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Profile of patients admitted to the General Surgery Ward of a tertiary care hospital: A record based study

Prashant D. Pawar[1], Aniruddha A. Malgaonkar [2*]
[1]*Department of Surgery, Rajiv Gandhi Medical College, Kalwa, Thane, India*
[2]*Department of Community Medicine, Rajiv Gandhi Medical College, Kalwa, Thane, India.*
Corresponding Author: Aniruddha A. Malgaonkar

Abstract: *This hospital based study was conducted to determine the profile of patients coming to the general surgery outpatient department (OPD) of a tertiary care hospital. Demographic details, morbidity profile, investigations done, treatment rendered and the clinical outcomes of patients were evaluated. The difference in the rate of employment between male and female patients was statistically highly significant (X^2=45.04, p<0.01). Abdominal pain was the main presenting symptom with 13 (11.82%) of the patients presenting with burning epigastric pain, 11 (10%) with hypochondriac pain while 5 (4.55%) presenting with right iliac fossa pain. An ultrasound of the abdomen and pelvis was the most common investigation ordered ie, for 36 (32.72%) patients. Gastritis was the commonest diagnosis ie, in 14 (12.72%) patients followed by hernia in 13 (11.71%) patients and cholelithiasis in 11 (10%) patients. 22 (20%) patients had diabetes followed by 9 (8.18%) who had hypertension. 46 (41.82%) patients developed complications after treatment which included surgical site infections, urinary tract infections and paralytic ileus. 22 (20%) patients had diabetes followed by 9 (8.18%) who had hypertension while 8 (7.27%) had both diabetes and hypertension. The difference in the rates of complications amongst those who have co-morbidities and amongst those who do not is statistically significant (X^2=7.87, p=0.005).*

Keywords – *Morbidity Profile, General Surgery Ward, Treatment Outcome, Complications*

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I. Introduction

The goal of healthcare team is to provide patient with the best possible health care and service.[1] For the hospital and the healthcare team in totality to work efficiently, it is a must that the profile of patients visiting the hospital must be mapped so that the hospital can make better arrangements in the future for better patient management and improved outcomes.

Advanced knowledge of the general profile of patients attending the hospital can also make the hospital management aware of the load and the type of patients that are likely to visit the hospital so that arrangements made in prior can also help plan surgeries, improve outcomes and decrease complication and post-surgical infection rates. The British government white paper on working for patients, defines audit as a systemic, critical analysis of the quality of medical care including the procedures used for diagnosis and treatment, the use of resources and the resulting outcome of the patients.[2]

Documentation of events during hospital stay and complications is of prime importance in patient management. In a Swedish study, the frequency of complication was especially high when fructose-glucose, antibiotics or anticoagulants were given and there was no documentation in the patient record.[3]

A proper knowledge of surgical site infections and its bacteriological profile can be useful in handling infections and preventing further surgical site infections. In a Swiss study a universal, rapid MRSA admission screening strategy did not reduce nosocomial MRSA infection in a surgical department with endemic MRSA prevalence but relatively low rates of MRSA infection.[4]

Admission hyperglycemia has been associated with increased hospital mortality in critically ill patients; however, it is not known whether hyperglycemia in patients admitted to general hospital wards is associated with poor outcome. A study from Atlanta indicated that in-hospital hyperglycemia is a common finding and represents an important marker of poor clinical outcome and mortality in patients with and without a history of diabetes.[5] In a study in Pakistan, a high seroprevalence of hepatitis B and C was found in surgical patients.[6]

Early warning scores (EWS) may aid the prediction of major adverse events in hospitalized patients. In a study in Netherlands an expanded EWS was introduced and an EWS of 3 or more was a predictor of major adverse events.[7] Scores of such kind can be determined only by a knowledge of the profile of patients and its relation with complications.

Despite modern anaesthesia and surgery, a substantial percentage of patients report to have severe pain immediately following day-case surgery.[8] Patients also experience other major symptoms during admission and prolonged stay.

