ORIGINAL RESEARCH PAPER
Volume - 10 | Issue - 04 | April - 2021 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

"STUDY OF SURGICAL PROBLEM IN OLD AGE PATIENTS"

General Surgery

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ABSTRACT

Background: Elderly patients frequently present with surgical emergencies to health care providers, and outcomes in this group of patients remain poor. Contributing factors include frailty, preexisting comorbidity, polypharmacy, delayed diagnosis, and lack of timely and consultant-led treatment. In this review, we address common emergency surgical presentations in the elderly and highlight the specific challenges in caring for these patients. We summarize 20 years of reports by various medical bodies that have aimed to improve the care of these patients. The prime aim of the surgeon is to prolong useful and good quality of life after surgery.

Methods- The proposed study includes patients with age 60 years & above who were admitted through surgical Out Patient Department, Casualty &/or were transferred from other departments. Patients were then thoroughly examined with details of general, systemic and local examination and a provisional diagnosis was made on clinical grounds of the underlying surgical problems and associated systemic disorders with medical problems like hypertension, diabetes mellitus, nephropathy & mental illnesses.

Results- Majority of patients were male (70.71%) with male: female ratio of 2.4:1 Elderly patients admitted were suffering from Medical illness associated with surgical problems commonest being DM (39.68%) followed by ANEMIA (35.15%), HTN (23.75%) and Tuberculosis (1.40%). Majority of elderly patients in both sexes were suffering from GIT disorders (27.31%). In males second common system involved was Genitourinary system (32.10%) followed by Skin & soft tissue lesions (20.58%), hernia (13.10%) and Hepato-biliary System (7.82%) In females second common system involved was Hepato-biliary system (25.66%) followed by skin & soft tissue lesion (23.88%), Breast lesions (6.25%).

Conclusion- In geriatric age group a large number of operations are procrastinated because of co-existing medical illnesses, financially dependent status of elderly, lack of support care system to look after in postoperative period specially in this era of nuclear family and above all his/her own reluctance for definitive surgery unless condition is life threatening. Finally, I wish to stress the importance of taken care of senior citizen. If not taken care of, a large number of very old patients on whom surgery will be difficult. I insist, the attention towards this fact..

KEYWORDS

Emergency surgery, elderly care, risk assessment, frailty

INTRODUCTION-

Old age is not a disease but the aged people are often vulnerable to long term diseases like cardiovascular, cerebro-vascular, respiratory, gastrointestinal, cancers, mental derangement, hearing and visual loss and conditions affecting the Locomotor system,. These diseases produce disabilities. Today surgery is being frequently performed in the elderly not only to the life threatening emergency, but also as an elective procedure to treat symptomatic states, which trend to disturb an otherwise peaceful retired life of the individual. In India approximately two third of the elderly live in the rural areas and more than half of the population is on the margin of poverty and poor health.

The effects of aging include poor wound healing manifesting as wound dehiscence and anastomotic leaks of bowel, delayed callus formation, disordered coagulation and reduced enzyme synthesis decreased oxidative metabolism of drugs by the liver, immunological depression with increased susceptibility to infection. Decreased tolerance to radiotherapy and cytotoxic chemotherapy, all with the severe mental apathy and physical exhaustion of the elderly.

To improve morbidity and mortality, several aspects of care need to be addressed. These include accurate and timely preoperative assessment to identify treatable pathology and, where possible, to consider and correct age-specific disease processes. Identification of patients in whom treatment would be futile or associated with high risk is needed to avoid unnecessary interventions and to give patients and careers realistic expectations. The use of multidisciplinary teams to identify common postoperative complications and age-specific syndromes is paramount. Prevention of complications is preferable to rescue treatment due to the high proportion of patients who fail to recover from adverse events. Even with successful surgical treatment, long-term functional decline and increased dependency are common. More research into emergency surgery in the elderly is needed to improve care for this growing group of vulnerable patients.

AIMS AND OBJECTIVES-

To study the incidence of various surgical conditions affecting elderly patients admitted in surgical ward. To study the mode of presentation, various mode of treatment and mortality with various diseases in elderly.

MATERIAL AND METHODS-

The present study was carried out in admitted patients age of 60 years and above in surgical wards of the Department of Surgery, associated S.G.M. Hospital and S.S. Medical College, Rewa (M.P.) during from June 2018 to May 2019. After admission of patients particular will be recorded and they were also inquired for chief complaints with duration, past history, drug history, personal history and family history. Their findings were recorded in a proforma.

