

PATIENTS SELECTION IN LIMITED RESOURCES A STIMULUS FOR IMPROVING CARE

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ABSTRACT

Objective: The objective of the study was to audit services of surgical department in the hospital at Hyderabad during last one year and how much the criteria set for patient selection was effective for safe surgeries in the presences of limited monitoring facilities for preoperative and postoperative period.

Study Design: A cross sectional study comprising audit of surgical services to patients.

Setting & Duration: Department of General Surgery, Sindh Employess Social Security Hospital, Hyderabad from May 2006 to April 2007.

Methodology: Data comprising of patients demographics, number and types of various surgical procedures, hospital stay and various complications that occurred were entered into database. Data base analysis was carried out for determining morbidity and mortality in surgical patients (ASA grade I/II) in a hospital with limited facilities of medical monitoring.

Results: Database analysis of surgical audit revealed that total 694 patients were admitted, operative treatment required in 451 patients but 243 did not undergo surgery. There were 349 patients who needed elective surgeries for different conditions, while emergency procedures done were 102. Over 1500 patients were seen in outpatient department and 205 emergencies received. There were 469 OPD admissions and 20 patients were shifted from other units, 50 patients referred to tertiary care hospital after screening. Over all complications rate was 10% (all were minor and temporary) with no mortality. All patients were discharged within one week postoperatively.

Conclusion: Highest priority should be accorded to surgical audit to determine mortality and morbidity so that precautions can be measured before surgery for those complications and to make the selection of surgical patients with consideration of available medical facilities in the hospital.

KEY WORDS: Audit, General Surgery Audit, Complications, Surgical Services

INTRODUCTION

Surgical audit is an important part of the process to measure performance, reduce clinical risk and improve quality of care.¹ Analysis of data can be either prospectively or retrospectively to determine both quantitatively and qualitatively the work load of an institution or individual department. It includes numbers of admissions, patient demographics, various complications

and mortality.² Periodic clinical or surgical audit identifies risk factors for morbidity and mortality in addition to quantitative analysis of various surgical procedures.³ Patient selection, preoperative assessment, preoperative and postoperative management are improved.⁴ Audits can be important sources of information for the development of evidence-based guidelines, and this approach is a good strategy for bringing the lessons obtained from the audit to the profession.⁵ An audit scheme based on prospective registration, annual analysis of outcome, regular use of questionnaire and selective follow-up, can identify significant inter-hospital differences in outcome as well as variables associated with increased risk for complications, thereby raising quality awareness and facilitating the process of improvement. One year audit from May 2006 to April 2007 covering clinical aspects is presented. The objective of the study was to audit services of surgical department in the hospital at Hyderabad during last one year and

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how much the criteria set for patient selection was effective for safe surgeries in the presences of limited monitoring facilities for preoperative and postoperative period as well as to highlight significant adverse events in our surgical practice for research activities of our department.

METHODOLOGY

The audit encompassing clinical activities of one year was carried out in surgical department of Social Security hospital, Hyderabad. All patients included in the audit were either registered workers of Social Security or their dependent family members. Data collected included patient demographics (Age, gender, occupation); the number, type of emergency and elective surgical procedures, hospital stay, complications, mortality and were all entered into the database. We used the Database to determine the number of procedures and incidence of morbidity and mortality. Surgical audit meeting was conducted once monthly.

The surgical team comprises on one surgeon and one resident medical officer in day time while one medical officer with same surgeon covering on call in evening and night shift. The hospital has limited resources of patient monitoring for peri-operative period. Keeping in view limitations of resources regarding patients monitoring a criteria was made for selection of patients according to American Society of Anaesthesiologist (ASA) classifications and all patients were screened for co-morbid in out-patient-department for elective surgeries and in surgical ward for emergency. Those patients who were classified as ASA I/II were selected for surgeries in our hospital while those who had class III or above were referred to tertiary care hospital because of no cardiac monitoring and surgical ICU facilities available.

RESULTS

Database analysis of surgical audit revealed that total procedures done were 451 from May 2006 to April 2007. There were 349 patients who needed elective surgeries for different conditions, while emergency procedures done were 102. Total number of admissions were 694 in which 469 from OPD, distribution of patients according to age and sex shown in Table I.

Table II shows number, frequency and details of various operative procedures carried out during the audit period.

Over all postoperative complications rate was 46/451 (10%) as shown in Table III. Forty six patients developed various complications, which included wound infection 15(32%), seroma formation 3(6.5%), respiratory tract infection 5(11%), post operative scrotal swelling in hydrocele excision and in repair of complete indirect inguinal hernias 5(11%), urinary retention on operative day 8(1.8%), hematoma formation 03(6.5%) and thrombophlebitis 07(15%). Detailed scrutiny of the record showed that the mostly the wound infection occurred in those patients who had empyema gall bladder or gangrenous appendix. All complications were temporary and managed appropriately without any permanent morbidity. No mortality was recorded because of strict selection of patients with ASA grading I and II for surgery in a hospital which has limited facilities of monitoring and no surgical ICU.

