AN AUDIT OF REDUCTION IN WAITING TIMES FOR EMERGENCY SURGERIES IN A TERTIARY CARE TEACHING HOSPITAL

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ABSTRACT:

Objective: To estimate the waiting times for emergency surgeries after implementing recommended guidelines in a tertiary care public hospital to close the audit loop.

Settings: Surgical Unit IV, Civil Hospital Karachi.

Design: Descriptive comparative study.

Patients and Methods: Patients admitted through emergency for immediate surgery were included in the study. Guidelines previously prepared to reduce waiting time were implemented. A proforma was made to collect information like diagnosis, operation performed, time of planning immediate surgery, time of actual surgery, factors responsible for delay apart from demographic data.

Main outcome measures: Waiting times for emergency surgery, different causes responsible for the delay. Comparison of waiting times with the previous study.

Results: A total of 40 patients were enrolled in the audit study. Seventeen (42.5%) patients had to wait for more than 3 hours for surgical procedure as compared to 73.3% in the previous study. In this study 15% waited for 4 hours, 20% for 6 hours and only one patient waited for more than 12 hours. In the previous study 17.7% waited for 4 hours, 33.3% for 6 hours and 6.6% of patients waited for more than 12 hours.

Most of the delays were due to timing of admission (29.4%) and time taken to arrange blood (29.4%) followed by investigations in 23.6%. Previous study before implementing guidelines reported 33.3% delays due to doctors not performing their duty at the earliest followed by admission timing in 21.2%. Unavoidable causes were responsible for 17.6% of delayed surgeries.

Conclusion: The findings of the study showed that recommendations were implemented successfully and the outcome was encouraging, compelling the authorities to continue with the same plan to reduce the percentage of delays even further. During a meeting to present the results of this audit, all the staff was made aware of this encouraging improvement.

KEYWORDS: Emergency surgery, waiting times, causes, surgical audit.

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INTRODUCTION

Audit is the process by which clinical staff collectively reviews, evaluates and improve their practice with the common aim of improving standards.[1] It is a fundamental part of modern surgical practice. From consultant to trainee, involvement in audit is not only desirable but is increasingly becoming compulsory.[2]

All cases of surgical emergency with firm diagnosis needing surgical intervention as part of management should be operated as early as possible to minimize the risks associated and decrease the post operative morbidity. Keeping this in view a small audit was planned to

see waiting times of emergency surgery so that necessary action can be taken to improve quality of patient care in this respect[3]. In view of its findings some recommendations were suggested (Annex-I). This study was performed to observe the improvement in the quality of care after the implementation of the above guidelines.

PATIENTS AND METHODS

All patients admitted during emergency after taking decision that surgery should be performed either immediately or at the earliest possible time (maximum 3 hours after diagnosis / admission) were enrolled in the study. Patients who do not require an immediate surgical management, those who were admitted for observation and patients who need prolonged initial resuscitation due to disease process or co-morbidity were excluded from the study.

According to local guideline of the unit, time taken for preparing patient for surgery which includes detailed history taking, proper clinical examination, essential investigations and to carry preoperative orders should not be more than three hours. All patients who fulfil inclusion criteria were included in the study during the month of January and February 2004. Time measured is from after the patient is admitted by the Chief RMO for emergency surgery to the start of surgery. Different causes responsible for delay of more than three hours were also observed. Results of the present study were compared with the previous study to see the difference in waiting times for surgery after implementing the proposed guidelines.

Annex-I

Recommendations:

* The emergency incharge (Chief RMO) should make a 24 hour duty roster for RMO and house surgeons on the emergency day for the casualty.
* All RMO's and House Surgeons should be in the casualty department for their respective duty and don't wait for call from the casualty.
* After decision is made that the patient need immediate surgery, efforts should be made that all file work which include history, clinical examination is completed in the casualty.
* All relevant urgent investigations should be requested from the casualty.
* Anaesthesia department and Emergency Operation theatre should be informed immediately when a decision is made for surgery.
* Pre operative orders should be carried out while taking history and requesting investigations.
* As soon as the patient is prepared for surgery, call should be given to anaesthesia department to send anaesthetist to Emergency OT.
* All doctors should be encouraged to do their job efficiently and the House Surgeons and RMO responsible for a particular patient care should be given first chance to scrub for surgery.

