

AN AUDIT OF A GENERAL SURGICAL UNIT; A SELF EVALUATION

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ABSTRACT

Objective: To evaluate management of surgical patients and their outcome in a general surgical unit of a tertiary care center in Lahore.

Methodology: This is a retrospective descriptive study for the month of september 2018. Data was collected from all patients admitted in the surgical unit II at lahore general hospital, through out-patient clinics and emergency department. Detailed data regarding the patients was collected and analyzed using SPSS v20.

Results: A total of 224 patients were admitted and out of them 144 (64%) were through emergency department, whereas 80 (36%) were from outpatient clinics. Male admissions were found to be (120)53.58% as compared to female patients (104) 46.42%. Among all admissions, laparoscopic cholecystectomy 30 (13.39%) accounted for the highest number of procedures, followed by Appendicectomy 29 (12.94%) and inguinal mesh hernioplasty 23 (10.26%). Trauma cases constituted 28(12.4%) in all admissions.

Conclusion: There is a dire need of local studies on the topic of Surgical Audit for proper evaluation of patient management and resources in tertiary care hospitals in our country.

Keywords: Surgical Audit, Elective Admissions, Emergency Admissions, Trauma

INTRODUCTION

Audit is defined as “a means of quality control for medical practice by which the profession shall regulate its activities with the intention of improving overall patient care”.¹ Audit is a quality improvement process that seeks to improve patient care and outcomes through systematic review of care against explicit criteria and the review of change. Regular surgical audits of a ward or team is a good tool for self- evaluation but in order to do so, explicit criteria is needed to compare any audit results with that criteria to determine the quality of care. Unfortunately in scarce local data is available on the matter.

Local audits on specific management areas are available,^{2,3,4} but there is lack of regular audits in surgical units along with determination of explicit criteria to compare quality of care.

This audit was conducted in surgical unit II is one of the three surgical units of Lahore General Hospital with capacity of 50 beds. On weekly basis there are two outpatient clinic days, two emergency on call days and two elective theater lists. Lahore General Hospital is the oldest and one of the busy tertiary care hospitals of city

of lahore, which is attached to Post Graduate Medical Institute and Ameer-ud-din Medical College.

MATERIALS AND METHODS

Setting: Our study was done in surgical unit II at Lahore General Hospital

Duration: Study was conducted for one month in September 2018

Study design: It is an observational, retrospective descriptive study

Data collection: Data collection was done for all patients admitted through out-patient clinics and emergency department for the specified month. A performa was designed to collect the data which contained information on demographics, diagnosis on admission and discharge, co-morbid conditions, management, type of operation, morbidity, duration of stay and final outcome. This data was obtained from admission and discharge registers, theater registers, outpatient reception data and patients case notes.

Sample collection: Consecutive, non-probability sampling was done.

Inclusion Criteria: All admitted patients in the month of September 2018 with complete data availability were included in the study.

Exclusion Criteria: In order to minimize bias, patients who were admitted in August 2018 and had their management in September were excluded so as the patients who were admitted in September but managed in October 2018. Cases from Minor Theater were not included in this study so as short stayed patients in Emergency department managed by surgical team. Overall 44 patients were excluded from the study.

Data Analysis: Data was entered and analyzed on SPSS version 20.

RESULTS

A total of 224 patients were admitted and out of them 144 (64%) were emergency patients and 80 (36%) from outpatient clinics. Among all admissions male patients were found to be (120)53.5% as compared to female patients (104) 46.5%. (Chart 1)

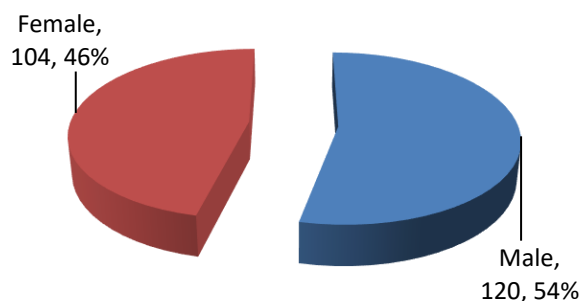


Chart 1: Gender Distribution

Average duration of stay remained 3 days in our series and age range (Table 1) was found from minimum 6 years old to maximum 101 years old with mean age as 37 years and standard deviation of 17.29 years.

Table 1: Age Range

Age Range	Count	%
1 to 10	1	0.45%
11 to 20	40	17.94%
21 to 30	61	27.35%
31 to 40	43	19.28%
41 to 50	38	17.04%
51 to 60	17	7.62%
61 to 70	14	6.28%
71 to 80	6	2.69%
80 to 101	5	2.24%

In the outpatient clinics 7169 patients were seen by whole surgical department, out of which 2290 (32%) patients were managed by surgical unit II. From outpatient clinics 80 admission were done in month of September 2018 and from these 75 patients were operated whereas 5 were managed conservatively. (Table 2)

Table 2

Elective admissions from OPD			
	operated	conservative	Total
Male	41	2	43
Female	34	3	37
	75	5	80

In the month of consideration there were 7 elective lists and 10 emergency lists. Average of 11 patients were operated in each elective list whereas 13 patients on average were operated in each Emergency list as shown in Chart2.