A high proportion of patients was admitted but were managed conservatively and did not require surgery. The great majority was patients with abdominal pain (150 patients) and in only 97 was an accurate diagnosis made by the time of discharge (Table IV) while remaining 53 patients diagnosed as nonspecific abdominal pain after investigations. 50 patients referred

Table I. Number of patients according to age and sex

Gender	Non-operative	Operative	Total
Male	154	270	424
< 12 years	14	37	51
12 - 40 years	86	163	249
> 40 years	54	70	124
Female	89	181	270
< 12 years	10	29	39
12 - 40 years	50	104	154
> 40 years	29	48	77

Operative Procedures	Number	Percentage
Open Cholecystectomy	32	7
Pyelolithotomy	8	1.8
Cystolithotomy	19	4.2
Ureterolithotomy	6	1.3
Breast Lump Excision	23	5.1
Mastectomy	6	1.3
Varicocele Ligation	6	1.3
Hydrocele Excision	15	3.3
Inguinal Hernioplasty	47	10.4
Ventral Abdominal Hernias	26	5.7
Epigastric Hernia	6	1.3
Para Umbilical Hernia	6	1.3
Umbilical Hernia	8	1.8
Incisional Hernia	6	1.3
Excision of Lipoma	15	3.3
Ascherectomy	4	0.9
Removal of foreign body from limb	6	1.3
Lymph Node Biopsy	40	8.8
Haemorrhoidectomy	23	5.1
Anal Sphincterotomy for Fissure	6	1.3
Anal Fistulectomy	15	3.3
Rectal Polypectomy	10	2.2
Appendicectomy	38	8.4
Explorative Laparotomy	10	2.2
Perforated Appendix	4	0.9
Perforated Duodenal/Gastric Ulcer	3	0.7
Enteric Perforation	3	0.7
Incision and drainage for abscess	54	12
Breast	8	1.8
Pyogenic	6	1.3
Tuberculosis	2	0.4
Axillary	8	1.8
Pyogenic	6	1.3
Tuberculosis	2	0.4
Hand	9	2
Foot	7	1.5
Deltoid	4	0.9
Gluteal	8	1.8
Perianal	10	2.2
Excision of ingrowing toe nail	11	2.4
Excision of skin lesion (sebaceous cyst, papilloma)	30	6.6

Table II. Details of 451 operations performed in one year

Complications (n=46)	No.	%
Wound infection	15	32
Seroma formation	3	6.5
Respiratory tract infection	5	11
Urinary retention	8	1.8
Scrotal swelling	5	11
Haematoma formation	3	6.5
Thrombophlebitis	7	15

Table III. Details of Complications

to tertiary care hospital after screening those might require intensive post operative care or had ASA III or above.

DISCUSSION

A clinical audit represents good risk management policy for hospitals, individual units and their surgeons and will raise the overall quality of clinical care.^{6,7} The audit process involves data collection, data validation, audit meeting and surgeon specific review.^{8,9} Data collection remains the joint responsibility of the hospital and the surgeon. Data collection strategies must be determined locally. Data validation should be performed by random selection of case notes to reduce gaming/fraud. Audit meeting should be held monthly in allocated and dedicated time.¹⁰ All consultants should attend meeting and they should foster an air of constructive analysis and criticism.

Over 1500 patients were seen in outpatient department; over 205 emergencies received and in which 102 were operated, 349 elective surgical procedures were performed. There were 469 OPD admissions 205 casualty/emergency admissions and 20 patients were shifted from other units, 50 patients referred to tertiary care hospital after screening and classified as ASA III or above and those patients in whom surgical procedures required postoperative intensive care or for endoscopic procedures of urology because of limited facilities of our hospital during last year.

Total admissions in one year audit were 694. The local data available on the matter is scarce and we have all observed that diseases vary from one city to another city due to social circumstances and ethnic background due to genetic factor. Another major factor is that of environmental factors. Majority (71%) of our patients were below the age of 40 years, a finding consistent with other studies.^{11,12}

Patients (n=243)	No.
Abdominal pain ----- cause identified	97
Abdominal pain ----- cause unknown	53
Trauma (Burns & Head Injury)	10
Cellulitis	23
Peptic Ulcer	10
Referred to tertiary care unit	50

Table IV. Patients managed without a surgical procedure

In this clinical audit inguinal hernia was the most common elective (10.4%) and acute appendicitis (8.4%) the most common emergency presentation after incision and drainage of abscesses of different regions. This is slightly different to other studies which showed appendicitis (13.6%) as the commonest cause of admission¹³, Alam showed appendicitis 11.9%.¹¹ Shaikh¹³ showed hernias (16%) as the commonest cause of surgical admissions while Alam and co workers in their study showed hernias to be 15.5%,¹¹ which was found to be same the present study i.e. 16.18%.

Scrutiny of computerized record showed that tuberculous lesions (tuberculous lymphadenopathy, cold abscess) are still very common in Hyderabad, urinary tract stones and infections are on rise while rectal and colon carcinoma and inflammatory bowel diseases are not as common as in the West.¹³

CONCLUSION

Highest priority should be accorded to surgical audit to determine various risk factors for mortality and morbidity so that precautions can be measured before surgery for those risks and to make the selection of surgical patients with consideration of available medical facilities in the hospital. Accountability of the medical profession can only be achieved through surgical audit.

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