A THREE MONTHS RETROSPECTIVE STUDY ON THE CONDUCTS OF ANESTHESIA IN JIMMA UNIVERSITY SPECIALIZED HOSPITAL

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A RESEARCH PROPOSAL TO BE SUBMITTED TO JIMMA UNIVERSITY, COLLEGE OF PUBLIC HEALTH AND MEDICAL SCIENCES, ANESTHESIOLOGY DEPARTMENT IN PARTIAL FULFILLMENT FOR THE REQUIREMENT OF DEGREE OF BACHELOR OF SCIENCES IN ANESTHESIOLOGY

May, 2014
JIMMA, ETHIOPIA
JIMMA UNIVERSITY

COLLEGE OF PUBLIC HEALTHAND MEDICAL SCIENCE
DEPARTMENT OF ANESTHESIOLOGY

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ABSTRACT

Background: -Anesthesia can broadly be defined as a drug-induced reversible depression of the central nervous system (CNS) resulting in the loss of response to and perception of all external stimuli. The components of the anesthetic state include unconsciousness, amnesia, analgesia, immobility, and attenuation of autonomic responses to noxious stimulation.

Objectives:-To assess conducts of anesthesia in Jimma university specialized hospital from January 1- March 29, 2013

Method: -Retrospective descriptive study design was employed. All the patients done under GA or RA from January 1 to March 29, 2013 will be asked.

Result:-The study result was indicated that GA administered on 268 (89.1%) patients, on the other hand RA was proposed on 30(10.9%)which implies that GA was mostly used than RA .From the given GA 217(81%)administered GA with ETT and 44(16.4%)proposed GA with FM, whereas from the administered RA 29(96.7%)was used spinal anesthesia. Benzodiazepines and ketamine was used together as induction agents on 165(61.6%) of patients during administered anesthesia.

Conclusion: -In this study most patients commonly undergone GA,but there are few patients proposed RA. Other study reviles that RA was advantageous than GA in a situation of decreasing mortality rateas well as reduced the odds of deep vein thrombosis and pulmonary embolism, so I would like to recommend JUSH to use RA instead of GA.

ACKNOWLEDGEMENT

First of all I would like to thank dear God then my advisers Mr. Merga HaileandMr.AbdisaAlemu for their comments, suggestions and offering useful hint throughout the writing of study paper.

I would also like to thank department of anesthesiology and Jimma University for providing the opportunity and some supports.
And I would also like to express my deepest gratitude to Mr. AbuluTesfa for his genuine support from topic selection for this researches.

Finally my thanks for staff members of health science Library. Offering useful reference for my study.

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ACRONYMS

JUSH=Jimma university specialized Hospital
RA=Regional Anesthesia
SA=Spinal anesthesia
SRP=Student research program
CNS =Central nervous system CNS
DVT = Deep venous thrombosis
GA = General Anesthesia
FM = Face Mask
LMA =Laryngeal Mask Airway
CVS =Cardiovascular system

CHAPTER ONE:
INTRODUCTION

1. BACKGROUND

The first anesthetics were given to ameliorate the pain associated with dental extractions and minor surgery. As the complementary fields of surgery and anesthesiology matured together, new skills were required of the anesthesiologist, including expertise in resuscitation, fluid replacement, airway management, oxygen transport, operative stress reduction, and postoperative pain control. One approach to the history of anesthesiology is to relate in detail the events surrounding the 1846 public demonstration of ether anesthesia by William T. G. Morton (1819-1868).This event represents the starting point from which anesthesiology emerged as a specialty. Although the ether demonstration was dramatic and enacted by interesting personalities, it was just the opening act of the pain control story. Since 1846, there has been enormous progress and change in the specialty of medicine that has become known as anesthesiology, and these changes have often occurred in small, incremental steps that are hardly noteworthy on their own. Most operations in the modern operating room could not have been performed before the great progress in anesthetic practice that took place in the years between 1925 and 1960, but historians often overlook these advances because they were introduced without the drama and spectacle of previous developments.(1)

An understanding of the mechanism of pain production was not required by the physicians who developed the use of general anesthesia in the second half of the 19th century. Although inhalation of vapors produced a lack of awareness during surgery, anesthesiologists learned that control of Perioperative nociception would require a more thorough understanding of pain. Fortunately, by the beginning of the 20th century, there was already a large body of knowledge on pain mechanisms dating from the earliest days of medical inquiry. In antiquity, pain was thought to be an emotion rather than a sensory modality. Pain control was a function of religious authorities and shamans in primitive cultures, and relief of pain was sought through incantations and prayers. Pain was then often considered to be a punishment for committed sins or a form of

religious suffering The 18th and 19th centuries witnessed considerable progress in understanding the mechanisms of pain.(1).