II. Objective

The objective of this study is to evaluate the demographic details, morbidity profile, investigations done, treatment rendered and the clinical outcomes as well as complications developed amongst patients admitted to the general surgery ward of a tertiary care hospital.

III. Methodology

This record based study was conducted in a tertiary hospital situated in a satellite township near a metropolitan city in Maharashtra state in western India. After obtaining permissions from the institutional authorities and the ethics committee, patients coming to the general surgery OPD and admitted to the ward during the study period who gave written informed consent were included in the study.

Demographic and morbidity profile of the patients were noted and presenting symptoms of the patients, investigations done, clinical diagnosis, treatment and outcome were evaluated.

The obtained data were tabulated and statistically analysed using EpiInfo Version 7.0 (public domain software package from the Centers for Disease Control and Prevention, Atlanta, GA, USA). Continuous data were presented as Mean and Standard Deviation (SD). 95% confidence interval (CI) was expressed in the range of (Mean – [1.96 x Standard Error]) to (Mean + [1.96 x Standard Error]). Categorical data were presented as percentage distribution. Statistical significance of difference (taken as p-value<0.05) was calculated using standard error of difference between 2 means and Karl Pearson's Chi-square test, with Mantel-Haenszel correction where applicable.

IV. Results

4.1. Demographic details: Out of the total participants (n=110), 40 (36.36%) were females while 70 (63.64%) participants were males. Mean age of female participants was 37.42 years with a SD of 17.19 years while that of male participants was 41.7 years with a SD of 17.51 years. 66 (60%) of the patients had come from the local municipal corporation while only 7 (6.36%) of the patients had come from distant places. 25 (62.5%) of the female patients were homemakers while only 3 (0.43%) of the male patients were unemployed. The difference in the rate of employment between male and female patients was statistically highly significant (X^2=45.04, p<0.01).

Table 1: Demographic Details (n=110)

	Age Cat	FEMALE	MALE
Age (Years)	0-15	1 (0.91)	5 (4.55)
	16-45	27 (24.55)	34 (30.91)
	46-60	7 (6.36)	19 (17.27)
	>60	5 (4.55)	12 (10.91)
Address	Neighbouring Corporations	12 (10.9)	20 (22.73)
	Rest of the State	1 (0.91)	6 (5.45)
	Local Corporation	27 (24.55)	39 (35.45)
Occupation	Skilled	3 (2.73)	18 (16.36)
	Semiskilled	1 (0.91)	22 (20)
	Unskilled	4 (3.64)	8 (7.27)
	Retired/ Student	7 (6.36)	19 (17.27)
	Unemployed	24 (22.73)	3 (2.73)

Figures in parentheses indicate percentages

1.2. Presenting Signs and Symptoms: Mean duration of symptoms was 11.52 months with a SD of 21.99 months. Abdominal pain was the main presenting symptom with 13 (11.82%) of the patients presenting with burning epigastric pain, 11 (10%) with hypochondriac pain while 5 (4.55%) presenting with right iliac fossa pain. Other symptoms included inguinal swellings in 7 (6.37%) and urinary problems in 10 (9.09%).

Table 2: Presenting Symptoms

SYMPTOMS	FEMALE	MALE
Right Iliac Fossa Pain with Fever and Vomitting	4 (3.64)	1 (0.91)
Breast Problems	3 (2.73)	0 (0)
Bleeding PerRectum	1 (0.91)	2 (1.82)
Urinary Problems	3 (2.73)	7 (6.36)
Burning Pain In Epigastrium	4 (3.64)	9 (8.18)
Chronic Abdominal Pain	0 (0)	4 (3.64)

Loose Motions+ Mucus In Stools	0 (0)	4 (3.64)
Neck Swelling	2 (1.82)	1 (0.91)
Inguinal Swelling	3 (2.73)	4 (3.64)
Scrotal Swelling	0 (0)	4 (3.64)
Hypochondriac Pain	5 (4.55)	6 (5.45)
Swelling At Umbilicus	1 (0.91)	4 (3.64)
Other	12 (10.91)	16 (14.55)
Foot Ulcer/Swelling	2 (1.82)	8 (7.27)

Figures in parentheses indicate percentages

1.3. Investigations: An ultrasound of the abdomen and pelvis was the most common investigation ordered ie, for 36 (32.72%) patients followed by an oesophago-gastro-duodenoscopy for 11 (10%) patients and then by X-ray Foot and Fine Needle Aspiration Cytology (FNAC) for 7 (6.37%) patients each.