INCLUSION CRITERIA-

Patient of age 60yrs & above in both sex.

EXCLUSION CRITERIA-

1. Patient left hospital during course of treatment.
2. Patient operated outside the institute.
3. Patient below age the 60 years.
4. Patient who head neurosurgical problem and head injury.

The proposed study includes patients with age 60 years & above who were admitted through surgical Out Patient Department, Casualty &/or were transferred from other departments.

Patients were then thoroughly examined with details of general, systemic and local examination and a provisional diagnosis was made on clinical grounds of the underlying surgical problems and associated systemic disorders with medical problems like hypertension, diabetes mellitus, nephropathy & mental illnesses. Patients admitted in emergency was resuscitated and subjected to relevant investigations for primary pathology and associated systematic disorders.

Patients were treated accordingly either conservatively or by surgical intervention which was done according to indication. After assessment of patients they were subjected to various surgical procedures if required and full details of anaesthesia and operative procedures were recorded. Patients who underwent various surgical procedures was discharged postoperatively patients was receive treatment as per plan and complications were recorded. Patients who were treated conservatively were discharged on relieve of their symptoms and with regression after removal of their stitches & were followed up in surgical Out Patients Department.

RESULTS-

The present study was carried out in 1585 patients with age group of 60 years & above, who were admitted in surgical wards of S.G.M. Hospital and associated S.S. Medical College, Rewa (M.P.). Patients were treated according to merits of their diagnosis, either conservatively or by surgical intervention which was done according to indication. After stabilization of condition of patients they were subjected to various surgical procedures and full details of anesthesia and operative procedures were recorded.

Total admission	Geriatric patients admitted	Incidence
10887	1585	14.55%

In the present study, the incidence of geriatric surgical problems in total admission was found to be 14.55%.

Table No. 1 Distribution of Patients According to Age and Sex

S. No.	Age Group (In Yrs.)	Total		Male		Female	
		No.	%	No.	%	No.	%
1.	60-64	474	**29.90**	319	**28.05**	155	**34.59**
2.	65-69	352	**22.20**	251	**22.07**	101	**22.54**
3.	70-74	352	**22.20**	260	**22.86**	92	**20.53**
4.	75-79	177	**11.16**	130	**11.43**	47	**10.49**
5.	80 and above	230	**14.51**	177	**15.56**	53	11.83
Total		**1585**	**100**	**1137**	**100**	**448**	**100**

As evident from above table, the majority of patients were male (70.71%) with male: female ratio of 2.4:1. Majority of patients were in age group 60yrs to 64yrs (29.90%). Number of patients in age group 80 yrs and above was also significant (14.51%). Eldest patient was 100 yrs old male. (Table -1)

Table No. 2 Incidence of Geriatric Patients having medical illness associated with Surgical problem (n-640)

S. No.	Medical illness	Total		Male		Female	
		No.	%	No.	%	No.	%
1.	Anemia	225	**35.15**	157	**34.42**	68	**36.95**
2.	Diabetes Mellitus	254	**39.68**	183	**40.13**	71	**38.58**
3.	Hypertension	152	**23.75**	108	**23.68**	44	**23.91**
4.	Tuberculosis	09	**1.40**	8	**1.75**	1	**0.54**

It is evident from above table that, the majority of elderly patients admitted were suffering from Medical illness associated with surgical problems commonest being DM (39.68%) followed by ANEMIA (35.15%), HTN (23.75%) and Tuberculosis (1.40%). There was over 640 patients (40.37%) out of 1585 patients, were having severe or other co-morbid medical illness. (Table-2)

Table No. 3 Distribution of Patients According to System Involved (n-1585)

S. No.	System Involved	Total		Male		Female	
		No.	%	No.	%	No.	%
1.	Gastro-intestinal tract	433	**27.31**	299	**26.29**	134	**29.91**
2.	Skin and Soft tissue	341	**21.51**	234	**20.58**	107	**23.88**
3.	Genitourinary System	399	**25.17**	365	**32.10**	34	**7.58**
4.	Hepato-biliary system	204	**12.87**	89	**7.82**	115	**25.66**
5.	Hernia	179	**11.29**	149	**13.10**	30	**6.69**
6.	Breast lesions	29	**1.82**	1	**0.08**	28	**6.25**
Total		**1585**	**100**	**1137**	**100**	**448**	**100**

