Vol. 16, No. 3
ORIGINAL PAPER

GENERAL SURGERY

MEDICAL CHANNEL
JULY - SEPTEMBER 2010

AN AUDIT OF POSTPONEMENT OF SURGERIES IN A TERTIARY CARE HOSPITAL

1. **ABDUL GHAFOOR DALWANI**
MS
2. **AHMED KHAN ZARDARI**
FCPS
3. **FOUZIA SHAIKH**
FCPS

1. ***Assistant Professor***
Department of Surgery
LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES, JAMSHORO SINDH
2. ***Senior Registrar***
Department of Anesthesia
LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES, JAMSHORO SINDH
3. ***Assistant Professor***
Department of Gynecology and Obstetrics
LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES, JAMSHORO SINDH

Corresponding author:
DR. ABDUL GHAFOOR DALWANI
FLAT 307, BLOCK A, DEFENSE PLAZA, HYDERABAD
Cell: 03009372148

ABSTRACT

BACKGROUND: *Cancellation of surgeries of patients on OT list is a waste of time and a burden on hospital resources, this study was conducted to evaluate the various that were lead to postponement of surgeries.*
METHODOLOGY: *This prospective observational study was conducted at Liaquat University Hospital, Jamshoro/ Hyderabad from January 2009 – December 2010. Data was collected of all patients whose names were listed on the scheduled operation lists. The number of all those patients who could not have their surgery done was collected. Data was stored and percentages were calculated thorough SPSS 10.0*
RESULTS: *During the study period 6480 patients were on O.T list, out of which 1360 (21%) of operation were cancelled on the day of surgery. The majoriy of patietns were more than 60 years of age i.e. 313 (23.01%), followed by 286 (21.02%) patietns were 10 years of age or below. 965 (70.95%) of cases were cancelled due to lack of operation theatre time. 302 cases (22.20%) were postponed due to various medical causes. Forty nine (3.60%) did not turn up on the day of surgery. Twenty three (1.69%) cases were cancelled due to change in plan of surgery. Thirteen (0.95%) cases were postponed due to administrative problems. Three (0.22%) cases were cancelled because of unavailability of senior surgeon while 5(0.36%) surgeries were cancelled because of miscellaneous reasons.*
CONCLUSION: *Majority of cancelation are due to avoidable reasons, in this study the most common cause of postponement of surgeries was found to be shortage of theatre time. The most common explanation for on-the-day cancellations were deficiency of theatre time due to over-run of earlier surgery.*

KEYWORDS: cancellation of surgery, Operation Theater time, delayed surgery, elective surgery

INTRODUCTION:
In a tertiary care hospital, lots of resources are required to run the hospital affairs, especially operation theatre. Therefore, cancellation of surgeries just before operation time is a waste of public resources and precious time of patients. The price of healthcare equipment and surgical items is increasing day by day. Unfortunately, the fiscal capital continues to decline due to on going recession in the economy. Therefore there is a dire need for the health care system to judiciously utilize its resources and make sure the cost-effectiveness in every aspect of patient care. Postponement of surgeries on the listed day of surgery leads to disorganized consumption of manpower and capital. It also leads to lengthened hospital stay of patient and off days from work, and in some situations, patient has to undergo repetition of the clinical and pathological investigations including a mixture of aspects of preoperative preparation and management. These all require additional resources and expenditure both by hospital and patient. Therefore, if such conditions and undue cancellations of Operature theater (OT) list are controlled, an overall reduction in cost of surgery can be achieved.
When patient is on operation list, his / her subsequent postponement of surgery is a mental torture for both patient and attendants.[1] Hence they put a lot of pressure on hospital staff including surgeon, anesthetist and paramedical staff which often leads to misunderstandings and issues.[2]
It is reported that almost 12 percent of planned surgical operations are cancelled at the

last minute; on the day the surgery[2, 3]. Delayed termination of listed surgeries is most imperative setback for tertiary care level hospitals. They are chief reason of unproductive utilization of operating theater and devastate of resources. They are also depressing for patients and their attendants, and expensive in provision of working days lost due to rearrangement and disturbance to daily life.

In this regard a very few studies so far have been conducted to look into the common issues which leads to postponement of cases on the day of operation. Hence this study was conducted to see the causes of cancellation of cases on the day of surgery at Liaquat University hospital, Jamshoro / Hyderabad. This study will help us in making suitable proposals to improve competence and reduce expenditure of already inadequate resources and manpower.

MATERIAL & METHOD:

This prospective observational study was conducted at Liaquat University Hospital, Jamshoro/ Hyderabad from January 2009 – December 2010. All the inpatient elective operations on O.T list and all cancelled cases were noted that were not operated. All patients who were listed on the routine elective surgical operations lists, but who could not have their surgery done as scheduled for some reason.

