CASE POSTPONED - ONE YEAR SURGICAL AUDIT OF A SINGLE UNIT IN A GOVERNMENT HOSPITAL

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ABSTRACT
Objective: *To describe the causes for last minute cancellation of elective surgical operations in a single general surgical unit at Civil Hospital Karachi.*
Study Design: *Descriptive observational.*
Setting & Duration: *Department of Surgery Unit III, Civil Hospital, Karachi from January till to December 2008.*
Introduction: *Cancellation of elective surgeries is a major drain on health resources. Identifying its causes can help streamline operating lists and improve efficiency of surgical team.*
Methodology: *Operating lists from January till December 2008 of Surgical Unit III at CHK were audited. The files of postponed and cancelled cases were thoroughly reviewed to assess the causes of postponement.*
Results: *The overall rate of postponement was 23.5%. Majority (63%) were postponed due to non-fitness for anesthesia. A significant number (29%) were cancelled due to organisational failures.*
Discussion: *Most of the postponements can be avoided by undertaking a thorough assessment of patients in the pre-operative clinics. There is also an emergent need to re-structure the standard rules and regulations in public sector hospitals to minimise organisational failures.*

KEYWORDS: *Postponement, Elective Operation, Anaesthesia Fitness, Para-medical Staff*

INTRODUCTION

Postponement/cancellation of an elective operation is a rare, but not unheard-of phenomenon in any surgical practice. However, an eleventh-hour cancellation is a disturbing event for all those involved i.e. surgeons, patients, and not the least for patients' kith and kin. Any last-minute cancellation translates into wastage of Operating room time, the surgeons' and para-medics' time, and, most of all, patients' work-hours. It also engenders anxiety and a feeling of distrust on part of the patients. Overall, the phenomenon is a major drain on health resources.

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Cancellation of elective surgeries has been reported rather rarely in the international literature. The rates of cancellation range between 10 and 17%.[1] The overall rate in NHS hospitals, UK is 11%.[2] Zafar[3] from Ayub Teaching Hospital have quoted rates as high as 25%. Most of the western authors have found anesthesia-related fitness issues to be the leading cause of cancellations.[2-5] On the contrary, Zafar and colleagues[3] encountered 'organisational reasons' (time and bed shortage) as the commonest cause.

With a collective service of over 30 years in government hospitals, the authors have encountered this issue consistently, which raises significant queries as to the root-cause/causes of the problem. One is also prompted to speculate why such an endemic problem has so-far gone un-researched, since authors know from personal communication with colleagues that almost every surgeon working in public sector hospitals has experienced it to varying degrees.

Civil Hospital Karachi is a main-stream tertiary care centre catering to the health-care needs of a significant

portion of the city. It has six functioning general surgical units, each getting three operating theatres twice weekly for elective surgeries. This accounts for a total operating time of almost 36 hours a week, considering the office hours in government hospitals to be 6 hours a day.

The authors, after having faced the problem rather regularly, decided to undertake an audit of all the elective operating lists in our unit in order to analyse the causative factors of last-minute/same-day postponement of surgery.

The objective was also to formulate some guidelines/ code-of-conduct for the operating team, so that the problem could be minimised, if not eliminated altogether.

METHODOLOGY

Operating room data from January 1, 2008 till December 31 2008 was retrieved from the data-base of Operation Theatre Complex of the Civil Hospital Karachi. The data-base records all elective operation lists, including patients name, age, the admitting unit with the bed number, proposed diagnosis, the operation/s performed, surgeon's and assistants' names. The data is recorded on the computer one day prior to the elective list and again after the execution of the operation. The final record thus provides documented evidence of postponement. It does not however give the reasons for cancellation/postponement of any operation.

For the afore-mentioned duration, audit of the elective lists was undertaken. Patient records and files of all postponed operations were reviewed. The audit especially focussed on the notes of anaesthetist and surgical team in order to ascertain the cause of postponement.

The data thus obtained was recorded on a proforma documenting the patients' age, gender, known co-morbids, surgical diagnosis and potential reason/reasons for postponement. Frequencies mean (with range) and pie-charts were employed for elaboration of the results.

Table I. Summary of Postponed elective operation (n=187)

Name of Operation	Postponed	%
Inguinal Hernia Repair	39	20.8
Lap Cholecystectomy	37	19.7
perianal Surgery	28	14.9
Excision Biopsy	17	9.0
Endoscopy	10	5.3
Stoma Reversal	10	5.3
Testicular Surgery	10	5.3
Others	36	19.2

RESULTS

In the year 2008 surgical unit III undertook a total of 97 elective lists. The total number of scheduled cases was 795 (average of 8 cases per list). Of these, 608 patients got operated as per schedule, while the remaining 187 were either postponed or cancelled. Thus the overall rate of postponement was 23.5% (1.92 cases per elective list).

Frequency of Postponed Surgeries: (Table I).

Inguinal hernia repair was the most frequently postponed operation (n=39), followed by laparoscopic cholecystectomy (n=37). Table I summarises the operations postponed in the year 2008.