It is evident from above table that, the majority of elderly patients in both sexes were suffering from GIT disorders (27.31%). In males second common system involved was Genitourinary system (32.10%) followed by Skin & soft tissue lesions (20.58%), hernia (13.10%) and Hepato-biliary System (7.82%) In females second common system involved was Hepato-biliary system (25.66%) followed by skin & soft tissue lesion (23.88%), Breast lesions (6.25%). (Table-3)

Table No. 4 Distribution of Patients According to Type of Treatment

S. No.	Treatment Modality	No. of Patients	Percentage
1.	Conservative Treatment	830	**52.36**
2.	Emergency Surgery	448	**28.26**
3.	Elective surgery	307	**19.36**
Total		**1585**	**100.00**

It is evident from above table that majority of patients were treated conservatively (52.36%). Among the surgical treatment Emergency surgery was more commonly performed (28.26%). (Table-4)

Table No. 5 Distribution of Patients According To common surgical Procedures done (n=747)

Sr. No.	Procedure	No. of Procedure	Percentage
1.	Relaxing Incisions	152	**20.34**
2.	Exploratory laparotomy	74	**9.90**
3.	Hernia Repair	149	**19.94**
4.	Incision & Drainage	64	**8.56**
5.	Sclerotherapy	23	**3.07**
6.	Debridement	51	**6.8**
7.	Urethral Dilatation	24	**3.21**
8.	Prostatectomy	39	**5.22**
9.	Excision Biopsy	18	**2.40**
10.	Pus aspiration	23	**3.07**
11.	IPD	22	**2.94**
12.	Cystolithotomy	13	**1.74**
13.	Evarsion of Sac	22	**2.94**
14.	Suprapubic Cystostomy	23	**3.07**
15.	Cholecystectomy	30	**4.01**
16.	Mastectomy	15	**2.00**
17.	B/L Orchidectomy	3	**0.40**
18.	Stoma Closure	6	**0.80**
19.	Circumcision	6	**0.80**
20.	Others	10	**1.33**
	Total	**747**	**100.00**

It is evident from above table that Relaxing Incisions (20.34%) was commonest procedure performed, next common being Hernia Repair (19.94%),Exploratory laparotomy(9.90%) amongst all surgeries. (Table-5)

Table No. 6 Distribution of Patients According To Elective Surgical Procedures done (n=307)

Sr. No.	Procedure	No. of Procedure	Percentage
1.	Hernia Repair	130	42.34
2.	Prostatectomy	27	8.79
3.	Excision Biopsy	10	3.25
4.	Cystolithotomy	12	3.90
5.	Evarsion of Sac	22	7.16
6.	Exploratory laparotomy	12	3.25
7.	Cholecystectomy	30	9.77
8.	Aspiration of pus	21	6.84
9.	Mastectomy	15	4.88
10.	B/L Orchidectomy	2	0.65
11.	Stoma Closure	6	1.96
12.	Circumcision	5	1.63
13.	Nephrolithotomy / Ureterolithotomy	4	1.31
14.	Cystoscopy	5	1.63
15.	Theirsch wiring	2	0.65
16.	Appendisectomy	2	0.65
17.	Fistulectomy	2	0.65
	Total	**307**	**100.00**

It is evident from above table that Hernia Repair (42.34%) was commonest elective surgical procedure performed, next common being cholesystectomy (9.77%) and Prostatectomy (8.79%). (Table-6)

Table No. 7 Distribution of Patients According To Emergency Surgical Procedures done (n=448)

Sr. No.	Procedure	No. of Patients	Percentage
1.	Relaxing Incisions	152	33.92
2.	Exploratory laparotomy	58	12.94
3.	Incision & Drainage	64	14.28
4.	Sclerotherapy	20	4.46
5.	Debridement	51	11.38
6.	Urethral Dilatation	22	4.91
7.	Pus aspiration	21	4.68
8.	IPD	21	4.68
9.	Hernia repair	16	3.57
10.	Suprapubic Cystostomy	23	5.13
	Total	**448**	**100**

It is evident from above table that Relaxing Incisions (33.92%) was commonest emergency surgical procedure performed, next common being Incision & Drainage (14.28%),Exploratory laparotomy (13.65%). (Table-7)

DISCUSSION-

In present study geriatric patients having surgical problems were 14.55% of total admissions. In a similar study by **Sandeep Sabnis**[1] (2010) total geriatric patients admitted were 15.39% of total admissions in surgical ward.

