ORIGINAL ARTICLE

Morbidity meetings: What makes it to; what stays out of the forum

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Abstract

Objectives: To review the utility of morbidity and mortality forum in General Surgery at a tertiary care hospital in Karachi, Pakistan.

Methods: The retrospective study was conducted at the Aga Khan University Hospital and reviewed morbidity data from March to May 2009. Case notes of all patients admitted to the General Surgical service during the study period were reviewed to identify in-hospital morbidities.

Results: There were a total of 340 inpatients during this period. Case notes identified 61 (17.94%) patients with morbidities; 35 (57.37%) males and 26 (42.62%) females. The morbidity record for the same period identified 32 (52.5%) patients, while 29 (47.5%) morbidities were missed. Of the total morbidities, 32 (52.5%) patients were admitted to the general ward, and 29 (47.5%) to high dependency areas. Nine (28%) morbidities identified in the general ward, and 23 (79%) in high dependency areas were formally presented. Morbidities related to the abdominal cavity were the commonest (n=22; 36%). Wound-related (n=17; 28%) and cardio-pulmonary (n=8; 13%) complication were the next most frequent.

Conclusions: Abdominal cavity morbidities were the most common in this review followed by wound related and cardiopulmonary complications. The morbidity and mortality forum is an educational activity that has stood the test of time and continues to be the cornerstone of post-graduate education. It should be considered a mandatory activity in all postgraduate training programmes.

Keywords: Morbidity, Mortality, Postgraduate medical education. (JPMA 63: 161; 2013)

Introduction

Modern medical and surgical care has improved the outcome of treatments for a majority of illnesses. However, with this laudable progress has persisted an unwelcome companion; that of complications or adverse events related to treatment or interventions. Incidence of these events tends to vary over a significant range depending on a number of variables which include disease pattern/severity, quality of health facilities and healthcare providers. Starting in the early 20th century, surgeons were the first to formally recognise the importance of recording and reviewing complications arising from healthcare processes, with the aim of learning from their mistakes.

Morbidity and mortality conferences are now a tried and tested method to improve the standard of medical care and have academic and practical value.

Our study was a retrospective review aimed at identifying total number of morbidities in in-patients on the surgical floor as recorded in the patient case notes by surgical teams and comparing these with the official morbidity record generated monthly for presentation at the Morbidity and Mortality (M&M) forum.

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Materials and Methods

The retrospective review was conducted at the Aga Khan University Hospital, Karachi, and involved patient data from March to May 2009. The time duration was chosen arbitrarily based on what was considered to be an adequate number of patients. A comparison of two sources of information was undertaken. Medical records of all patients admitted to the General Surgical service during the period of study were retrieved and reviewed to extract information related to morbidities arising during hospitalisation for surgical illness. Patient's demographics, principle diagnosis, mode of admission and location at the time of morbidity occurrence were recorded. The official morbidity records for the same timeframe were obtained from the M&M coordinator. This record is generated on a monthly basis by chief residents of all surgical services by reviewing the list of all surgical admission during the month in their respective teams. All mortalities occurring within 30 days of admission on surgical service, irrespective of surgical intervention, are centrally collected through the hospital database

and forwarded to the M&M coordinator. All mortalities are formally presented and discussed in the forum.

Results

A total of 340 in-patients were managed by the General Surgery services during the study period. All the 340 (100%) charts were reviewed; 61 (17.94%) patients were noted to have one or more morbidity recorded during hospitalisation. The official morbidity record for the same group of patients was noted to have 32 (52.5%) of these morbidities (Table-1). In 29 (47.5%) patients, the morbidities recorded in their case notes were not passed on to the official morbidity record. Of these, 26 (89.65%) were in-patients having undergone a surgical procedure during their hospitalization, while the other 3 (10.34%) arose in patients without a surgical intervention.

Of the total identifiable morbidities, 39 (64%) patients were elective admissions; 19 (31%) emergencies; and 3 (5%) patients were admitted urgently through outpatient clinic areas. There were 35 (57%) males and 26 (43%) female patients. Besides, 32 (52%) patients were admitted to the general ward, and 29 (48%) to high dependency areas. Nine (28%) of the 32 morbidities identified in the general ward and 23 (79%) of the 29 identified in high dependency areas were presented at the M&M meeting.

Table-1: Morbidities presented in M&M (n=32*).

Morbidities	Frequency (%)
Wound Complications:	
Infection	1 (3%)
Dehiscence	1 (3%)
Intra abdominal complications:	
Anastamotic leak	8 (25%)
High output stoma	1(3%)
Adhesive bowel Obstruction	2 (6%)
Intra-abdominal collection/residual abscess	3 (9%)
Haemorrhage	1 (3%)
Splenic injury	1 (3%)
Pulmonary complication:	
Pneumonia	2 (6%)
Pulmonary Edema	2 (6%)
Lung collapse	1 (3%)
Vascular complication:	
Graft thrombosis	2 (6%)
Flap necrosis	2 (6%)
Limb ischaemia	1 (3%)
Stroke	2 (6%)
Miscellaneous:	
Ehcephalopathy	1 (3%)
Diarrohea	1 (3%)
Non-ST elevation MI	1 (3%)
Electrolyte imbalance	1 (3%)
Scrotal swelling	1 (3%)
Brachial plexopathy	1 (3%)
Acinetobacter infection	1 (3%)

* (Some patients had more than one complication).
M&M: Morbidity and mortality forum. MI: Myocardial infarction.

