



To Study the Incidence of Postoperative Complications in Relation to Elective and Emergency Surgery at Govt. District Hospital, Ratlam

Authors

Dr Gopal Yadav¹ (Surgical Specialist) & Dr Mukesh Dabar² (General Surgeon)

^{1,2}Dept. of Gen. Medicine, Govt. District Hospital, Ratlam

Corresponding Author

Dr Mukesh Dabar

Dept. of Gen. Medicine, Govt. District Hospital, Ratlam (MP) India

Abstract

Postoperative complications are always a concern to surgeon present study is prospective study of postoperative complication and factor affecting outcome in abdominal surgery in 100 patients who underwent abdominal surgery in the Department of surgery "Govt. District Hospital, Ratlam" MP, from August 2012 to June 2017. Study has been done with the aims and objects of knowing the incidence of postoperative complications following abdominal surgery correlation of various factors which affect the morbidity and mortality in postoperative phase and to study the incidence of mortality in abdominal surgery and the factors influencing it.

Relevant literature is collected and reviewed. Observations are made and discussed in the light of available literature and following conclusions are drawn^[1].

(1) Postoperative complications after abdominal surgery, occur in significant number and must be anticipated in time and proper measures instituted to control them.

(2) Incidence of postoperative complications is significantly higher in emergency surgery than in elective surgery.

The mortality is high in patients with multiple complications than in patients with single or two complications.

Introduction

The postoperative complications are always of concern to surgeons. The postoperative complications are of significance as many of them lead to prolonged disability and some end in death, their recognition and management are surgeon's responsibility.

Generally speaking the majority of complications can be anticipated. Review of the experiences of large series of operative procedures provides a

useful of the frequency with which the various types of complications occur.

The knowledge enables the surgeons to institute measures before operation which reduce the hazard of surgical intervention, These preoperative considerations include precision and accuracy in diagnosis, evaluation of associated diseases and correction of abnormal stage whenever possible. Recognition of situation that cannot be improved is of utmost importance in the

evaluation of the risk of an operation. The surgeon who develops good judgment in this vital area is better equipped to balance the patient's capacity to withstand the burden that surgery imposes against the penalty that may be exacted by the natural course of the presenting conditions^[6].

In addition there are those complications, fortunately a small proportion of the total, that are not anticipated and on the basis of limited experience seemingly are not readily preventable. As greater experience is accumulated, however and large series of cases are reviewed, they came to be recognized and to be anticipated. There after they can to some degree be controlled.

The morbidity of complication and the mortality rate associated with any major surgical procedure usually decrease as the frequency with which the operations performed, increases. This reflects knowledge gained by all those who employ the procedure, provided accurate records are kept and reports made so that what is observed and learned is well documented so that it can be Communicated, Additionally, clinical problems such as postoperative complications are today attacked from many approaches by many individuals capable of assisting in their solution. Progress is rapid and dissemination of such information is unprecedented, ever before has our means of communications within the medical profession been better. Publications, scientific meetings and hospital conferences enhanced radios, television, mobiles and computers provide the media.

Post-operative complication etiologically are divisible in following:

- (1) Those arising from the disease for which the operation was done
- (2) Those ascribed to associated conditions unrelated to the disease for which surgery was done
- (3) Those resulting directly from the operation
- (4) and those due in "part to any of the preceding group but not attributable to a single one.

For the purpose of description the postoperative complications are divided into early and late. Early complications, if neglected may be hazardous and increase hospitalization time and mortality in a given series of operations, but if known and managed accordingly, will decrease the mortality and morbidity in postoperative phase.

Therefore the present work is carried out by the author to "Prospective study to evaluate postoperative complications and factors affecting outcome in abdominal surgery" prospectively with the following aims and objects:-

- (1) To study the incidence of postoperative complications in relation to elective and emergency surgery.

Prospective study of postoperative complications in 100 patients who underwent abdominal surgery, is done, in the Department of Surgery, "Govt. District Hospital, Ratlam, MP" from August 2012 to June 2017.

Study Design: Prospective Study

Selection of Cases: Patients who underwent abdominal surgery during the period of year 2012-2017 are taken for the study in the present series. Major Abdominal surgery is considered when operation is done under anaesthesia, where duration of surgeries prolonged and risk of complications are more or where the vital organ is operated upon, but not one of the above criteria makes an operation major but taking into consideration of all above and other factors the surgery is defined as major.

Each case was studied under following heads from the available case records:

Demographic Data: With special reference to age and sex.

Complaints: Presenting-complaints and their duration were recorded.

Past illnesses: History of past illnesses was recorded with special reference to predisposing risk factors like hypertension, diabetes mellitus, Ischaemic heart disease, chronic lung disease, chronic renal disease, chronic hepatobiliary disease and any other disease.

