

Complications of General Anesthesia in Different Surgeries in Prime Medical College Hospital, Rangpur, Bangladesh.

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Abstract

Introduction: All medical procedures involve some complications, even when they are performed by experts. The rate and severity of these complications depend on patient's state of health, age or general lifestyle. Even though the use of general anesthesia is considered safe, but it comes with certain complications. The risks of unexpected and potentially life threatening complications such as hypersensitivity or severe heart or lung problem can make the surgery difficult.

Aim of the study: The aim of this study was to evaluate the complications of general anesthesia in different surgeries.

Methods: This was a prospective observational study and it was conducted in the Department of Anesthesiology in Prime Medical College Hospital, Rangpur, Bangladesh during the period from January 2015 to December 2016. This study was conducted on 40 male and 30 female participants who were in treatment under various department of the mentioned hospital and was prepared for surgery where general anesthesia might be applicable. This study had been approved by the ethical committee of the respective institution previously. The proper written consents were obtained from all the participants before starting the intervention.

Result: In our study, the majority number of patients 55 (78.57%) were found with pain at operated place. Dry mouth (increasing thirst) were in 53 (75.71%), urination problems were in 11 (15.71%), disorder of consciousness were in 22 (31.43%), somnolence were in 46 (65.71%), feeling cold and chills were in 11 (15.71%), headache were in 26 (37.14%), sore throat-hoarseness were in 29 (41.43%), breathing problems were in 8 (11.43%), weakness and pain of muscles were in 24 (34.29%), and nausea and vomiting were in 25 (35.71%).

Conclusion: Using general anesthesia is a safe way of ensuring patient's safety and comfort during surgery, but still it is associated with some complications that have to be recognized and deal with. As technology progresses and new techniques are introduced, the frequencies of complications can also be decreased or controlled.

Key words: General Anesthesia, Complications, Pain.

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I. Introduction

Every procedure carries its own unique potential complications or risk factors related to the anesthesia. The use of general anesthesia is generally safe, but it may cause certain risks and complications. General anesthesia requires the patient to have a breathing tube placed so they can be on a ventilator during surgery. This is because general anesthesia medications do not just make the patient unconscious and unable to feel the pain of surgery, they also paralyze the muscles of the body including the muscles that make the lungs work. These complications range from an instant perioperative issues such as an anesthetic anaphylaxis to minor and major post-operative complications. The minor complications are common include throat soreness, hoarseness, somnolence, Feeling cold, chills headache breathing problem, pain of muscles, post-operative nausea and vomiting and dental damage. Nausea and vomiting that develops within 24 hours post operation is known as postoperative Nausea and Vomiting (PONV)¹. It is the second most common complaint after pain in the postoperative period. While occurrence is about 30% in all patients, that increases to 70% in high risk patients^{2,3}. Children are affected twice as often compared to adults³. PONV in patients may cause morbidity due to aspiration pneumonia, airway obstruction, dehydration, and suture tightening or rupture^{2,3}. It prevents early discharge of patients and increases costs^{3,4}. The major complications consist of pulmonary, nerve injury, delirium,

brain damage, cardiovascular collapse circulatory and neurologic those are rare complications of general anesthesia. The range of different medications and techniques used during general anesthesia and the patient's own general condition can induce an array of these issues. It is important for nurses to know how to react and observe changes in order to prevent such complications from causing major damage, further complications and hospital care, or even possible death⁵ and it is logical to hypothesize that a "stress-free" perioperative period may attenuate or prevent any detrimental physiologic responses and decrease resultant morbidity⁶.

II. Objectives

To evaluate the complications of general anesthesia in different surgeries in Prime Medical College, Rangpur, Bangladesh

III. Methodology & Materials

This was a prospective observational study and was conducted in the Department of Anesthesiology in Prime Medical College Hospital, Rangpur, Bangladesh during the period from January 2015 to December 2016. This study was conducted on 40 male and 30 female participants who were in treatment under various department of the mentioned hospital and was prepared for surgery where general anesthesia might be applicable. This study had been approved by the ethical committee of the respective institution previously. The proper written consents were obtained from all the participants before starting the intervention. According to the inclusion criteria patients of both the gender, prepared for surgery, patients suitable for using general anesthesia and patients prepared for using general anesthesia for the first time were included in the study. On the other hand, according to the excluding criteria patients of below 3 years of age, most geriatric patients, patients to whom general anesthesia had been used previously and severely ill patients were excluded from the study. A pre-designed questioner was used for collecting all the necessary demographic and treatment oriented data from the participants. All the treatment procedure and applying anesthesia was directed supervised and monitored by professional surgeons, anesthesiologists, nurses and other professional staffs. For collecting data MS-Excel, for analyzing data SPSS version 20 were used and to disseminate and display the findings of this study tables, pie-charts and bar-diagram were used.