As a routine all patients on O.T list are required to get physical fitness / clearance report from Department of Anesthesia beforehand. Every patient is questioned, examined, and their laboratory investigations are evaluated. For any further problem, expert opinion is asked from concered speclaist .

Patients with special requirements are discussed by surgeon and anesthetist a day before surgery. All departments have their dedicated operation theatres. The operation list is prepared by the postgraduate trainee residents and registrar administration which is finalized by senior faculty members. Data was stored and percentages were calculated thorough SPSS 10.0

RESULTS:

During the study period 6480 patients were on OT list, out of which 1360 (21%) of operations were cancelled on the day of surgery (Chart – I).

The majoriy of patietns were more than 60 years of age i.e. 313 (23.01%), followed by 286 (21.02%) patietns were 10 years of age or below. 149 (10.95%) patients were between 11-20 years of age. 193 (14.19%) patients were between of 31-40 years of age. 143 patients (10.51%) were between 41-50 years of age, while only 99 (7.27%) patients were 51-60 years of age. Table - I. Among 1360 (21%) of operations, 965 (70.95%) of cases were cancelled due to lack of operation theatre time. 302 cases (22.20%) were postponed due to various medical causes like chest congestion or recently respiratory tract infection, hyperglycemia or uncontrolled diabetes, and hypertension or any other cardiovascular problem. Forty nine (3.60%) did not turn up on the day of surgery or left against medical advice (LAMA). Twenty three (1.69%) cases were cancelled due to change in plan of surgery. Thirteen (0.95%) cases were postponed due to administrative problems of hospital like non-availability of sterilization of instruments due to non-functioning autoclave, shortage of anesthetics drugs or oxygen. Three (0.22%) cases were

CHART 1
TOTAL PATIENTS ON OT LIST WITH OPERATED AND CANCELLATIONS

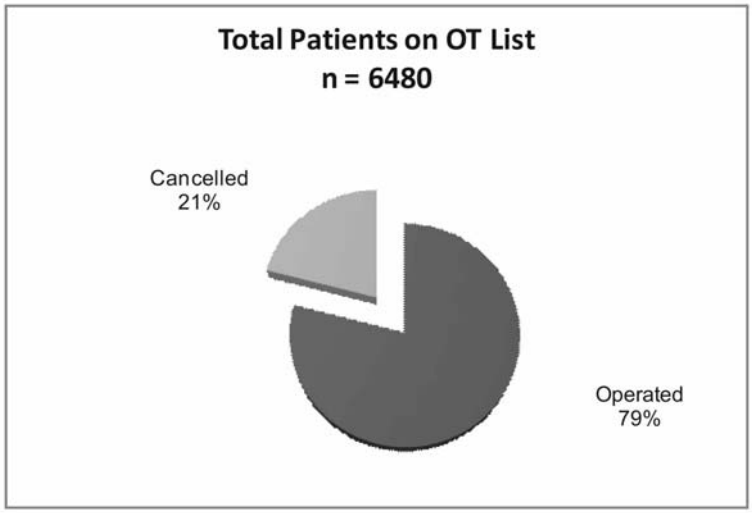


TABLE I
AGE DISTRIBUTION OF PATIETNS

Age range (years)	Number	Percentage (%)
0-10	286	21.02
11-20	149	10.95
21-30	177	13.01
31-40	193	14.19
41-50	143	10.51
51-60	99	7.27
➢60	313	23.01

TABLE II
REASONS FOR CANCELLATION (N= 1360)

Reason	Number of cases	Percentage (%)
Lack of operation theater time	965	70.95
Medical causes	302	22.20
LAMA*	49	3.60
Change in surgical plan	23	1.69
Administrative reasons	13	0.95
Non availability of senior surgeon	3	0.22
Miscellaneous	5	0.36
· Left Against Medical Advice		

cancelled because of unavailability of senior surgeon while 5(0.36%) surgeries were cancelled because of miscellaneous reasons. Table - II

DISCUSSION:

Cancellation of surgery of patients on the day of surgery has many worse impacts on patients and attendants. It has both economical and psychological distracting effects on patient and hospital resources. Various tertiary care centers have a varying nature of cancellation of cases reporting as 10-40%.[2,3] In our study we have noticed 21% of cases are cancelled due to various reasons in different operation theatres of our hospital. In a study conducted by Fischer et al,[4] it was noticed that 90% of cancellation are on the day of surgery and it has a very depressing effect on patient's psychology. However these various reasons of cancellation of surgeries are preventable.

In a study conducted in Australia, Schofield et al[5] has reported that 11.9% of surgeries are cancelled due to various reasons. 18.9% of surgeries were postponed due to non-availability of bed, 16.1% cases were cancelled because of shortage of time while in our study 70.95% of cases were cancelled due to shortage of O.T time. 10.5% of patients were not turned up on the day of surgery while in our series only 3.6% of patients were LAMA. This is probably because patients have fear of surgery and they are not counseled properly and adequately. With improved communication skills and sympathy with patient this problem can be resolved. It is also reported in literature that few surgeries were cancelled because patients were not properly communicated about the date of surgery.

