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ORIGINAL ARTICLE

Surgical Audit of Patients at a Tertiary Care Hospital

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ABSTRACT

Objective: Analysis of various cases admitted to surgical unit of Pakistan Institute of Medical Sciences (PIMS), Islamabad.

Patients and Methods: This cross-sectional study was conducted from Jan 2016 – Dec 2016 at Department of General Surgery, PIMS Islamabad. The record of all the cases admitted in Surgical Unit II during the year 2016 was reviewed. All data was collected on a specially designed performa that included basic information of patients like demographics characters, mode of admission i.e. emergency, outpatient department, referred or transferred from another unit, management i.e. operation or conservative treatment, the outcome of management i.e. discharge, referred or death, and the presence of co-morbidities. Data was recorded and analyzed by using SPSS version 20.

Results: Total number of admissions during the study period was 822, out of these 54.3% (n=447) were males and 45.60% (n=375) were females. The mean age of the patients was 35.9. The Record showed that 33.09% procedures were performed in an emergency while 66.91% were elective. Among these appendicectomy was the commonest emergency procedure while cholecystectomy was the commonest elective procedure. Majority of patients (94.89%) were discharged with full recovery and there were 19 (2.31%) deaths.

Conclusion: Most patients were managed by surgery elective. Cholecystectomy being the most common elective procedure followed by breast surgeries and Appendicectomy was the most common operation performed in emergency. In Pakistan, there is a need for Surgical Audit in our hospitals for proper planning and betterment of health care system of the country. It is recommended to start computerized audit and sharing of patient's database.

Keywords: Appendicectomy, Cholecystectomy, Clinical audit.

Author`s Contribution
[1]Conception, Synthesis and Planning of the research, Critical review of the article for final approval, [2,3]Active participation in active methodology

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Introduction

The surgical audit is an important strategy to maintain standards in surgical care in the hospitals. This is systematic, critical analysis of the quality of surgical care that is reviewed by peers against explicit criteria or recognized standards, and then used to further inform and improve surgical practice with the ultimate goal of improving the quality of care for patients. This standard should encourage administrators to provide adequate resources for these important activities. The word "audit" comes from the Latin word audire, meaning "to hear".[1] Clinical audit is a process that has been defined as "a quality improvement process that seeks to improve patient care and outcomes through systematic review of care against explicit criteria and the implementation of change".[2] Adapting audit system for the diversified field of surgery makes possible to analyze huge data and identifies areas for improvement of the clinical working. It may help in estimation of work burden, sorting of common

problems and preparing for their management in future.[3] In 1988, Flint under the title of "Philosophy and principles of auditing" described it as a social phenomenon with no purpose of gaining the reward except making the things serviceable and usable for ease. In the light of his philosophy audit emerged and evolved to fulfill the needs and interests.[1] Prof David Johnson defined audit as "means of quality control for medical practice by which the profession shall regulate its activities with the intention of improving overall patient care".[4] So when it comes to the field of medicine it becomes the mean which represents medical practice quality control. It also assures the prevention and restriction of malpractice and promotes patient care as an outcome to it.[3] The term audit is usually associated with accounting and implies the numerical review by an outside investigator for the prevention of fraud but in the clinical setting it is the collection of the data for the purpose of setting professional standards, assessing clinical performances and modifying the clinical practice.[4] Clinical audits combined with feedback are a well-established quality improvement intervention, which is acceptable to practitioners and widely used in primary care.[5] The evidence that quality assessment and quality assurance audits have improved medical practices is not much stronger than the evidence for utilization review. Many studies suggest that medical care evaluation studies have a marginal effect on the practitioner.[6] A review of the historical development of auditing has shown that the objective of auditing and the role of auditors are constantly changing and auditing is seen to be evolving all the times.[7]

In the surgical audit, it is difficult to set standards and to apply, so we need to measure the variations in outcome. It is nonpunitive, an educational process aimed at improving the outcome of patients. Locally relevant criteria should be compared to guide local resource allocation, surgical practice, and decision making. A good surgeon must never hide his/her faults but should learn from them in order to serve better his patients and improve his practice.

In Pakistan, a structured program for the clinical audit is not available except in very few institutions. It is not a regular practice to conduct surgical audit routinely therefore proper clinical data is not available which can be reviewed and analyzed in terms of morbidity, mortality and other clinical outcomes, in order to improve the overall clinical practice.[8] This study will help to predict the mortality and morbidity and will provide an idea and planning for future risks management from the current medical record. The aim of the study is to report the analysis of all admitted cases in surgical unit II of Pakistan Institute of Medical Sciences, Islamabad.