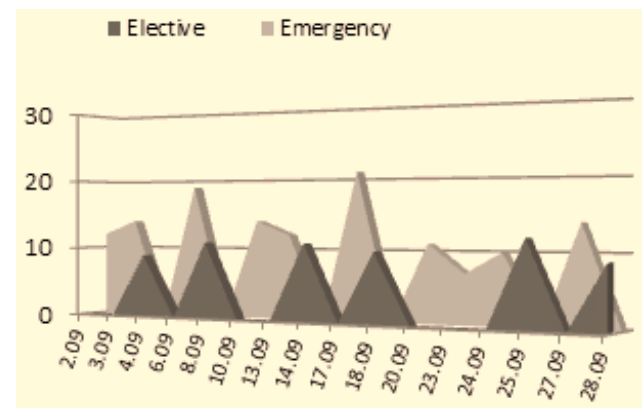


Chart 2: Distribution of number of cases in Elective and Emergency Lists in September 2018

Out of 75 elective procedures, majority of share was occupied by laparoscopic cholecystectomy, i.e. 30 which made 40% of elective lists, followed by inguinal mesh hernioplasty 23 (31%), paraumbilical hernia repair 6 (8%), followed by other procedures mentioned in table 3.

Majority of work burden was admitted through emergency department which constituted 144 patients. Out of them 128 (89%) patients were operated in emergency theaters and 16 (11%) were managed conservatively. (Table 4)

In the emergency department majority of cases were acute abdominal conditions, i.e. 46% of all emergency admissions followed by trauma, i.e. 22% and others. (Chart 3)

Table 3: Elective Lists Cases

Elective Procedure	Count	% of all admissions
Lap Cholecystectomy	30	13.39%
Inguinal Hernia Repair	23	10.26%
Paraumbilical Hernia Repair	6	2.67%
Thyroidectomies	3	1.30%
Hemicolectomies	2	0.89%
Skin Graft	1	0.44%
Epigastric Hernia Repair	1	0.44%
Seton for Fistula in Ano	1	0.44%
CBD Exploration	1	0.44%
Hydatid Percystectomy	1	0.44%
Pancreatectomy	1	0.44%
Hydrocelectomy	1	0.44%
CBD injury repair	1	0.44%
Ileostomy	1	0.44%
MR Mastectomy	1	0.44%
Stitch Removal	1	0.44%
TOTAL	75	

Table 4

Emergency Department Admissions			
	operated	conservative	Total
Male	70	7	77
Female	58	9	67
	128	16	144

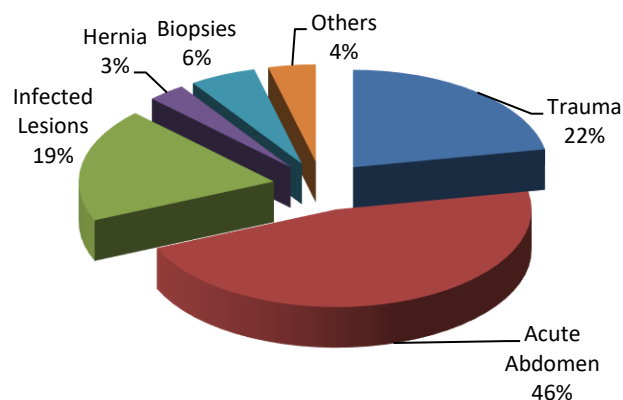
**Chart 3:** Distribution of Cases dealt in Emergency Department

Table 5 below shows the distribution of all cases operated in emergency theaters in the month of September 2018.

Table 5

Emergency Cases	Count	% of all admissions
Abscess	7	3.12
Acute Appendicitis	29	12.94
Anal Fissure	1	0.44
Bed Sores	1	0.44
Perforated Gall Bladder	1	0.44
Breast Lump	2	0.89
Carbuncle	2	0.89
Corrosive Intake/ Jejunostomy	2	0.89
Diabetic Foot	6	2.67
Femoral Hernia	1	0.44
Gangrenous Lf Foot	1	0.44
Non RTA Limb Trauma	9	4.01
Meleney's Gangrene	1	0.44
Necrotising Fasciitis	6	2.67
Obstruct. Ing Hernia	3	1.33
Papilloma Thigh	1	0.44
Perforat. Appendicitis	11	4.91
Lymphadenopathy	2	0.89
Intestinal Obstruction	4	1.78
Intestinal Perforation	14	6.25
Breast Fung. Mass	1	0.44
Pyothorax/Pneumonic	1	0.44
Soft Tissue Swelling	1	0.44
RTA Limb Trauma	7	3.12
RTA Vascular Injury	4	1.78
RTA Chest Trauma	4	1.78
Blunt Trauma Abdomen	4	1.78
Non Heal. Leg Wound	1	0.44
Stab Wound Abdomen	1	0.44
TOTAL	128	

Distribution of cases of acute abdomen among all emergency admissions is given below in Table 6.