Table 3: Special Investigations

SPECIAL INVESTIGATIONS	FEMALE	MALE
CT Scan	0 (0)	4 (3.64)
Colour Doppler (Venous)	2 (1.82)	4 (3.64)
Colonoscopy With Biopsy	0 (0)	2 (1.82)
OGD Scopy	4 (3.64)	7 (6.36)
Fine Needle Aspiration Cytology	5 (4.55)	2 (1.82)
USG Breast	2 (1.82)	0 (0)
USG Abdomen and Pelvis	17 (15.45)	19 (17.27)
X-ray Foot	1 (0.91)	6 (5.45)
Others	4 (3.64)	12 (10.91)

Figures in parentheses indicate percentages

1.4. Morbidity Profile (Diagnosis): Gastritis was the commonest diagnosis ie, in 14 (12.72%) patients followed by hernia in 13 (11.71%) patients and cholelithiasis in 11 (10%) patients.

Table 4: Diagnosis

DIAGNOSIS	FEMALE	MALE
Abscess	2 (1.81)	3 (2.73)
Appendicitis	4 (3.64)	1 (0.91)
Cellulitis/Gangrene	2 (1.81)	6 (5.45)
Cholelithasis	6 (5.45)	5 (4.55)
Others	12 (10.91)	35 (31.82)
Gastritis	6 (5.45)	8 (7.27)
Hernia	6 (5.45)	7 (6.36)
Urinary Tract Infection	2 (1.81)	5 (4.55)

Figures in parentheses indicate percentages

1.5. Treatment: Conservative treatment with oral or intravenous (IV) antibiotics or proton pump inhibitors was given to 37 (33.64%) patients. 11 (10%) patients each underwent herniotomy or hernioplasty and open or laparoscopic cholecystectomy.

Table 5: Treatment

Treatment	FEMALE	MALE
Debridement/Amputation	1 (0.91)	4 (3.64)
Excision Of Cyst/Lump	4 (3.64)	3 (2.73)
Incision And Drainage Of Abscess	2 (1.82)	3 (2.73)
Oral/IV Antibiotics/ Proton Pump Inhibitors	13 (11.82)	24 (21.82)
Open/Lap Appendiectomy	3 (2.73)	1 (0.91)
Open/Lap Cholecystectomy	6 (5.45)	5 (4.55)
Herniotomy/Hernioplasty	4 (3.64)	7 (6.36)
Others	7 (6.36)	23 (20.91)

Figures in parentheses indicate percentages

1.6. Complications: 48 (43.64%) patients developed complications after treatment which included 5 (10.42%) surgical site infections, 5 (10.42%) urinary tract infections and 2 (4.17%) paralytic ileus amongst others. Complication rate amongst females was 40% while that amongst males was 45.71%. The difference in the rates of complications amongst those who have co-morbidities and amongst those who do not is statistically significant (X^2=7.87, p=0.005).

1.7. Co-morbidities: 22 (20%) patients had diabetes followed by 9 (8.18%) who had hypertension while 8 (7.27%) had both diabetes and hypertension. The difference in the rates of complications in the patients having co-morbidities and those not is statistically significant.

Table 6: Co-morbidities

CO-MORBIDITIES	FEMALE	MALE
Diabetes Mellitus (DM)	2 (1.82)	7 (6.36)
Hypertension (HT)	8 (7.27)	14 (12.73)
DM & HT	2 (1.82)	6 (5.45)
NIL	28 (25.45)	43 (39.09)

Figures in parentheses indicate percentages

1.8. Addictions: 24 (21.82%) patients used some kind of tobacco followed by 12 (10.91%) drank alcohol. 16 (14.55%) patients used both tobacco and alcohol. The difference in the rate of addictions amongst males and females is statistically highly significant (X^2=56.84, p<0.001).