The term *balanced anesthesia* was introduced by Lundy in 1926. Lundy suggested that a balance of agents and techniques be used to produce the different components of anesthesia (i.e., analgesia, amnesia, muscle relaxation, and abolition of autonomic reflexes with maintenance of homeostasis). Anesthesia with a single agent can require doses that produce excessive hemodynamic depression. The inclusion of an Opioids as a component of balanced anesthesia can reduce preoperative pain and anxiety, decrease somatic and autonomic responses to airway manipulations, improve hemodynamic stability, lower requirements for inhaled anesthetics,andprovide immediate postoperative analgesia.(2)

1.2. STATEMENT OF THE PROBLEM`

Standards of anesthesia must be influenced by the nature of the surgery under taken ,and to some extent by the quality the service offered by the institution and the availability of maintenance and service facilities.(3) `

Ethiopian hospitals are seriously lacking qualified anesthesiologists. in order to improve the standard and safety of surgery and critical care we belief it is important to increase the number of competent specialists in the country.(4)

In our hospital many surgical procedures done under GA with ETT,GA with FM & GA with LMA.E.g.abscessdrainage, foreign body removal and soon.due to the absence of drugs like propofol which is ideal for GA with LMA because of its advantage on air way reflex suppuration,for the reason this technique is not routinely used.

There are also several cases utilizedwithin the hospital for instance in case ofneurexialand peripheral nerve block, surgical procedure on the lower extremity and surgical procedure on the upper extremity which done under regional anesthesia not performed because ofdrugs likelidocain and bupivacaine which is commonly used is not always available in our hospital and other drugs such as prelocaine and levobupivacainewhich is an alternative to the above drugs arenot available.

-On the other hand there are many factors that affect the choice of anesthesia, the patient's condition, surgical procedure,experience of the anesthetist and others.so due to this all reason some types of anesthesia is not practiced in our hospital.so this study may add to the fewsavailable materials on types of anesthesia that administered and detect the outcome of the problem due to lack of administered anesthesia.

CHAPTER TWO

2.1.LITERATURE REVIEW

General anesthesia can broadly be defined as a drug-induced reversible depression of the central nervous system (CNS) resulting in the loss of response to and perception of all external stimuli. The components of the anesthetic state include unconsciousness, amnesia, analgesia, immobility, and attenuation of autonomic responses to noxious stimulation. (5)

The application of general anesthesia in 1845 by Horace Wells and 1846 by William TG Morton, with the use of nitrous oxide and ether respectively, was a revolution and is still considered as one of the greatest evolutions in medicine.Since then, the discovery and use of new, safer anesthetics and the rapid progression of monitoring but mainly the major advances in anesthesiology have significantly contributed to the safe administration of anesthesia daily to millions of patients in the world. Patients with anesthetic awareness report various intraoperative experiences. In most cases they report that they were hearing conversations between the stuff without feeling anything else. But there are many cases where they report pain, paralysis and anxiety because of the fact that they feel helpless. An intubated patient who feels pain, although he wants to react, he is unable to do so because of the neuromuscular blocking agent that has been usually administered and has paralyzed him. Some patients describe this situation as the worst experience they ever had in a hospital.(6)

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Multiple studies have found the frequency of anesthesia awareness to range between 0.1 percent to 0.2 percent of adult patients undergoing general anesthesia, or one to two patients per 1,000.4,5 Whereas in the pediatric population over the age of 3 years, studies report the incidence of anesthesia awareness to be 0.6 percent to 2.7 percent. While the incidence of anesthesia awareness is very low, there is a greater incidence in cardiac surgery (1.1-1.5%), obstetrical surgery (0.4%) and major trauma surgery(11-43%).(7)

In Thailand, The reported incidence of intraoperative recal of awareness varied from 0.1 % to 1.5%. Patients experiencing awareness reported auditory recollections, sensations of not being able to breathe, and pain.