Patients and Methods

This cross-sectional study was conducted at Department of General Surgery Unit II, PIMS Islamabad from January 2016 to December 2016. An emergency day covered by the general surgery unit II was the every 4th day of the week and a weekend on the 4th week. It has two out patient days and three operation theatre days in a week. Data was collected on a self-designed performa which comprised of evaluation patient's basic information, demography, mode of admission to surgical unit i.e. emergency/outpatient department/referred/transferred from another unit, management i.e. operation or conservative treatment, the outcome of management i.e. discharge/referred/death, and the presence of co-morbidities. Details of the admissions were noted from the admission register that records patient's demographic data, date and mode of admission. Details of the surgical procedures (emergency/elective) were recorded from the computerized data maintained by the paramedical staff at the reception of major OT and the department of HIMS. The collected data was recorded and analyzed by using SPSS version 20.

Results

A total of 822 admissions were made during the year 2016. Among them, 54.9% (n=447) were males and 45% were females (n=375). The mean age of the patients was 35.9 years. Viral marker for hepatitis B was reactive in 0.24% (n=2) and for Hepatitis C was reactive in 3.1% (n=26) patients. The minimum inpatient admission stay was only 1 day while the longest duration of stay was 63 days with a mean hospital stay of 8.2±5.2 days. The record showed that these were 272 emergency operations, Appendicectomy being the commonest emergency procedure done in 57.35% (n=156) patients. Laparotomies accounted for 17.65% (n=48) of total operations performed in an emergency which include

Exploratory laparotomy for gastrointestinal perforation, penetrating, non-penetrating abdominal trauma, gunshot and stab wounds (Table 1).

Table 1: Frequency of treatment given in emergency cases (n=272)

Type of treatment	Number	Percentage
Exploratory laparotomy /GI perforation / penetrating / non-penetrating abdominal trauma / gunshot / stab wounds / obstruction	48	17.65
Acute appendicitis / appendectomy / appendicular mass	156	57.35
Repair suturing of trauma wound	21	7.72
Vascular repairs	7	2.57
Anorectal diseases	8	2.94
Amputations	6	2.21
Conservative management	26	9.56

The elective procedures make up 66.91% of total surgeries performed at our unit. Cholecystectomy being the commonest elective operation, performed in 181 (32.91%) cases, followed by breast surgery done in 85 (15.45%) cases (table 2).

Table 2: Frequency of treatment given in elective cases (n=550)

Type of treatment	Number	Percentage
Conservative management	56	10.18
Cholelithiasis/ Cholecystectomy	181	32.91
Hernia repairs	59	10.73
Anorectal diseases	35	6.36
Breast diseases	85	15.45
Thyroid diseases	42	7.64
Abdominal lymph node biopsies	03	0.55
Major abdominal procedures	35	6.36
Congenital anorectal disorders	06	1.09
Vascular diseases	15	2.73
Stoma reversals	14	2.54
Eosophagectomies	05	0.91
Thoracotomy, thymectomy	04	0.73
Splenectomy	09	1.64
Liver abscess	01	0.18

Table 3: Outcome of all admitted patients (n=822)

Outcome	Number	Percentage
Discharges	780	94.89
Death	19	2.31
Referred	2	0.24
Discharge on request	15	1.82
Leave against medical advice	6	0.73

As shown in table 3, 780 patients (94.89%) were discharged to home, while the mortality was 2.31% (n=19) in the year of 2016.

Discussion

The surgical audit has become an important part of the modern practice of surgery and an integral requirement for the surgeons, continuing professional development and commitment by further analysis thereby resulting in improved practice habits. In the developed world, a very successful national system for audit and comparative audit services are available[9]. In our study, a total of 822 patients were admitted in surgical unit II from different modes of admission. Ali SA. et al reported a higher number of admissions in one year.[10] We observed the male predominance of 54.9% in our study; similar finding (56%) has been reported in an Indian study.[11] The mean age of the patients was 35.9 years and this finding is consistent with another local study.[12] In this study frequency of elective procedures were much higher than those performed in an emergency. Cholecystectomies were on the top among all procedures. A local study reported similar results with a higher number of cholecystectomies in elective procedures followed by breast surgeries[13]. Among all the cases appendicectomies were the most commonly performed procedures followed by exploratory laparotomies in an emergency. Qureshi et al and Bhatti et al also reported appendiceal diseases as a most common emergency in their audit.[13,14] Another study showed acute appendicitis as the commonest emergency procedure.[8] and one of the local studies depicted inguinal hernia is the most common elective procedure.[15] Comorbidities included diabetes (12.02%), hypertension (6.9%) and tuberculosis (1.76 %) cases. A British study conducted on minor surgical procedures at general practitioner level, reported head and face being the commonest sites observed.[3] In our