Age Distribution:

The present study shows the maximum number of patients (29.90%) were present in 60-64 yrs of age group, followed by 22.20% in 65-69 yrs of age group and 22.20% in 70-74 yrs of age group. High incidence of patient in 60-64 yrs of age group may be due to higher number of geriatric population in this age group.

In a similar study by **Vinod Kumar Singh**[2] (2012) on 380 geriatrics patients, majority of patients were from the 60-70 years age group [82.00% (n=200) among the males and 82.22% among the females].

In a similar study by **Pasari J.P**[3] (1990) majority of patients (45%) were having surgical problems from age group 60-64 yrs. admitted in surgical ward.

Co-Morbid Medical illness associated with Surgical Problems:

In present study 40.37% patients having co-morbid medical illness associated with surgical problems, in which majority of patients were suffering from diabetes mellitus (39.68%), next being anemia (35.15%) and hypertension (23.75%). The associated co-morbid medical illness affects morbidity and mortality in surgical patients and in some cases it predisposing the surgical illness likes diabetic foot, UTI and skin and soft tissue infection.

In a study by **Vinod Kumar Singh**[2] (2011) found that 20.78% patients having hypertension and 12.63% patients having diabetes mellitus. It's evident that major medical illness in surgical patients was anemia.

Distribution According to System Involvement:

The present study show that majority of surgical patients was involved Gastrointestinal System (27.31%), next common being Genitourinary System (25.17%), skin & soft tissue lesions (21.51%) and hepatobiliary system (12.87%). In a study by **Sandeep Sabnis**[1] (2009) show 31.07% geriatric patients suffering from GIT disorder.

Gastrointestinal System:

The most common lesion in GIT disordered patients was intestinal obstruction(22.17%),next common Peptic ulcer disease(21.47%), Perforation peritonitis/ Peritonitis (17.09%) and Malignant lesions & hemorrhoids(9.23%) each. It's evident that >50% of GIT disorder burden due to Intestinal Obstruction, Peptic Ulcer Disease and Perforation peritonitis/ Peritonitis. In a study by Igor Dumic[4] et all shows that incidence and mortality from peptic ulcer disease is in elderly remains very high.

Genitourinary System:

The second most commonly affected system. The present series shows that 25.17% with male predominance 32.10%. The cause of this male predominance because of the fact that disease concerning the male sex organ, which forms major group in this study were treated in the department of surgery and diseases concerning the female sex organ treated in the department of 0bstetrics and Gynecology.

In Male:

The present study show that in Genitourinary System disorder majority of male patients had BPH (34.52%), next common being stricture urethra (13.15%),malignant lesion (10.13%), Renal and Ureteric Calculus &/or Colic (8.49%),and UTI (8.21%).

Parray S H[5] et al (2007) found BPH in 13.14% of Geriatric Population in Kashmir. In present study 7.94% geriatric patients were diagnosed BPH.

GUO Li-jun[6] et al (2012) found the incidence of hematuria in Simple BPH 8.8% and in BPH with hypertension 17.18%.

In a study by **Mahesh E**[7] et al (2011) were shows 26.8% patients having dysuria.

In Female:

The present study show that majority of female patients had Renal and ureteric calculus &/or colic (44.11%), next common being Cystitis(29.41%), and Malignant Lesions (11.76%) .

Skin and Soft Tissue:

The present series shows that 21.51% patients were suffering from skin and soft tissue lesions. The most common lesion of skin and soft tissue was cellulitis (52.13%) with male predominance (50.00%). The next common lesion was abscess (19.94%), Ulcer (12.90%), Burn (3.51%), Gangrene (3.81%). Cellulitis was a significant skin and soft tissue lesion ($p<0.05$) in geriatric.

In present study majority of patients having skin and soft tissue lesions with DM (31.47%).

In a study by **Shailesh K. Shahi**[8] et al (2012) Prevalence of DFUs among diabetic patients was 14.30%. .

In other study by **Gurpreet Singh**[9] (2002) in Necrotising infections of soft tissues mortality was 27%.