Although intraoperative recall of awareness occurred infrequently, it was the highest risk factor for patient dissatisfaction after anesthesia and might greatly affect well-being of these patients. Some patients could have life-long adverse psychological consequences, including symptoms associated with posttraumatic stress disorder. In Thailand, there are variations of anesthetic personnel, monitoring equipment and clinical guidelines for anesthetic management. The incidence and impact of intraoperative recall of awareness have not been widely investigated.(8*)*

Opioids can be divided into three categories: natural (morphine, codeine, papaverine), synthetic (methadone, meperidine, fentanyl, alfentanil, sufentanil, remifentanil), and semisynthetic (hydromorphone) because the primary clinical feature of opioids is analgesia, i.e., a relief of pain, these drugs are widely used to treat postoperative pain and to provide analgesia and to serve as an adjunct to maintain unconsciousness during general anesthesia. Opioids are frequently combined with a benzodiazepine to provide analgesia and sedation for nonsurgical procedure (9).

According to randomized study done in UK, Overall mortality was reduced by about a third in patients allocated to neuraxial blockade (103 deaths/4871 patients versus 144/4688 patients, odds ratio=0.70, 95% confidence interval 0.54 to 0.90, P=0.006). Neuraxial blockade reduced the odds of deep vein thrombosis by 44%, pulmonary embolism by 55%, transfusion requirements by 50%, pneumonia by 39%, and respiratory depression by 59% (all P<0.001).

There were also reductions in myocardial infarction and renal failure. Although there was limited power to assess subgroup effects, the proportional reductions in mortality did not clearly differ by surgical group, type of blockade (epidural or spinal), or in those trials in which neuraxial blockade was combined with general anesthesia compared with trials in which neuraxial blockade was used alone.(6)

According to study done in UK on postoperative pain management, When considering a mixture of three analgesic techniques, the overall mean (95% Cl) incidence of moderate-severe pain and of severe pain was 29.7 (26.4–33.0)% and 10.9 (8.4–13.4)%, respectively. The overall mean (95% Cl) incidence of poor pain relief and of fair-to-poor pain relief was 3.5 (2.4–4.6)% and 19.4 (16.4–22.3)%, respectively. For i.m. analgesia the incidence of moderate-severe pain was 67.2 (58.1–76.2)% and that of severe pain was 29.1 (18.8–39.4)%. For PCA, the incidence of moderate-severe pain was 35.8 (31.4–40.2)% and that of severe pain was 10.4 (8.0–12.8)%. For epidural analgesia the incidence of moderate-severe pain was 20.9 (17.8–24.0)% and that of severe pain was 7.8 (6.1–9.5)%. The incidence of premature catheter dislodgement was 5.7 (4.0–7.4)%. Over the period 1973–1999 there has been a highly significant (P<0.000l) reduction in the incidence. of moderate-severe pain of 1.9 (1.1–2.7)% per year.(10,11)

The urban population benefits largely from first world standards of anesthetic practice, while a significant percentage of the rural population lacks access to even rudimentary primary health facilities. The position of general practitioner in a community where no specialist anesthetic service is available and where it is necessary for surgical procedures to be under taken , is acknowledged. In this respect ,South Africa is not unique, at certain first world countries, including Australia and Canada, share a similar problems in meeting the needs of their respective rural communities.(3)

study of pediatrics anesthesia experience in the two main university hospitals of Benin in west Africa resulted general anesthesia was used in 94% of children. Regional anesthesia was used in1.7% and 17% children's at hospital delaMeraet de 1enfantlagune. Inhalational induction was the commonest technique used. Halothane was the only inhalation agent available for induction. 72% children having general anesthesia where intubated. Muscle relaxation was used in 48% of cases. Only pancronium the available, perioprative monitoring equipment was not used regularly. Children having general anesthesia breaths spontaneously with manually assistance (12)