study, 7.7% cases were managed conservatively and discharged on medications which included acute pancreatitis, acute cholecystitis, patients with mild to the moderate liver or chest trauma, patients with ureteric colic and some patients with pelvic inflammatory diseases. The mortality was 2.31% which is more than other local studies (1.5%) [4] and (1.2%).[14] In an international study, McGuire et al reported of 1.8% mortality in the audit of 44,603 surgeries.[16] The higher mortality rate in our study might be due to increased number of morbids referred cases from the peripheral hospitals to PIMS, Islamabad. The mortality rate of Scottish study after emergency surgery is high (5.1%).[1] It is suggested that proper structured surgical audit is done regularly for a good surgical practice. Knowledge of the current pattern of admissions, diseases spectrum and health care resources should be known, as it is beneficial for both the patient and the clinician.[18]

Conclusion

Elective procedures were 2/3rd of total operated cases in 2016, while 1/3rd were operated in an emergency. We recommend the need for evaluating surgical work in the hospitals and immediate implementation of a surgical audit of admissions and procedures performed in the hospitals. As, unless we know the diseases spectrum and the changes occurring in the pattern of admissions, proper and better health care planning becomes difficult.

References

1. Flint D. Philosophy and principles of auditing. Hampshire: Macmillan Education Ltd. 1988.
2. https://en.wikipedia.org/wiki/Clinical_audit.
3. Ahmed F, Baloch Q, Rashid W, Ahmed I, Kumar D, Surgical Audit of Cases Admitted at Surgical Unit I of Civil Hospital Karachi. Ann Pak Inst Med Sc. 2016; 12(4):235-238.
4. Khalid S, Bhatti AA. Audit of surgical emergency at Lahore general hospital. Journal of Ayub Medical College Abbottabad. 2015; 27(1):74-7.
5. Botting J, Correa A, Duffy J, Jones S, de Lusignan S. Safety of community-based minor surgery performed by GPs: an audit in different settings. The British Journal of General Practice. 2016; 66 (646): e323-e328.
6. Sanazaro PJ, Worth RM. Concurrent quality assurance in hospital care, report of a study by private initiative in PSRO. N Eng J Med. 1978; 298(11):1171–7.
7. Teck-Heang LEE, Ali AM. The evolution of auditing: An analysis of the historical development. Journal of Modern Accounting and Auditing 2008; 4(1): 1-8.
8. Shaikh R, Jeddi MF, Ali G, Iqbal SA. Patterns of diseases in a surgical unit at Layari General Hospital, Karchi. Med Channel. 2000; 6(2):29-31.
9. Bilal A, Salim M, Muslim M, Israr M. Two years audit of thoracic surgery department at Peshawar. Pakistan Journal of Medical Sciences. 2005:12-6.
10. Ali SA, Soomro AG, Tahir SM, Memon AS. Prospective basic clinical audit using minimal clinical data set. J Ayub Med Coll Abbottabad. 2010 Mar 1; 22(1):58-61.
11. Shaikh M, Woodward M, Rahimi K, Patel A, Rath S, MacMahon S, Jha V. Use of major surgery in south India: A retrospective audit of hospital claim data from a large, community health insurance program. Surgery.2015; 157(5): 865–73.
12. Jawaid M, Masood Z, Iqbal SA, Sultan T. The pattern of diseases in a Surgical Unit at a tertiary carepublic hospital of Karachi. Pak J Med Sci. 2004; (20)4: 311-314.
13. Qureshi WI, Durrani KM. Surgical Audit of Acute Appendicitis. Proceedings of the Shaikh Zayed Postgraduate Medical Institute. 2000; 14(1):7-12.
14. Bhatti G, Haider J, Zaheer F, Khan SQ, Pirzada MT, Khan TM. Surgical Audit of Unit II, Department of Surgery, Abbasi Shaheed Hospital, Karachi. Ann Abbasi Shaheed Hosp Karachi Med Dent Coll. 2006; 11(2):54–8.
15. Alam SN, Rehman S, Raza SM and Manzar S. Audit of A General Surgical Unit: Need for self-evaluation. Pakistan Journal of Surgery. 2007; 23(2): 141-144.
16. McGuire HH, Horsley JS, Salter DR, Sobel M. Measuring and managing quality of surgery: statistical vs. incidental approaches. Arch Surg. 1992; 127:733–7.
17. Scottish Audit of Surgical Mortality. 2001 annual report Glasgow: SASM, Royal College of Physicians and Surgeons of Glasgow. http://www.sasm.scot.nhs.uk /REports/2001Report/SASM2001Report.pdf
18. Johnston G, Crombie IK, Alder EM, Davies HT, Millard A. Reviewing audit: barriers and facilitating factors for effective clinical audit. Quality in health care. 2000; 9(1):23-36.