RESULTS

A total of 47 patients were admitted through casualty during the study period. Forty patients who fulfilled the inclusion criteria were enrolled. Diagnosis of all patients are shown in Table-I. Seventeen (42.5%) patients had to wait for more than 3 hours for surgery as compared to 73.3% in the previous audit. In this study 15% waited for 4 hours, 20% for 6 hours and only one patient waited for more than 12 hours. In the previous study 17.7% waited for

Table-I: Disease Pattern of patients

Disease	*Number*	*Percentage*
Acute Appendicitis	15	35.5
Abscess	8	20.0
Obstructed Hernia	4	10.0
Intestinal Obstruction	3	7.5
Stab wound	3	7.5
Intestinal Perforation	2	5.0
Blunt Abdominal Trauma	2	5.0
Fournier's Gangrene	1	2.5
Testicular Torsion	1	2.5
Gun shot injury	1	2.5
Total	*40*	*100.0*

Table-II: Waiting times for emergency surgery

Time	*Number*	*Percentage*
3 hours	23	57.5
4 hours	6	15.0
6 hours	8	20.0
12 hours	2	5.0
> 12 hours	1	2.5
Total	40	100.0

Table-III: Causes of time delay in Emergency Surgery (n = 17)

Cause	*Number*	*Percentage*
Timing of admission	5	29.4
Blood availability	5	29.4
Investigations	4	23.6
Doctors	3	17.6
OT Staff	3	17.6
Unavoidable	3	17.6
Anesthetists	2	11.8

* In some patients delay in surgery was due to more than one reason

Table-IV: Comparison of waiting time for emergency surgery

Time	*Before Recommendations (number of pt.)*	*After Recommendations (number of pt.)*
3 hours	12	23
4 hours	6	6
6 hours	15	8
12 hours	2	2
> 12 hours	3	1
Total	45	40

4 hours, 33.3% for 6 hours and 6.6% of patients waited for more than 12 hours.

Most of the delays were due to timing of admission (29.4%) and time taken to arrange blood (29.4%) followed by investigations in 23.6% (Table-II). Previous study before implementing the guidelines reported 33.3% delays were due to doctors not performing their duty at the earliest followed by admission timing in 21.2%, immediate non-availability of cross-match blood in 18.1%, non availability of anaesthetist in 15.1% and investigations in 12.1%. Unavoidable causes were responsible in 17.6% of delayed surgeries in the present study as compared to 15.1% in the previous one.

DISCUSSION

Audit is intended to be a dynamic process leading to improved patient care.[4] To perform an audit a topic is chosen, then standards of practice applicable to it are debated and agreed. Current practice is observed which is compared with the standard. If it does not meet the standard, changes are instituted to try to bring practice up to the standard. Practice is then observed again to see if the changes have been successful. This is called 'closing the audit loop'.

Many studies have showed that longer the waiting time for emergency surgery more is the morbidity and mortality.[5-7] A study from Libreville hospital centre showed that 54.2% patients had some delays in the management of surgical emergencies[8]. Same trend was observed by another study from a district general hospital.[9]

Our previous study had showed that there is a wide area lacking professional attitude by the related healthcare workers in delivering the best possible care and significant proportion of patients waited for too long for surgery.[3] Some recommendations were proposed in view of these findings (Annex-I). These were reviewed in the successive emergencies during January and February 2004.

Seventeen (42.5%) patients had to wait for more than 3 hours for surgery as compared to 73.3% in the previous audit. Though the number of patients in this study is small but even then, it gives a clear indication of the positive impact of the recommendations. The comparison shown in Table-IV confirms that the recommendations were implemented successfully and the outcome was encouraging, compelling the authorities to continue with the same protocol to reduce the delays even further.

LIMITATIONS OF THE STUDY

The time spent by the patient in the Emergency department before a decision was taken to operate was not taken into consideration.

CONCLUSION

The success of this audit cycle has encouraged all the doctors to work and follow the recommendations, while searching for new areas of improvement to continuously upgrade the system, keeping in view our recourses and limitations.

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