2.2. SIGNIFICANCE OF THE STUDY

The study was concerned on types of anesthesia that administered in JUSH.As we know Ethiopia was one of developing countries in which there was different kinds of health related problem like quality, skill, expensiveness of health carematerials and drugs to proposed anesthesia, so this research may indicated some of this shortages and also Researches and reviews on this subject are few and lacking in our country; so this research paper may add to the few available materials on types of anesthesia that administered and detect the outcome of the problem due to lack of administered anesthesia. In addition to this the result of the study was motivated and stimulated for more detail research. It's also one little asset for JUSH to show the limitation on the areas of conducting anesthesia.

CHAPTER THREE

3.OBJECTIVES

3.1 General objective

To assess the conducts of anesthesia in Jimma university specialized hospital, Jimma, Ethiopia from January 1, 2013 to March29, 2013 GC

3.2 Specific objectives

1.Toassess socio-demographic characteristics of the patientfrom Jan. 1 ,2013 to march 29 ,2013 GC

2. To assess types of anesthesia delivered from Jan. 1 ,2013 to march 29 ,2013 GC

3. To identify the availability of medications used for regional anesthesia and induction of general anesthesia from Jan .1,2013 to march 29,2013 GC

CHAPTER FOUR

4.METHODS AND MATERIALS

4.1 Study area and period

The study was conducted in Jimma university specialized Hospital located in Jimma town, about 356 km from Addis Ababa, southwest of Ethiopia. This hospital is one of the teaching hospitals in Ethiopia, which provide service in Surgery, Gynecology & Obstetrics, General internal medicine, Pediatrics & Child health, OPD, major operation rooms and diagnostic facilities. It has a capacity of around 361 beds and has about 320 health professionals of different categories.

The study was conducted from January1, 2013to march 29, 2013 and all charts from January 1, 2013 to march 29, 2013 was reviewed during this period.

4.2 Study design

Retrospective cross-sectional study design was employed.

4.3 Population

4.3.1 Source population

All patients who undergone major surgery in JUSH during the study period.

4.3.2 Study population

All patients who undergone surgery under regional anesthesia, general anesthesia or bothfrom January1, 2013to march 29, 2013 at jimmauniversity specialized hospital. Generally a study have a total of 268 population. From these study participants there are 122 male and 146 female was included in this study.

4.4 Sample size and sampling technique

The study was not used any sampling techniques as all cases included.

4.5 Study variables

4.5.1 Independent variables

- Age
- Sex

4.5.2. Dependent variables

- Type of anesthesia administered
- Types of surgical procedure
- Types induction agent

4.6.Data collection technique

4.6.1 Data collection

The Data was collected by using structured questionnaire and reviewing the anesthesia chart of the patient from record room of hospital after official letter is given for concerning body and the purpose of the study was verified by the researcher then the information from the patients chart will transfer to the structured format which contains important patient information.

4.6.2 Data quality and clearance

The collected data checked for its completeness, accuracy, clarity and consistency every day by the investigator .If any ambiguous or incompleteness seen, it was collected as soon as proceeding to the next data collection.

4.6.3 Data entry, analysis and interpretation

All data was collected and properly filled on the prepared Format, summarized and analyzed by using scientific calculator from determination of frequency and percentage.

The analyzed, compiled and organized data will be compared, discussed and finally conclusion and recommendation forwarded.

4.7 Ethical Consideration

Before conducting picking up the recorded chart for data collection formal letter detailing the objective of the study from anesthesia Departmentwas given for concerning administrative of the department as to get permission. The patient recorded keptConfidential and all charts returned back to record office after the data collection.

4.8 Presentation and dissemination of study finding

The result of the study was presented by using tables and figure and disseminated to CBE office and department of anesthesia and it can be published on journals and used as a reference.

4.9 Limitation of the study

While conducting this research the following Limitation may encountered:

a) Poor recording system of patient information on the cards

b) Some of the card in the record room may be lost

4.10. Operational definition

General Anesthesia:-is administration of general anesthetic agents that make a person unconscious and unable to feel pain.