None of the patients returned to theater but there were two patients who got readmitted after discharge postoperatively. One ileostomy for typhoid perforation and other one was right hemicolectomy for tumor. Both were conservatively managed for fluid and electrolytes imbalance. There were 4 mortalities (1.78%) in the month of September, among them two cases were metastatic carcinoma, one extensive small bowel

gangrene and one was necrotizing fasciitis with septicemia.

Table 6

Distribution of Acute Abdomen	Count	% of Emergency admissions
Acute Appendicitis	29	49.15
Perforated Appendicitis	11	18.64
Perforated Gall Bladder	1	1.69
Jejunal Perf/ Mass Tr. Colon	1	1.69
Typhoid Perforation	6	10.16
Tuberculous Ileal Perforation	1	1.69
Ileal Perforation other cases	2	3.38
Duodenal Perforation	2	3.38
Cecal Perforation	2	3.38
Meckel's Band / obstruction	1	1.69
Rectosigmoid Mass/obstructed	1	1.69
Ileal Str/obstructed	1	1.69
Ileocecal Mass/obstructed	1	1.69
TOTAL	59	

Following is the distribution of Trauma cases dealt in emergency department. (Chart 4)

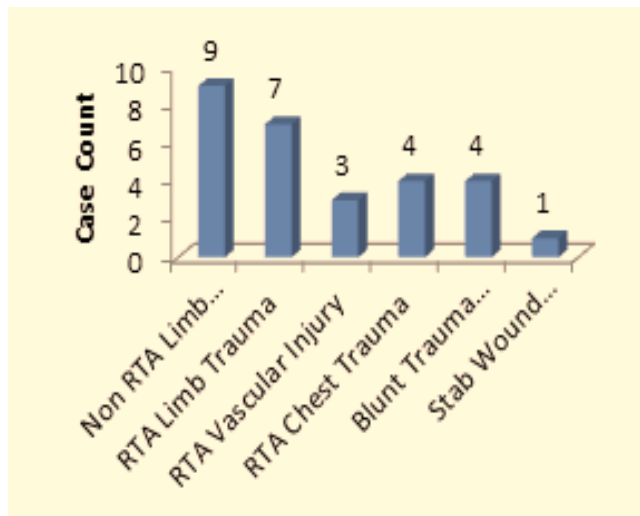


Chart 5: Distribution of Trauma cases

Table 7 below shows outcome of patients for September 2018.

Table 7

Outcome	Count
Operated and Discharged	201
Conservatively managed and discharged	19
Mortality	4
Total	224

DISCUSSION

Lahore general hospital is a busy tertiary care center of Lahore city. It can be seen in our study that just in one month 224 patients were admitted in only one surgical unit out of three units in the hospital, whereas in another study done in Karachi revealed 779 patients in a surgical unit in one year⁵ and approximately 65 patients in a month. Another study from Lyari, also in Karachi, revealed 563 admissions in one year⁶ and approximately 47 patients in a month. Unfortunately there is not much data available on this matter from city of our study so the variation in demographics should be considered when comparing with other available studies.

Majority of patients in our study were found to be less than 40 years old (65%), this figure is similar to the finding in another study⁷ which was done in another city i.e. Karachi.

Among all admissions in September 2018, laparoscopic cholecystectomy (13.39%) remained most common procedure in our series as compared to another study most common procedure was inguinal hernia repair (15.5%).⁵ In this study, Inguinal hernia repair remained second most common procedure (10.26%) which was also the finding in another study.⁵ Shaikh et al showed hernias (16%) as the number one cause of admission.⁶

Acute appendicitis remained most common emergency presentation, i.e. 29 (49.15%) in our study which is a similar finding to two other studies from Karachi.^{5,6} In patients with secondary peritonitis perforated appendicitis remained on top with 4.9% followed by typhoid perforation 2.6%. In study done by Khalid S,⁸ most common cause was typhoid perforation followed by appendicular and duodenal perforation.

In one study done by Bhatti et al⁹ showed elective surgeries making the bulk (50.9%) of all admission whereas in our study majority of patients were operated as emergency cases (57.14%).

Trauma cases made 12.5% of all admissions in our study which remain quite close to figure of another study done in Karachi, i.e. 11.2%.⁵ Out of all trauma

cases 13.2% were due to road traffic accident (RTA) in sharp contrast to another study, i.e. 49%.⁸

In our series there were no mortality seen in Trauma cases in sharp contrast to another study in which trauma was the leading cause of death.¹⁰ Mortality rate in our study was 1.78% which is comparable to rates found in two other studies, i.e. 1.5%⁸ and 1.2%.⁹

CONCLUSIONS

There is large variety of surgical work normally done in our hospitals, but it remains undisclosed and needs to be presented to the world. In our observation, main reasons doctors are not inclined to do regular audits is lack of systemized data entry and lack of explicit criteria which fits our environment for the purpose of audits. In western societies these criteria are developed by their professional bodies like Royal College of Surgeons England. Hence, in Pakistan surgical societies like Society of Surgeons Pakistan etc. should come forward to set parameters and guidelines for audits in our hospitals. It is now time that our efforts to computerize data collection system should be expedited.

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