patients undergoing surgeries. Geriatric surgical patients need special consideration. Clinical presentation in geriatric patients is not same as young. Absence of typical

symptoms & signs often lead to misdiagnosis & delay.

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