Regional Anesthesia:-is used when only one area of the body like arm or leg
Needsto be anesthetized in order to perform an operation.

Surgical Procedure:-a medical procedure involving incision with instrument performed to repaired damage or arrest disease in healthiest body.

Chapter Five

5. Study Result and Discussion

5.1 Study Results

Table 1.Reviews of socio- demographic distribution of patient age and sex those who taken anesthesia in JUSH Ethiopia from January 1, 2013 to march 29, 2013.

Age	Frequency	Percent %	Sex	Frequency	Percent %
< 20	94	31.4	Male	122	40.9
20 – 30	81	27.4			
30 – 40	62	20.8	Female	176	59.1
>40	61	20.4			
Total	298	100	Total	298	100

As the above table shows that there was 94 patients or 31.4% was under 20 years. On the other hand 81 of them or 27.4% was grouped between 20 to 30 years old. Whereas62 patients which mean 20.8% of them was aged between 30 to 40 years. The remaining 61 or 20.4% patients aged above 40 years old**.** Generally this study reviews 298patient'sdata from the overall revieweddata 122 or 40.9% of them

Table 2. Distributions that shows what type of surgery was administered in JUSH Ethiopia from January 1, 2013 to march 29, 2013.

Type Of Surgery	**Frequency**	**Percent %**
Elective	143	47.9
Emergency	155	52.1
Total	298	100

The table reveals that 143 patients or 47.9% would under gone elective surgery, where as 155 patients or 52.1 of study participants was under gone emergency surgery.

Table 3. Distributions of elective procedure proposed in JUSH Ethiopia from January 1, 2013 to march 29, 2013.

Procedure	**Frequency**	**Percent %**
Prostectomy	8	5.1
Thyrodectomy	9	5.8
Hernionhapy	5	3.2
Cholecystectomy	11	7.0
Laparatomy	18	11.5
TAH	6	3.8
C/S	0	0
Operation to the upper extremity	15	9.6
Operation to lower extremity	47	30.1
debridement	16	10.3
Skin graft	5	3.2
mastectomy	3	1.9
myomectomy	6	3.8
Others	7	4.5

As the table shows that in the administered elective surgery 8 or 5.1% of participants was proposed a prostectomy procedure. On the other hand 9 or 5.8% proposed a procedure of thyrodectomy.5 or 3.2% was administered a hernionhapy procedure.others 11 or 7.0% of study participants proposed a procedure of laparotomy and 18 or 11.5% was administered cholecystectomy in elective surgery.6 or 3.8% patients proposed TAH procedure, Whereas 15 or 9.6% of patients proposed an operation to the upper extremity and 47 or30.1% of them administered operation to the lower extremity. The left 16 or 10.3%,5 or 3.2%,3 or 1.9% and 6 or 3.8% of study participants was proposed for the procedure like debridement, skin graft, mastectomy and myomectomy respectively in administered elective surgery and their was no documented elective C/S procedure so the result will be zero.

Table 4. Distributions of emergency procedure done in JUSH Ethiopia from January 1, 2013 to march 29, 2013

Procedure	**Frequency**	**Percent %**
Emergency laparatomy	40	27.0
Appendectomy	12	8.1
C/S	30	20.2
Operation to the lower extremity	6	4.0
Operations to the upper extremity	4	2.7
Neurosurgery	31	21.0
Abases drain age	25	16.9

The table indicated that 40 or 27.0% of patients administered emergency surgery proposed a procedure of emergency laparatomy and 12 or 8.1% of them are take an Appendectomy procedure and 30 patients or 20.2% under gone C/S procedure.6 or 4.0% of patients and 4 or 2.7% of them was administered an operations to the lower extremity and operations to the upper extremity procedures respectively. Others 31 or 21.0% was proposed neurosurgery , whereas the left 25 or 16.9% of them was taken an abases drainage procedure in the administered emergency surgery.

Table 5. Distributions of types of anesthesia that was givenin JUSH Ethiopia from January 1, 2013 to march 29, 2013

Types of Anesthesia was given	**Frequency**	**Percent %**
General anesthesia	268	89.9
Regional anesthesia	30	10.1

The above table shows that 268 or 89.9% of patients administered General Anesthesia, whereas the remaining 30 or 10.1% of them was proposed Regional Anesthesia.