IV. Result

This was a prospective observational study with 70 participants who were admitted and stayed in the hospital during study period. Among the total participants 40 (57.14%) were male and 30 (42.86%) female. So male were dominating the distribution. Most participants (39%) were from above 60 years old group. The highest number of patients was found with pain as the most potential complication. In our study 70 patients were included and among them the highest number, 27 (39%) were found from >60 years' age group, 14 (20%) were from 51-60 years' age group, 10 (14%) were from 41-50 years' age group, 9 (13%) were from 31-40 years age group, 7 (10%) were from 21-30 years' age group and the lowest number 3 (4%) was from <20 years old groups. It is logical to hypothesize that a "stress-free" perioperative period may attenuate or prevent any detrimental physiologic responses and decrease resultant morbidity⁶. In this observational study we found, age was played an important role to face with complications of general anesthesia. The majority of patients were found with pain at operations place and the lowest number was found with breathing problems. In our study, the majority number of patients 55 (78.57%) were found with pain at operated place. Dry mouth (increasing thirst) were in 53 (75.71%), urination problems were in 11 (15.71%), disorder of consciousness were in 22 (31.43%), somnolence were in 46 (65.71%), feeling cold and chills were in 11 (15.71%), headache were in 26 (37.14%), sore throat-hoarseness were in 29 (41.43%), breathing problems were in 8 (11.43%), weakness and pain of muscles were in 24 (34.29%), and nausea and vomiting were in 25 (35.71%). According to this study we found that, the complications of general anesthesia depend on age, sex, personality and psychological behaviors.

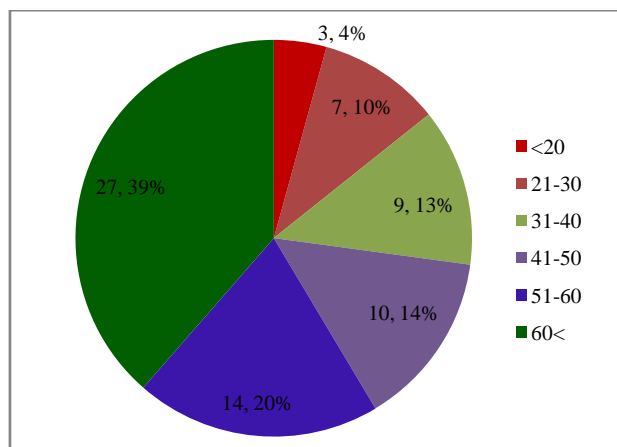


Figure I: Age distribution of patients (N=70)

Table I: Complications of general anesthesia in different age groups (N=70)

Complications	<20		20-30		31-40		41-50		51-60		60<	
	n	%	n	%	n	%	n	%	N	%	n	%
Pain operated palace	2	66.66	5	71.43	8	88.89	9	90.00	11	78.57	20	74.07
Dry mouth (incr) thirst	2	66.67	4	57.14	6	66.67	7	70.00	10	71.43	24	88.89
Urination problems	0	0.00	1	14.29	1	11.11	2	20.00	2	14.19	6	22.22
Sub-consciousness	1	33.33	2	28.57	3	33.33	3	30.00	4	28.57	9	33.33
Somnolence	2	66.67	4	57.14	6	66.67	6	60.00	11	78.57	17	62.96
Feeling cold, chills	1	33.33	2	28.57	1	11.11	0	0.00	2	14.29	5	18.52
Headache	1	33.33	3	42.86	2	22.22	2	20.00	8	57.14	10	37.04
Sore throat, hoarseness	1	33.33	2	28.57	3	33.33	4	40.00	8	57.14	11	40.74
Breathing problem	0	0.00	1	14.29	1	11.11	1	10.00	2	14.29	3	11.11
Weak & pain of muscles	2	66.67	2	28.57	3	33.33	4	40.00	4	28.57	9	33.33
Nausea and vomiting	1	33.33	1	14.29	2	22.22	3	30.00	5	35.71	13	48.15

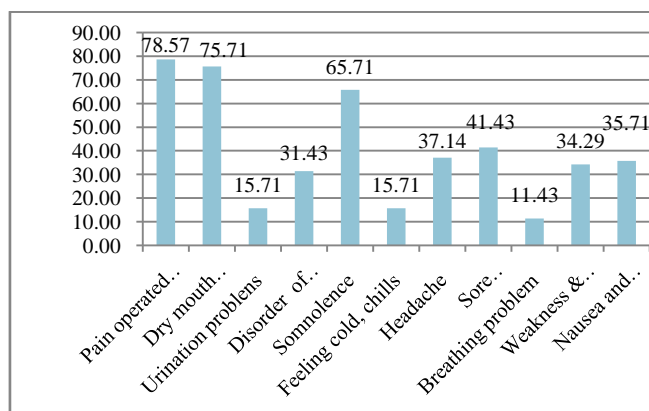


Figure II: Complications of general anesthesia among participants (N=70)