Table 7: Addictions

Alcohol + Tobacco	0 (0)	16 (14.55)
Alcohol	0 (0)	12 (10.91)
Tobacco	0 (0)	24 (21.82)
NIL	40 (36.36)	18 (16.36)

Figures in parentheses indicate percentages

V. Discussion

Clinical audit is a method of ensuring quality care and basically depends upon data gathered in retrospect from the medical records.[2] Achieving this requires meticulous record keeping and knowledge of profile of patients that are admitted to the hospital. In a Swedish study, the frequency of complication was especially high when fructose- glucose, antibiotics or anticoagulants were given and there was no documentation in the patient record.[3]

5.1. Demographic details: In this study, 61 (55.46%) of the participants were between 16-45 years of age and that 103 (93.64%) had come from local or neighbouring areas. In a study in Nepal, 59.15% of the patients were between 20-50 years of age.[2] These patients constitute the bulk of surgical patients and a knowledge of their profile can go a long way in planning for better outcomes.

5.2. Presenting Signs and Symptoms: Abdominal pain was the main presenting symptom with 13 (11.82%) of the patients presenting with burning epigastric pain, 11 (10%) with hypochondriac pain while 5 (4.55%) presenting with right iliac fossa pain. In a study from Pakistan, mean waiting time was 47.47±15.29 minutes (Range: 15–150).[1] If a patient with right iliac fossa pain is made to wait for a longer duration of time just for treatment to begin, that is going to aggravate his disease and cause complications.

5.3. Investigations: In this study, apart from routine investigations, an ultrasound of the abdomen and pelvis was the most common investigation ordered ie, for 36 (32.72%) patients. An FNAC was performed for 7 (6.37%) patients. In a study at Jacobabad, sero-prevalence of hepatitis B and C combined was 23.55%[6] and in another review study at Rawalpindi, sero-prevalence of hepatitis B and C showed male predominance.[9] This occurrence once again stresses the importance of routine and specific investigations in surgical cases.

5.4. Morbidity Profile: In this study, gastritis was the commonest diagnosis ie, in 14 (12.72%) patients followed by hernia in 13 (11.71%) patients and cholelithiasis in 11 (10%) patients. In a Nepal based study, Sixty-one patients (10.2%) were suffering from swellings at different sites, 32 (5.4%) were on follow up after surgery, 25 patients (4.25) were suffering from lump breast while 22 (3.7%) were suffering from fissure-in-ano.[2] This occurrence stresses the need for the study as the profile of patients can be different in different places.

5.5. Treatment: In our study conservative treatment with oral or intravenous (IV) antibiotics or proton pump inhibitors was given to 37 (33.64%) patients. 11 (10%) patients each underwent herniotomy or hernioplasty and open or laparoscopic cholecystectomy. In another study performed for complications after discharge on surgical patients had undergone transurethral resection of the prostate, hysterectomy, major joint replacement, cholecystectomy or herniorrhaphy.[10]

5.6. Complications: In our study 46 (41.82%) patients developed complications after treatment which included surgical site infections, urinary tract infections and paralytic ileus. In another study 135 (63%) patients reported one or more complications and 78 (37%) received treatment for 109 complications.[10] In yet another study on 206 inpatients, 25.2% of patients experienced moderate pain while 9.2% experienced severe pain but received only 36% of their prescribed analgesics.[11] In another nested case control study, superficial infection prolonged

the average stay of surgical patients by 12.6 days as compared to controls.[12] In a study on 100 elderly patients, 66 developed sores, 83% occurring by the fifth day in hospital.[13] In our study the difference in the rates of complications in the patients having co-morbidities and those not is statistically significant.