Hepato-biliary system:

The present series shows that 204 elderly patients had Hepato-biliary system involvement with female predominance (56.37%). Majority of patients had cholelithieaisis (59.80%) next common being Liver Abscess (16.67%) in male and Malignant lesions (14.15%) in female. In present study male: female ratio for cholelithiasis 1:2.1.

In a study by **Sunder Goyal**[10] (2014) A total of 313 (90%) were associated with cholelithiasis Out of which total 313 patients, 60 were males and 253 were females with an M: F ratio of 1:4.2 gallstones. It's evident that Hepato-biliary system disorder is more in female.

Intestinal Obstruction:

Out of 127 patients of intestinal obstruction, commonest cause was small INTESTINAL OBSTRUCTION (62.20%) . The second common cause intestinal obstruction of was post operative adhesions (13.38%) with male predominance (94.11%) and next common being, SIGMOID VOLVULUS (8.66%), Chronic constipation (3.93%), Koch's Abdomen (3.14%).

Peptic Ulcer Disease:

In present study 21.47% patients of GIT Disorder had peptic ulcer disease with male predominance (75.26%). Most of patients of peptic ulcer disease were complicated in the form of hematemesis and malena. In present study 18% patients of peptic ulcer disease having upper G.I. bleeding. Peptic ulcer disease patients were more common in my study because addiction of tobacco chewing, smoking, ganja were more common in the locality.

Perforation Peritonitis/ Peritonitis:

In present study 17.09% patients of GIT Disorder had perforation peritonitis/peritonitis with male predominance (77.02%). Peptic perforation (82.43%) was the commonest type of perforation with male predominance (86.20%) followed by Ileal Perforations (13.51%).

In a study by **Mr. T. T. Irvi**[11] (1989) in a consecutive series of 284 patients with a perforated peptic ulcer (229 pyloroduodenal, 55 gastric) there was a 26 per cent hospital mortality rate.

In a other study by **Arpan mishra**[12] (1999) reported peptic perforation

more common in male (97.85%) and mortality for peptic perforation 10.7%.

Paryani JJ[13] et al (2013) find out that mortality for peptic perforation 50%.

Hernia in Elderly:

The present series shows that 179 elderly patients (10.65%) had hernia with male predominance. Out of 179 patients, 24.07% patients of hernias were having BPH. Overall the inguinal hernias were common (78%), in which right side (48.60%) more common than left side (19.55%) and bilateral (11.17%). Inguinal hernia was more common in male because, the weak spot usually occurs in the inguinal canal, where the spermatic cord enters the scrotum or it may be due to male life style factors like smoking leads to chronic chough, heavy lifting and straining in BPH.

In a similar study by **Devajit Chowlek Shyam**[14] (2013) find out that right sided Inguinal hernias are more common (almost 55). The present study shows that overall inguinal hernia was common in which in right side more common.

Distribution of Patients According to Type of Treatment:

The present study show that majority of patients were treated conservatively (52.36%). Among the surgical treatment Emergency surgery was more commonly performed (28.26%). Relaxing Incisions (33.92%) was commonest operation performed in emergency, next common being incision& drainage (14.94%), Exploratory laparotomy (12.94%).

Hernia Repair (42.34%) was commonest elective operation performed, next common being cholecystectomy (9.77%) and Prostatectomy (8.79%).

CONCLUSION-

The causes of increased mortality in elderly patients appears to be primarily due to the disease with which they are admitted to the hospital & yet associated medical illnesses like hypertension, diabetes mellitus, COPD and atherosclerosis which complicates the disease process and also contributes to the cause of death. Most of the patient died of peritonitis or trauma within 24 to 48 hours, during primary resuscitation. The infective process is further complicated due to poor pulmonary and renal functional reserves.

For healthy old age life, it is advised to take balanced diet and do physical activity for prevention of functional decline, increased survival and also avoids smoking, tobacco chewing and alcoholism to reduce cardiovascular and other diseases risks.

In geriatric age group a large number of operations are procrastinated because of co-existing medical illnesses, financially dependent status of elderly, lack of support care system to look after in postoperative period specially in this era of nuclear family and above all his/her own reluctance for definitive surgery unless condition is life threatening.

Finally, I wish to stress the importance of taken care of senior citizen. If not taken care of, a large number of very old patients on whom surgery will be difficult. I insist, the attention towards this fact.

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