Table 6. Distributions of typeofgeneral anesthesia was used in JUSH Ethiopia from January 1, 2013 to march 29, 2013

Types of general Anesthesia was used	**Frequency**	**Percent %**
GA with ETT	**217**	**81.0**
GA with FM	**44**	**16.4**
GA with LMA	**4**	**1.5**
Others	**3**	**1.1**

As the above table indicated that from those patients administered General Anesthesia 217 or 81.0% was take GA with ETT and 44 or 16.4% of them proposed GA with FM.On the other hand 4 or 1.5% was administered GA with LMA and the left 3 or 1.1% taken other types of General Anesthesia.

Table 7. Distributions of typeofregional anesthesia was used in JUSH Ethiopia from January 1, 2013 to march 29, 2013

Types of regional Anesthesia was used	**Frequency**	**Percent %**
Spinal anesthesia	29	**96.7**
Epidural anesthesia	0	**0**
Caudal	**0**	**0**
Others	**1**	**3.3**

The table revels that from those patients who could take Regional Anesthesia 29 or 96.7% of them was proposed Spinal anesthesia and 1 or 3.3% of patients taken other types of regional anesthesia.

Table 8. Distributions of type of induction agent was used during GAin JUSH Ethiopia from January 1, 2013 to march 29, 2013

Types of induction agentwas used during GA	**Frequency**	**Percent %**
Theopentone and halothane	**32**	**11.9**
Propofol	**1**	**0.4**
Benzodiazepines and ketamine	**44**	**16.4**
Ketamine and halothane	165	**61.6**
Benzodiazepines	**2**	**0.7**
Un recorded	**24**	**8.9**

The above table shows that an induction agent that used for GA, in which 32 or 11.9% of patients taken theopentone and halothane,1 or 0.4% taken propofol, 44 or 16.4% used ketamine and benzodiazepines, 165 or 61.6% of them proposed ketamine and halothane and 2 or 0.7% was administered benzodiazepines induction agent. Whereas 24 or 8.9% of patients' data was un recorded.

Table 9. Distributions of types of local anesthetic agent were availablein JUSH Ethiopia from January 1, 2013 to march 29, 2013

Types of local anesthetic agent were available	**Frequency**	**Percent %**
Lidocain	**1**	**0.33**
Bupivacaine	**29**	**9.7**
Others	**0**	**0**

The above table indicated that in administered local anesthesia 29 or 9.7% of patients used bupivacaine agent, the left 1 or 0.33% used lidocain agents of local anesthesia.

Table 10. Distributions of Medical history of the patientwho undergoes elective or emergency surgery in JUSH Ethiopia from January 1, 2013 to march 29, 2013

Medical history	**Frequency**	**%**
CVS	0	0
Neurologic	0	0
Hemodynamic problem	14	4.7
Unrecored	284	95.3

As the table shows that 14 or 4.7% of patients have a medical history of hemodynamic problem.On the other hand 284 or 95.3% of them was not recorded on the chart.

5.2 Interpretation and elaboration of the study result

Even though these papers may be becoming an initial part of anesthesia research in JUSH. Thestudy result shows that General anesthesia was used 89.9% patients and 10.1% administered Regional anesthesia. Inhalational induction was commonly used agents most time. This study finding have the same consensus or try to resemble an investigation of anesthesia researches in the two main university hospitals of Benin in west Africa. The study resulted general anesthesia was used in 94% of children. Regional anesthesia was used in1.7% and 17% children's at hospital delaMeraetde 1enfantlagune. Inhalational induction was the commonest technique used.
on the other hand the study result of Benin university hospitals was contrast with my study finding on the investigation that Halothane was the only inhalation agent available for induction. Whereas my study shows that they used different kinds of induction agents such asBenzodiazepines, Ketamine, Theopentone and Halothane was used with General anesthesia and drugs likeBupivacaine was mostly proposed agents with Regional anesthesia.