5.7. Co-morbidities: 22 (20%) patients had diabetes followed by 9 (8.18%) who had hypertension while 8 (7.27%) had both diabetes and hypertension. In a study at Atlanta, newly discovered hyperglycemia was associated with higher in-hospital mortality rate (16%) compared with those patients with a prior history of diabetes (3%) and subjects with normoglycemia (1.7%; both $p < 0.01$).[5]

VI. Conclusion

Profiles of patients admitted to different hospitals vary from place to place and time to time. In order to provide satisfactory services to patients and prevent complications it is important to study the profile of admitted patients regularly so that hospital services can be arranged for maximum efficiency and to prevent complications. With patients complications mild and severe occur with regularity but many are preventable if timely precautions are taken. Hypertension and Diabetes mellitus are lifestyle diseases which are on the risea and can be seen as co-morbidities in a substantial number of surgical patients and also interfere with surgical healing and predispose to complications and infections. These added with addictions can cause healing problems and aggravate infections.

References

[1]. Jawaid M., Ahmed N., Alam S.N., Rizvi B.H., Razzak H.A., Patients Experiences and Satisfaction from Surgical Out Patient Department of a Tertiary care teaching hospital. Pak J Med Sci 2009;25(3):439-442.

[2]. Shankar R.P., Sen P.K., Upadhyay D.K., Dubey A.K., Subish P., Drug utilization among surgical outpatients, Timisoara Medical Journal 2006, Vol. 56, No. 2-3, 230-234

[3]. Lundgren A., Jorfeldt L., Ek AC., The care and handling of peripheral intravenous cannulae on 60 surgery and internal medicine patients: an observation study, Journal of Advanced Nursing, Volume 18, Issue 6, Pages: 855-1010.

[4]. Harbarth S., Fankhauser C., Schrenzel J., et al, Universal Screening for Methicillin-Resistant Staphylococcus aureus at Hospital Admission and Nosocomial Infection in Surgical Patients, JAMA. 2008;299(10):1149-1157. doi:10.1001/jama.299.10.1149

[5]. Umpierrez G.E., Isaacs S.D., Bazargan N., You X., Thaler L.M., Kitabchi A.E., Hyperglycemia: An Independent Marker of In-Hospital Mortality in Patients with Undiagnosed Diabetes, The Journal of Clinical Endocrinology & Metabolism, Volume 87, Issue 3, 1 March 2002, Pages 978–982, https://doi.org/10.1210/jcem.87.3.8341

[6]. Daudpota A.Q., Soomro A.W., Sero prevalence of Hepatitis B and C in surgical patients. Pak J Med Sci 2008;24(3):483-4

[7]. Smith T., Hartog D.D., Moerman T., Patka P., Van Lieshout E.M.M., Schep N.W.L., Accuracy of an expanded early warning score for patients in general and trauma surgery wards, Br J Surg, Volume99, Issue2, February 2012, Pages 192-197

[8]. McHugh G.A., Thoms G.M.M.,The management of pain following day- case surgery, Issue Online: 05 March 2002, Anaesthesia, doi: https://doi.org/10.1046/j.1365-2044.2002.2366_2.x

[9]. Chaudhary I.A., Khan S.S., Majrooh M.A., Alvi A.A., Seroprevalence of Hepatitis-B And C among the patients reporting in Surgical opd at Fauji Foundation Hospital, Rawalpindi: Review of 5 year literature, Pak J Med Sci July - September 2007 Vol. 23 No. 4 514-517

[10]. Kable A., Gibberd R., Spigelman A., Complications after discharge for surgical patients, ANZ Journal of Surgery, Issue Online:01 March 2004, doi: https://doi.org/10.1046/j.1445-2197.2003.02922.x

[11]. Oates J.D., Snowdon S.L., Jayson D. W., Failure of pain relief after surgery: Attitudes of ward staff and patients to postoperative analgesia, Anaesthesia, Volume49, Issue9, September 1994, Pages 755-758

[12]. Asensio A., Vegasi V., Jodra M. M., Garcia L., Nosocomial infection in surgery wards: A controlled study of increased duration of hospital stays and direct cost of hospitalization, European Journal of Epidemiology, September 1993, Volume 9, Issue 5, pp 504–510

[13]. Versluysen M., How elderly patients with femoral fracture develop pressure sores in hospital, Br Med J (Clin Res Ed) 1986; 292 doi: https://doi.org/10.1136/bmj.292.6531.1311

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