History of previous major operation and anaesthesia was also noted.

Personal History: With special reference to tobacco chewing, smoking & alcohol, addiction.

General Examination: To assess preoperative health status, toxemia, shock, malnutrition, jaundice, dehydration and anaemia.

Systemic Examination: For thorough and complete assessment of the patient.

Local Examination: For the purpose of provisional diagnosis.

Investigations: Study of investigations was done for the confirmation of diagnosis and screening of patients for associated diseases.

Operation Notes: A detailed study of operation notes for the type of operation, duration of operation, type of anaesthesia, type of surgery, elective or emergency surgery and any complications during operation or during recovery from anaesthesia were studied.

Complications: Study of complications was done on the basis of available day to day clinical dates and investigations from the case records under following heads

Miscellaneous

- Specific complication of specific surgery any other.
- Appearance of complications were recorded in chronological order.

The study was done correlating the various factors which influenced the mortality & morbidity in postoperative phase.

Complications in surgery are always of concern to surgeon. There have been various studies on the different aspects of postoperative complications like co-relation of predisposing factors, risk groups of patients, relation to type of surgery and so on.

The work of Lister (1871) Antimier^[1] (1955), Home (1956), Pulaski Bower (1957), Hart (1960) and many others was confined to postoperative wound infections. King (1933), Young (1952), Zeezipanski (1973) and Thusboo (1977) concentrated on respiratory problems in postoperative phase Buckley and Jackson (1961)

studied only postoperative arrhythmia. Parker and Smith (1958) studied postoperative embolisation, whereas Wroblewski (1952), Wassermann (1955), Driscoll (1960) and Simon duck (1973) concentrated on study of postoperative myocardial infarction. Then there are authors who discussed the problem of postoperative complications in specific group of patients, Robin (1965) studied complications in above 70 year patients and Jama (1973) study complications in critically ill patients who were subjected to surgery. There are various more workers who confined themselves to only one type of operation and study the postoperative complications there of Simley (1969) stud., hernial operation,

Bhansali (1970) studied complications of acute abdominal surgery and KaranJawal and Karmarkar^[5] (1970) studied complications of Prostatectomy and so on.

By discussing all this what the author wants to emphasize is that none, till he present series have made an attempt to study the early postoperative complications in abdominal surgery

In the present study author has 100 cases of abdominal surgery for the incidence of postoperative complications and their relation to various factors which influence the morbidity and mortality, study was done in the Department of surgery Govt. District Hospital, Ratlam in the year 2012-2017

Out of 100 patients subjected to major surgery 65 (65%) underwent elective surgery and 35 (35%) had emergency surgery.

Incidence of Postoperative Complication

Morbidity in abdominal surgery during early postoperative phase was reported to be 47% by Simley and 40.9% by Jama. In the present series incidence of postoperative complications was 40%.^[7]

Age & Sex Wise Correlation

Szeezepanski^[4] (1973) stated that the incidence of postoperative chest complications following abdominal surgery is more in younger age group and also in old age group. In the present series

incidence of postoperative complications was high in very young and in age group above 50 year. (Table No.1)

Elective V/S Emergency

Incidence of postoperative complication is high in patients who are subjected to surgery in emergency. Bhansali^[3] and Sethna reported incidence of 59% postoperative complications in patients who underwent surgery for abdominal emergencies. Rzepiella reported an incidence of 58.8% of postoperative complications in patients who underwent emergency exploratory laparotomy in the present series an incidence of 60% postoperative complication was observed in patients who underwent emergency surgery, which is much higher than the incidence of 31.42% for the elective group. Patients undergoing emergency surgery mostly had unsatisfactory health status. Dehydration and

anaemia were two most important factors to these added in some was toxemia and malnutrition. In most of these patients contaminated surgery was performed and very often gastrointestinal tract was open, further aggravating the risk of postoperative complications.

In emergency group of surgery however the incidence of postoperative chest complications is much higher 23.33% and this is due to preponderance of various predisposing factors like lack of assessment and management of coexisting pulmonary disease, upper abdominal surgery, peritonitis and septicaemia as confirmed by the study of Albert (1965), Wight Man (1968) Thusoo (1977). Postoperative chest complications occurred mostly in first half of the first post operative week and is due to less expansion of chest due to pain, decreased lung compliance and abdominal dressing (Okinaka 1966).

Table No. 1 Sex Wise Distribution of Complications

Sex	No of Operation	% of Total	No. of Complications	%	Mortality	%
Male	80	80%	30	37.5%	8	10%
Female	20	20%	10	50.00%	2	10%
Total	100	100%	40	40%	10	10%

Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: **Complication**

Fisher's exact test: P-Value = 0.320

It is significant.

Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: **Mortality**

Fisher's exact test: P-Value = 0.369

It is significant.

Chi-Square Goodness-of-Fit Test for Observed Counts in Variable:

Table no. 1 shows that incidence of post-operative complications is much higher in females 50% but the incidence of mortality is equal 10%

Table No. 2 Type of Surgery Elective / Emergency

Type of Surgery	No.	% of Total	No. of Complications	%	Mortality	%.
Elective Surgery	65	65%	23	35.38%	3	4.62%
Emergency Surgery	35	35%	17	48.57%	7	20%
Total	100	100	40	40	10	10

Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: **Complication**

Fisher's exact test: P-Value = 0.208

It is significant.

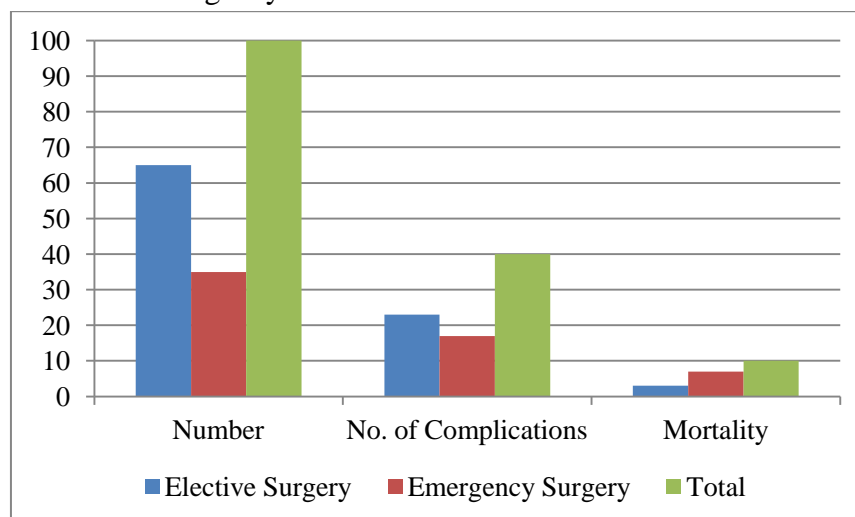
Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: **Mortality**

Fisher's exact test: P-Value = 0.030

It is significant.

The above table shows that the incidence of post-operative complications is higher in patients undergoing emergency surgery (48.57%) as compare to patient of elective surgery (35.38%).

From the same table it is evident that mortality emergency group is higher (20%) than patient of elective surgery (4.62%)

Fig 01: Type of Surgery Elective/ Emergency

Summary & Conclusion

Postoperative complications are always a concern to surgeon present study is prospective study of postoperative complication and factor affecting outcome in abdominal surgery in 100 patients who underwent abdominal surgery in the Department of surgery "Govt. District Hospital, Ratlam, from August 2012 to June 2017. Study has been done with the aims and objects of knowing the incidence of postoperative complications following abdominal surgery correlation of various factors which affect the morbidity and mortality in postoperative phase and to study the incidence of mortality in abdominal surgery and the factors influencing it.

Relevant literature is collected and reviewed. Observations are made and discussed in the light of available literature and following conclusions are drawn.

(1) Postoperative complications after abdominal surgery, occur in significant number and must be anticipated in time and proper measures instituted to control them.

(2) Incidence of postoperative complications is significantly higher in emergency surgery than in elective surgery.

The mortality is high in patients with multiple complications than in patients with single or two complications.

References

1. N.a (n.d.). Safety: WHO Guidelines for Safe Surgery: 2009: safe... - Google Scholar. *Scholar.google.co.in*. Retrieved from <https://scholar.google.co.in/scholar?>
2. Altemeier, W.A., Culbertson, W.R. and Fuller, W.D. Intra-abdominal sepsis. In "welch, E.C. & Hardy, J.D. (Ed.): Advances in surgery". 5, 281- 333, 1971.
3. Bhansali, S.K. & Sethna, J.R.: Postoperative complications in intestinal obstructions. *Ind. J. Surg.* 32, 199, 1965.
4. Szeezepanski. K. P., et al.: Pleruo-pulmonary complications following major surgery, thoracic surgery excluded. *Acta. Chir. Scana* 139; 425, 1973.
5. Karmarkar S., Bhaskaran, K. S. & Sundaram, S. Personal factors in wound sepsis. *Ind. J. Surg.* 40; 618-623, 1970.
6. N.a (n.d.). National Center for Biotechnology Information. *Ncbi.nlm.nih.gov*. Retrieved from <https://www.ncbi.nlm.nih.gov/>
7. Jama R.: Immediate postoperative complications in critically ill patients *Int., Surgery* 115, 7, 1973.