V. Discussion

This was a prospective observational study which was conducted on total 70 patients including 40 (57.14%) male and 30 (42.86%) female in the Department of Anesthesiology in Prime Medical College Hospital, Rangpur, Bangladesh during the period from January 2015 to December 2016. Among the total study population the highest number of patients (39%) were from 60< years old age group, and the lowest number of the patients (4%) from <20 years old age group. Patients usually faced the complications of pain in the operated area after waking up, feeling cold, persistent nausea, sore throat, chills, vomiting, difficulty in breathing, muscle weakness, difficulty in swallowing, talking. However, the research shows that these ailments prevail in people after general anesthesia⁷. It is also worth remembering that uncomfortable postoperative ailments are heightened by the awakening of the patient with the tube in the throat (in the case of patients after endotracheal intubation)⁸. The analysis of the results of tests carried out among the patients after surgery performed under general anesthesia shows that the main undesirable complications after general anesthesia is pain located in operated place, which is experienced by 78.57% of the examined group of people. The development of postoperative pain is a complex process consisting of the release of inflammatory mediators containing

histamine, leukotrienes, prostaglandins, cytokines and others that increase hyperalgesia at the site of injury and surrounding tissues. Despite improvement in the understanding of the mechanisms of pain formation and the introduction of modern, safe analgesics and anesthesia techniques, the level of post-operative pain relief is not sufficient.⁹ Pain is a subjective feeling, experienced individually. It applies to both the somatic and mental spheres. Effective control should be multidimensional.¹⁰ The greatest intensity of pain occurs in the first days after surgery and gradually decreases. The intensity of pain depends on such factors as: patient's personality traits, age sex, type of surgery and preoperative preparation. Responsibility for providing proper care in the field of pain management after surgery depends heavily on the nurse.¹¹ Headache after anesthesia in our subjects was reported by 37.14% of patients. Effective pain relief reduces the risk of further complications such as nausea and vomiting, anxiety, thromboembolic processes or an increase in blood pressure¹². Hypothermia can cause a number of disorders of the body, which effects on pharmacokinetics of used anesthesia, the risk of post-operative wound infection, heart and circulatory system, and coagulation system. Patients reported a feeling of cold and/or chills in the post-operative room, immediately after the procedure. There were also measures to prevent the occurrence of hypothermia in patients¹³. One of the first complications in the perioperative period is vomiting and nausea. They are still frequent undesirable complications in the group of patients undergoing anesthesia. According to the authors, women are the most exposed to post-operative nausea and vomiting, which is confirmed in the conducted studies, as many as 64.3% of people reporting nausea, vomiting or nausea and vomiting were women, while 35.7% were men¹⁴. The postoperative period is associated with many complications, especially those associated with general anesthesia. In our study, the percentage of people experiencing pain was 78.57%, sensation of cold felt 15.71%, nausea or vomiting was 35.71%, sore throat & hoarseness were 41.43%, weakness & pain of muscles were 34.29%, headache was 37.14% and dry mouth increasing thirst was 75.71% of patients included in our study. People who do not feel nausea and vomiting constitute 64.29%. In the studies of the authors mentioned above, there is a difficulty in breathing in 15.23% of patients, and in our study, 11.43% of subjects report this condition¹⁴. Women were much more likely than men to be sleepy after surgery under general anesthesia (65.4% women, 34.6% men). On the other hand in our study were reported 65.71% of patient's somnolence after surgery under general anesthesia.¹⁵ The problem with passing urine after anesthesia in the authors reported was 8.23%, in our study 15.71% of patients. The occurrence of disturbances of consciousness and confusion is another adverse event that occurs after anesthesia. In 1.65% of patients, the authors recorded hallucinations and consciousness disorders. In own studies, as much as 31.43% of patients felt confusion and disturbances of consciousness.¹³

Limitations of the study

This was a single centered with a small sized sample. So the findings of this study may not reflect the exact scenario of the whole country.

VI. Conclusion And Recommendations

There are some complications associated with the use of general anesthesia for surgery procedures. Even though the use of general anesthesia is considered safe, but it comes with certain complication. General anesthesia has some minor and rare major complications. For getting more specific information we would like to recommend for conducting more studies with larger sized sample.

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