

Assessment of Post-Surgical Complications in Patients Undergoing Various Surgical Procedures in a Given Population: A Observational Analysis

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ABSTRACT

Introduction: Post operative complications are not uncommon after surgical procedures. Surgeons should be well aware of all these complications and should know the treatment protocols for handling such complications. Post-surgical complications arise as a result of negative outcome perceived by surgeon, patient or both. They may occur intra- operatively, immediately after completion of surgery or upto several weeks after surgery. Evaluation of the surgical procedure is greatly hampered by the lack of standard consensus that could define and categorize these post-operative complications. Clavien and Dindo put forward a classification in 1992 which standardized the therapies required for the correction of these complications. It seems to be a reliable parameter for assessing the quality of the surgeries. Hence; we evaluated the post-operative complications occurring in patients undergoing various surgical procedures in a given population.

Material and methods: The study was carried out on the basis of data collected from various private and government hospitals in Lucknow, U.P. (India) and included analysis of the patients that underwent elective or emergency surgical procedures from June 2010 to December 2012. All the results were analyzed by SPSS software.

Results: Hernia repair was the procedure performed in maximum number of patients followed by Appendicectomy and laparotomy. Out of 822 total surgeries performed, 250 of them showed post-operative complications. Post-operative fever was the most common complication that occurred in over 150 patients. Other common complications observed in the patients were nausea, vomiting, wound infection, headache etc. death also occurred in few of the cases.

Conclusion: By doing a thorough pre-surgical evaluation and performing careful surgical techniques along with follow-up can avoid most of the post-surgical complications.

Keywords: Complications, Post-surgical, Surgery

INTRODUCTION

Post operative complications are common after surgeries. Surgeons should be familiar with all these complications as well as the treatment protocols for handling them.¹ Post surgical complications often give rise to the perception of negative outcome to the surgeon, patient or both.² The time of occurrence may range from during the surgery itself to several weeks after the procedure. There is lack of standard definition and criteria for diagnosis and management regarding most of the complications that can be widely accepted.

Clavien and Dindo put forward a classification in 1992 which standardized the therapies required for the correction of these complications. It seems to be a reliable parameter for assessing the quality of the surgeries.^{3,4} Hence; we evaluated the post-operative complications occurring in patients undergoing

various surgical procedures in a given population.

MATERIAL AND METHODS

The data for our study was obtained from the medical records from various private and government hospitals in Lucknow, U.P. (India). It included retrospective analysis of the total 822 patients that underwent elective or emergency surgical procedures from June 2010 to December 2012. Assessment of the post-operative follow-up records was done for evaluating the post-operative complications. Ethical approval was taken from the ethical committee of the institution after explaining them the entire research protocol. Post-surgical complications all the patients were analyzed and the data were recorded. All those patients that were admitted to the department of general surgery but didn't undergo any surgical procedure were excluded. Demographic details of all the patients were noted. All the results were analyzed by SPSS software.

STATISTICAL ANALYSIS

All the results were analyzed by SPSS software. Chi square test and student test were used for the assessment of level of significance.

RESULTS

Figure-1 show the list of the various surgical procedures which were performed in the study period. Hernia repair was the procedure performed in maximum number of patients followed by Appendicectomy (n=110) and laparotomy (n=100). Minor component of the (n=180) total number of surgeries included thyroid surgery, breast surgery, incision and drainage etc. Figure-2 show post operative complications occurring in the study. Out of 822 total surgeries performed, 250 of them showed post-operative complications. Post-operative fever was the most common complication that occurred in over 150 patients. Other common complications observed in the patients were nausea, vomiting, wound infection, headache etc. death also occurred in few of the cases.

DISCUSSION

Every year worldwide, over millions of surgical procedures are performed in various hospitals.⁵ Management of non-

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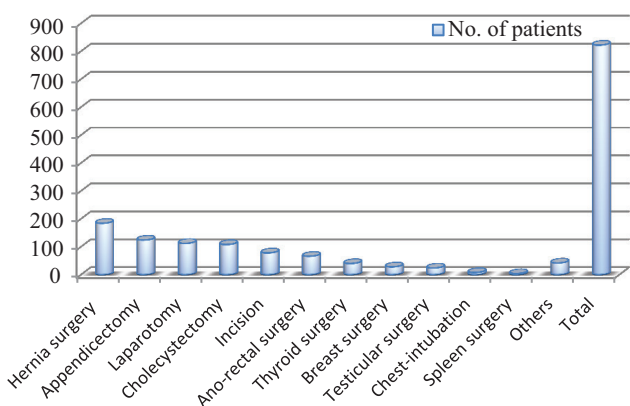


Figure-1: Various surgeries performed during the study period.