Cancellations due to medical reasons are another cause. Patients with know medical condition need more attention and they need to be properly prepared for surgery, if not their risk of cancellation at the day of surgery increases many fold.

In a study conducted by Vinukondaiah et al[6] it was reported that majority of surgeries were cancelled on the day of surgery because of lack of operation time availability in 65.2% cases. 11.3% of surgeries were postponed due to lack of physical fitness of patients. In our study most common cause of cancellation of OT list was non availability of O.T time. Majority of cancellations were due to underestimating the time required by surgeries by post graduate students and registrars. It was noticed that these cancellation were due to big O.T list, which was made to reduce the number of admitted patients. Majority of cases are operated by senior residents under strict observation of senior consultants and supervisors, however these cases take longer time to finish. In addition on spot anesthetic or surgical problem is also a cause of cancellation of planned list.

It is reported that late start of O.T list due to late coming O.T staff including technicians, residents, surgeons and anesthetists which lead to inability to complete list within time is also a reason of cancellation.[7-11] Junior surgeons and trainee surgeons also take more time to complete surgery than experienced surgeons. Pandit et al[12] has mentioned that overbooking of cases is the leading cause of cancellation in their setup. It was suggested that a realistic approach should be adopt in deciding the O.T list.

Time taken by anesthesia varies in case to case. Hassan et al[13] has reported 8% of cancellations are due to anesthesia related issues. Load shedding of electric supply is also a common problem in our setup, however hospital authorities make sure to continue electric supply through backup generator, but sometimes backup is not enough for a day long disruption in electric supply. It is also reported in literature that shortage of electric supply is a common cause of cancellation of O.T list in third world countries.[14]

CONCLUSION:

Shortage of operation theatre time was found to be most common cause of cancellation of O.T list on the day of surgery in our setup. O.T list should be carefully made keeping in view the time required by each case and the expertise of operating surgeon.

REFERENCES:

1. Lau HK, Chen TH, Liou CM, Chou MC, Hung WT. Retrospective analysis of surgery postponed or cancelled in the operating room. J Clin Anesth. 2010 Jun;22(4):237-40.
2. Tait AR, Voepel-Lewis T, Munro HM, Gutstein HB, Reynolds PI. Cancellation of pediatric outpatient surgery: economic and emotional implications for patients and their families. J Clin Anesth. 1997 May;9(3):213-9
3. Zafar A, Mufti TS, Griffin S, Ahmed S, Ansari JA. Cancelled elective general surgical operations in Ayub Teaching Hospital. J Ayub Med Coll Abbottabad. 2007 Jul-Sep;19(3):64-6
4. Fischer SP. Development and effectiveness of an anesthesia preoperative evaluation clinic in a teaching hospital. Anesthesiology 1996; 85:196-206
5. Schofield WN, Rubin G, Pizza Ml. cancellation of operation on the day of intended surgery at a major Australian referral hospital. Med J Australia 2005:182:612-5
6. Vinukondaiah K, Ananthkirshnan N, Ravishankar M. Audit of operation theatre utilization in general surgery. National Med J India 2000; 13:118-21
7. Aaserud M, Trommald M, Boynton J. Elective surgery cancellations, ring fencing and efficiency. Tidsskr Nor Laegeforen. 2001 Sep 10;121(21):2516-9
8. Nasr A, Reichardt K, Fitzgerald K, Arumugusamy M, Keeling P, Walsh TN. Impact of emergency admissions on elective surgical workload. Ir J Med Sci. 2004 Jul-Sep;173(3):133-5
9. Sundaram K, Sankaran S, Amerally P, Avery CM. Cancellation of elective oral and maxillofacial operations. Br J Oral Maxillofac Surg. 2007 Dec; 45(8):656-7.
10. Sanjay P, Dodds A, Miller E, Arumugam PJ, Woodward A. Cancelled elective operations: an observational study from a district general hospital. J Health Organ Manag. 2007; 21(1):54-8.
11. Westbury S, Pandit M, Pandit JJ. Matching surgical operating capacity to demand using estimates of operating times. J Health Organ Manag. 2009; 23(5):554-67.
12. Pandit JJ, Carey A. Estimating the duration of common elective operations: implications of operating list management. Anesthesia 2006; 61:768-76
13. Hassan AM, Khan FA. Anaesthetic reasons for cancellation of elective surgical in patients on the day of surgery in a teaching hospital. J Pak med assoc 2005; 5:374-8
14. Mypet CD. An audit of the use of ophthalmic theatre time. Community eye health 2002:15:61-63