The study result shows that General anesthesia was mostly used in JUSH.from the total study participant 89.9% administered GA whereas 10.1% administered Regional anesthesia. This indicates that RA was used in a few patients. According to randomized study done in UK, Overall mortality was reduced by about a third in patients allocated to neuraxial blockade. Neuraxial blockade reduced the odds of deep vein thrombosis by 44%, pulmonary embolism by 55%, transfusion requirements by 50%, pneumonia by 39%, and respiratory depression by 59%.

There were also reductions in myocardial infarction and renal failure. Although there was limited power to assess subgroup effects, the proportional reductions in mortality did not clearly differ by surgical group, type of blockade (epidural or spinal), or in those trials in which neuraxial blockade was combined with general anesthesia compared with trials in which neuraxial blockade was used alone. This shows that RA was more advantageous than GA.

Chapter Six

6. Conclusion And Recommendation

6.1 conclusion

The study result reviews the data of 298 patients from those tere are 122 male and 176 female. The result indicated that halfof patients administered elective surgery, where as others was proposed an emergency surgery and General anesthesia was most commonly administered types of anesthesiarather than Regional anesthesia, but RA have a great advantage on decreasing mortality rate,the odds of deep vein thrombosis and pulmonary embolism than GA.General anesthesia with ETT was most likely administered types of GA . In the case of regional anesthesia Spinal anesthesia was most commonly used. During the conducted general anesthesia an induction agent's like ketamine and halothanewas used together mostly. Theopentoneand Halothane was also given for patients. On the other side propofol and benzodiazepines was used in a few patients.

During the administered regional anesthesia almostall patientstaken Bupivacaine, where as some of them was proposed lidocain. Some Medical history of patients indicated that there was a history of Hemodynamic problem, but most patients reviewed data was unrecorded.In our country there was lack of research findings on the area of anesthesia. Due to these reason it's difficult to find related review on our Owen countries context. As the study was done on the conducted anesthesia in JUSH the study have contribute a little bit on the area of given anesthesia in the hospital.

6.2 Recommendation

Based on the study result the following recommendations was given

- I recommend JUSH to use regional anesthesia instead of general anesthesia. This reduces the mortality rate as well as reduced the odds of deep vein thrombosis and pulmonary embolism.
- I would like to recommend that chart of patients must record on easily understandable hand writing and all necessary information about patients.

- I recommend that the concerned governmental and non-governmental bodies to give a special attention to improve qualities and skill of anesthesia.
- I recommend that the concerned body shouldgivea special attention to full fill anesthesia drugs for better and successful surgery.
- I would like to invite other researchers to do more study in detail on this area to detect the problem and also to find its solution.

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ANNEX -II

QUESTIONNAIRE

1. Socio-demographic data
    a. Age
    b. sex

2.Had the patient undergone surgery

    a. yes
    b. no

3.If yes for Q2 what type of surgery

    a. elective
    b. emergency

4.for q3 if the answer is elective what type of procedure was done?

    a. Prostectomy
    b. Thyroidectomy
    c. Herniorrhaphy
    d. Cholecystectomy
    e. Laparatomy
    f. total abdominal hysteroctomy
    g. cesarean section
    h. operations to the upper extremity
    i. operations to the lower extremity
    j. others

5.for Q3 if the answer is emergency what type of procedure was done

a. laparatomy
b. appendectomy
c. cesarean section
d. operations to upper extremity
e. operations to lower extrimity
f. abscess drainage
g. others

6.Had the patient taken anesthesia?

a. Yes
b. no

7.Which type of anesthesia was given?

a. General anesthesia
b. Regional anesthesia

8.On Q7 if general anesthesia was used what type?

a. GA with ETT
b. GA with face mask
c. GA with LMA
d. Others

9.On Q7 if regional anesthesia was used which type?

a.Spinal anesthesia
b.Epidural anesthesia
c.Caudal anesthesia
d.other [specify]

10.What type of induction agent was used during GA

a.Thiopentone

b. Propofol

c. Benzodiazepines

d.Ketamine

e.Halothen

f. Others(specify)

11.What types of local anesthetic agent wereavailable

a.lidocain

b.bupivacaine

c.others(specify)

12. Medical history of the patient

a.CVS

b.Neurologic

c.Hemodynamicproblem

d.Others(specify)