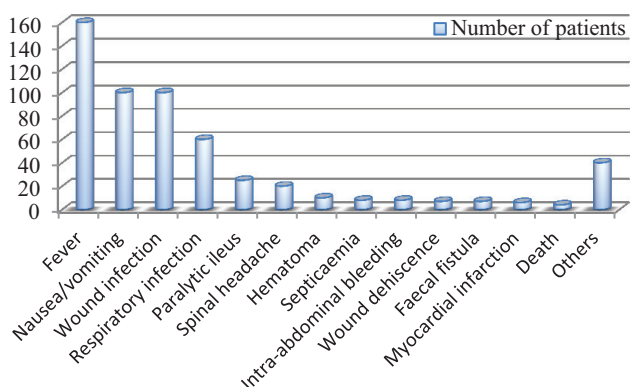


Figure-2: Post operative complications occurring in the study.

cardiac surgical patients constitute a major global health care challenge.⁶⁻¹¹ Although death and other potential complications have a very incidence rate, death rate of upto 80 percent has been observed in high risk patients undergoing surgeries. These high risk patients constitute over 15 percent of the total patients undergoing surgeries.⁸⁻¹⁰ Some of the key factors associated with the increased risk of post-operative complications are old age, presence of any other systemic disease and emergency of performing surgeries.⁸⁻¹¹ Despite of presence of various research work and data on these complications, our knowledge is still very limited in this field of medicine.¹² Hence; we evaluated the post-operative complications occurring in patients undergoing various surgical procedures in a given population.

Fever was the most common post-surgical complication observed in the present study occurring in more than 17 percent of the patients undergoing surgical procedures and developing complications (Figure-1, Figure-2). Inflammatory stimulus which involves rapidly is responsible for the development of mild to moderate level of post-surgical fever.^{13,14} Another common adverse effect occurring after anaesthetic surgery is the post-surgical nausea and vomiting (PNV).¹⁵ In the present study, more than 10 percent of the study population developing complications suffered from PNV which developed within 224 hours of surgery. Therefore, complications must be visualized and appreciated at the earliest so that patient discomfort associated with it can be managed.¹⁵ Constantine et al evaluated the association between Massive weight loss (MWL) status, the method of achieving MWL, and the amount of weight lost with wound-healing complications after body contouring procedures. They analyzed 50 patients who underwent various body contouring procedures and resulted

in MWL. They classified these patients was those on heavy exercise and those with gastric banding or gastric bypass. They observed that in assessing wound problems, MWL status was a significant predictor. From the result, they concluded that for assessment of wound complications in the body contouring procedures, MWL is a significant risk factor.¹⁶ Massenbourg et al conducted a study to assess certain risk factors responsible for readmission of the patients along with and other adverse outcomes of abdominoplasty. They retrospectively analyzed the American College of Surgeons National Surgical Quality Improvement Program and evaluated all the abdominoplasties procedures that were performed in 2011 and 2012. They observed that out of total 2946 abdominoplasties identified, about 8.5 percent underwent readmissions while almost 20 percent of them experienced a general complication. From the results, they concluded that patient selection, planning of surgery and postoperative allocation of resources for patients have certain risk factors which gives an idea of the possibility of development of postoperative complications in patients undergoing abdominoplasty.¹⁷ Staalesen et al evaluated the incidence of complications after abdominoplasty in postbariatric patients. They retrospectively analyzed 190 consecutive patients who underwent abdominoplasty due to abdominal tissue excess from 2006 to 2008. They assessed their demographic details along with their metabolic parameters and observed that significantly higher complications in postbariatric patients in comparison with the ones had not had weight loss surgery. From the results, they concluded that a higher complication rates occurs in higher in postbariatric patients compared with patients who have not had weight loss surgery.¹⁸ Parvizi et al collected data of 205 patients in a span of 5 years to define the factors that focus more clearly on abdominoplasty who suffered intra- and postoperative complications. From the results, they concluded that no significant risk factor for complications could be identified regardless of the amount of tissue removed.¹⁹

CONCLUSION

From the above results, it can be concluded that by doing a thorough pre-surgical evaluation and performing careful surgical techniques along with follow-up can avoid most of the post-surgical complications.

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