Co-morbid diseases in Postponed cases:

Almost half the postponed patients had co-morbid diseases (n=98, 52.4%). Of these, 14 were diagnosed on-table by the anesthesia team. Table II summarises the co-morbidity in the postponed operations.

Reasons for Postponement:

Three main categories of the reasons were identified; vis.

1) Unfit status for anestheisa (general/spinal)
2) Organisational reasons
3) Patients' refusal/disappearance

1) Non-fitness for Anesthesia: This constituted the biggest group with 117 patients being postponed after being rendered unfit for anesthesia. Table III

Table II. Co-morbidity in Postponed elective operation (n=98)

Co-morbid disease	No.	%
Hypertension only	30	16.0
HTN + IHD	28	14.9
IHD	16	8.5
Diabetes	12	6.4
COPD/asthma	7	3.7
Cirrhosis	5	2.6

summarises the main reasons given by anesthesia team for their decision. The most common investigation asked for by the anesthesia team, and missing from the pre-operative work-up, was coagulation profile (18 out of 45 patients postponed for this reason); while the most common investigation found abnormal was serum electrolytes (21 of the 40 patients postponed for uncorrected profiles).

2) Organisational reasons: As many as 54 patients were postponed due to unavailability/shortage of para-medical staff. The commonest reason found was flat refusal by the technicians because "duty times were over"; this accounted for 20% of all postponements (n=38). Other reasons of unavailability included 'strikes', 'social occasions' and overall political unrest in the city.

3) Disappearance/Refusal by the Patients: Six percent cases (n=12) were postponed because the patients either refused to get operated or disappeared altogether at the eleventh hour. No further reasons were identified in this group.

No reason for postponement could be identified in the remaining four patients due to incomplete records. Table IV sums up the causes of postponement.

DISCUSSION

Postponement of elective operations is a multi-factorial phenomenon. It has implications for all arms of the health care system Vis. Surgeons, para-medics and the patients. Minimising cancellations and postponements can improve efficiency and lead to a more effective use of operating room time, besides restoring trust in the doctor-patient relationship.

Table III. Reasons cited by anaesthesis team for postponment of elective surgeries (n=117)

Reason Given	No.	Percentage of postponed case
uncontrolled hypertension	27	14.4
Incomplete investigation	25	13.3
Abnormal & uncorrected investigation	20	10.6
Chest infection	18	9.6
Missing "Pre-op" form	16	8.5
Multiple reasons	8	4.2
Incomplete NPO	3	1.6

The rates of cancelled operations from the west are well below those in our study and that reported from Ayub Hospital.[3] Chamisa from Durban[4] and Rai from Oxford, UK[2] have reported as low rates as 5%. The overall working system of most western hospitals is in marked contrast to the public sector hospitals of Pakistan. This is especially true of the working hours, the para-medical support staff and the organisation of workload. These key factors are nonetheless responsible for the afore-mentioned marked gap in figures of cancellations.

The majority of our cases were postponed due to anesthesia-fitness issues, similar to what has been reported by Chamisa[4], Eldas[5] and Zafar.[3] Most of our patients did have a pre-operative form attached to the files, thus showing that they had been assessed in the anesthesia clinic. While there is a system for pre-operative work-up and anesthesia fitness clinic in place, it is quite often overloaded, catering to all the six general surgical wards as well as sub-specialities. The idea of a nurse-led pre-assessment followed by consultants' evaluation in this regard seems worthwhile[2], since it filters off patients with unremarkable profiles thereby saving time for a more thorough assessments of the remarkable ones.

Organisational failure accounted for 29% of cancellations. Zafar[3] has reported 'time shortage', 'bed shortage' and 'unavailability of anesthetist' as factors accounting for more than half of cancellations. From the west, Sanjay[6] found 16% cancellations happening due to 'over-running lists'. However, none has reported on the factor that we encountered as contributing to most organisational failures, namely unavailability of the para-medical staff. Operating room technicians are a most essential component of any surgical practice. Unfortunately, neither the rules and regulations of the Hospital nor those of the Ministry make it binding on them to assist in completion of a scheduled list. In other words, they are completely justified in refusing to assist if working hours are over. Needless to say, it is high time that some kind of a work ethic is codified for tech-nical theatre staff by the Ministry of Health. On the other hand, the ideas of incentives and over-time stipends should also be implemented at policy-making level. Only 6% cancel-

Table IV. Reasons for postponment

Cause for Postponement	No.	Percent cases
Non Fitness for anaesthesia	117	62.5
Organisational reason	54	28.8
Patient Refusal	12	6

lations were due to patient refusal or disappearance. Sanjay[6] found 12% cancellations due to patient refusal, while Chamisa[4] has reported only 1.8% due to this cause. A further analysis of reasons for patient refusal is required to extrapolate this particular factor.

CONCLUSION

Postponement of elective operations is responsible for significant wastage of resources. Meticulous pre-operative work-up and stream-lining of operating room protocols can minimize this loss.

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