Table-2: Morbidities identified from patient case notes (n=29*).

Morbidities	Frequency (%)
Wound Complications:	
Wound infections	10 (34%)
Wound dehiscence	2 (7%)
Wound edge necrosis	2 (7%)
Persistent wound sinus	1 (3.4%)
Intra-abdominal Complications:	
Post-operative Ileus	1 (3.4%)
Intra-abdominal collections	2 (7%)
Enterocutaneous fistula	1 (3.4%)
Bowel perforation	1 (3.4%)
Peritonitis	1 (3.4%)
Pulmonary Complications:	
Pulmonary oedema	1 (3.4%)
Plural effusion	1 (3.4%)
Vascular Complications:	
Deep venous thrombosis	1 (3.4%)
Miscellaneous:	
Haemorrhage	1 (3.4%)
Seroma/Haematoma	3 (10%)
Histopathology not sent	2 (7%)
Negative Appendectomy	1 (3.4%)
Fistula in ano	1 (3.4%)

*(Some patients had more than one complication).

The commonest group of morbidities related to the abdominal cavity 22 (36%) (Table-1 and 2). The most frequent and significant of these was some form of anastomotic failure. The second most common group was wound-related complications 17 (28%), a large proportion of which did not make it to the formal forum. The third most common group was cardiopulmonary complications 8 (13%).

Discussion

Morbidity and mortality meetings are a well-recognised learning opportunity for all medical professionals involved in patient care. For the forum to achieve its full potential, an honest and blame-free environment needs to be established. A widely held general opinion amongst trainees and a significant proportion of consultants is that these meetings are meant to label blame and settle scores, with learning issues being an incidental outcome.[1] Literature review

shows that a significantly high proportion of occurring morbidities are not presented in departmental morbidity reviews; up to 70% in certain studies.[2,3]

Our review showed that slightly over 50% of recorded morbidities made their way to the official morbidity record. Closer analysis did reveal interesting aspects of the situation. Most of the morbidities occurring in the high dependency areas were recorded and presented. Similarly, morbidities that were significant from the medical outcome point like anastomotic leaks were all recorded and presented. Morbidities that occurred in general wards or those considered common/expected in certain situations like wound infections after contaminated surgeries, were the most frequent ones not making it into the official record.

Barring deliberate withholding of information, one of the commonest reasons for morbidities not reaching the M&M forum is recall bias. The best way to address this common problem would be to record events prospectively in real time.[4] Some of the other important reasons are as follows: Morbidities not considered significant enough or those occurring more commonly and thus becoming repetitive in presentation have a higher probability of being missed; in our setting this was a significant issue. Patients with terminal illness, patients changing services or patients being managed primarily by a non-surgical service are also likely to be missed out if recall is the primary method for identification. There is also a considerable amount of heterogeneity in the definition of morbidity among residents and attending physicians, and there is a general feeling that reporting minor morbidities will reflect badly on them during performance reviews.[1,5] Finally there is often an underlying desire to focus on the uncommon or unexpected events to keep the interest of the audience.

The section of General Surgery has the oldest and best established morbidity and mortality reporting forum in our institution. The process in place relies on senior residents identifying and recording morbidities for the final M&M list. This usually involves memory recall, for most at the end of the month, when a list of all cases admitted to their team are printed out. Some individuals carry personal prospective records, but this is not the norm. The institution does provide an online morbidity record system, which can be updated in real time by any resident. Unfortunately, this has not been as effective as initially anticipated.

In its present format, the forum requires all recorded morbidities to be formally presented by a designated resident, usually one involved in the care of that particular patient. The presentation is expected to focus on the clinical course of the patient in hospital. The morbidity itself is described in detail with its management and followup. The presenter is expected to give his/her understanding of what led to the adverse event. The presentation is completed by a summary of the case and a focussed literature review. It is then open for discussion; most questions are directed at the presenter and any aspect of decision-making, management or technical aspect of surgery can be inquired about. The resident is expected to answer all questions; the attending surgeon can intervene at his/her discretion to clarify issues. Residents are encouraged to participate in the questions and discussion.

A limitation of this approach is the inevitable time constraint that is brought about due to the sheer number of cases to be discussed. This does impact the depth and breadth of discussion that can take place. An important side effect of this time constraint is the temporal disconnect between the event (morbidity) and its formal review. The forum, at its best, lags in time by a period of approximately 2 months. In its present traditional format, the forum is not geared to address system and process issues which are now considered to be important determinants of outcomes.[5-10]

An important aspect of this forum which is usually not commented upon in the literature is its positive impact on critical thinking and presentation skills of residents and on their ability to face a critical and potentially aggressive audience.

For the Department of Surgery, demographic details of all mortalities within 30 days of admission, irrespective of intervention, are centrally collected. These are compiled and forwarded on to the relevant section and, hence, to the M&M coordinators. In the section of General Surgery, all mortalities are discussed in the M&M forum.

The limitations of our study included its retrospective nature, the lack of sample size calculation and the fact that only morbidities arising during the in-patient stay were evaluated. The absolute number of morbidities in this situation could be higher.

Conclusion

The M&M forum is an educational activity that has

stood the test of time and continues to be the cornerstone of post-graduate and continuing medical education. It should be considered a mandatory activity in all post-graduate training programmes.

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