Differences in the Level of Anxiety in the Administration of Diazepam 2 Mg and 5 Mg in Patients with Anxiety Levels Mild and Moderate to Undergo Elective Surgery at the Haji Adam Malik Center General Hospital Medan

Dhiny Yolanda Harahap 1, Achasanuddin Hanafie 2, Asmin Lubis 2 1.Resident Anesthesiology and Intensive Therapy USU Medical Faculty, H. Adam Malik Hospital Medan 2.Department of Anesthesiology and Intensive Therapy, USU Medical Faculty, H. Adam Malik Hospital, Medan

Abstract:-

Background: Anxiety or anxiety is one of the problems that are often found in elective patients who will undergo surgery. Anxiety is described as an uncomfortable feeling filled with emotional tension, which is associated with hemodynamic abnormalities as a consequence of sympathetic, parasympathetic, and endocrine stimulation. Anxiety is an emotional problem that will also have a significant impact on anesthetic actions to operative actions.

Objectives: This research aims for Comparing the incidence of anxiety in patients with mild and moderate levels of anxiety who will undergo elective surgery at Haji Adam Malik General Hospital after administration of 2 mg and 5 mg diazepam tablets.

Methods: This study is an analytical study with an experimental double-blind randomized clinical trial design with the administration of 2 mg diazepam with 5 mg diazepam for anxiety in patients who will undergo elective operative procedures. Perioperative anxiety assessment using the APAIS score was then given diazepam 2 mg or 5 mg in groups of patients with predetermined mild and moderate levels of anxiety.

Results: in this study, the mean age of the patients was 39.2 ± 11.4 years. Most of the patients were female with 42 samples. Based on the characteristics of religion the most Islam is 41 samples. Based on the characteristics of the ethnic sample, the most Batak ethnic group was 34. the level of anxiety in patients after administration of Diazepam, subjects with mild anxiety levels in patients after 10 hours of administration of diazepam 2 mg were 60 samples. the group that received diazepam 5 mg with mild anxiety levels was 69 samples. Subjects with moderate anxiety levels in the group receiving 2 mg diazepam were 13 samples. The group receiving 5 mg diazepam with mild anxiety levels was 4 samples.

Conclusion: There was no significant difference in the administration of diazepam 2 mg or 5 mg in reducing the level of anxietas in patients who were about to undergo elective surgery.

Keywords:- APAIS Score, Perioperative Anxiety, Diazepam.

I. INTRODUCTION

Anxiety or anxiety is one of the problems that are often found in elective patients who will undergo surgery. Anxiety is described as an uncomfortable feeling filled with emotional tension, which is associated with hemodynamic abnormalities as a consequence of sympathetic, parasympathetic, and endocrine stimulation. Anxiety is an emotional problem that will also have a significant impact on anesthesia and surgery. Anxiety that often occurs has various etiologies, both internal and external to the patient himself. It has been confirmed for more than four decades that most patients undergoing procedures are very afraid of the anesthesia they will undergo, surgery, pain and loss of consciousness during anesthesia. Such persistent fear, although identified, has not been formally applied in a large clinical setting as a preoperative consideration. (Adwas ,2020. Anissa, 2016)

A study conducted research that a certain level of anxiety is a universal feature of the preoperative setting. The incidence of anxiety varies from 8% to more than 80%. Variation and incidence are described by several different detection methods and tools for diagnosing preoperative anxiety. The effect of anxiety is quite significant in several studies; about 57.7% of patients experienced anxiety using the APAIS scoring system. In a study using the same method, it was also explained that a significant part of the patient's anxiety experience before surgery, was mostly due to concerns about the success of the operation, and in some patients speaking, and educative measures could be an option to reduce the occurrence of anxiety. Some degree of anxiety is a natural reaction to threats that the patient cannot imagine and the presence of potential threats from the environment typical of the preoperative period. (Akinsulore, 2017, Anissa, 2016)

Surgery is a treatment that uses an invasive method. The surgical process includes preoperative , intraoperative and postoperative phases. The preoperative phase in surgery is the initial phase in the surgical process. This initial phase begins when a decision is made for surgical intervention and ends when the patient is sent to the operating table. The most

common preoperative response is anxiety caused by anesthesia, fear of pain, even the possibility of disability and death. Preoperative anxiety is defined as an unpleasant condition of anxiety due to illness, hospitalization and planning for surgery and anesthesia to be performed. In some patients, the manifestation of anxiety depends on several factors, including age, gender and purpose of surgery, anesthesia and previous experience with surgery and anesthesia, and personal response to anxiety. High levels of preoperative anxiety will pose risks associated with surgery and the anesthetic required, including morbidity and mortality. (Akinsulore, 2017, Anissa, 2016)

The exact etiology of the incidence of preoperative anxiety to date is highly variable. Some factors that also greatly influence are age and gender, and as explained in the previous paragraph regarding the experience of previous operative procedures. These variations will affect how patients receive the operative procedure to be performed, and receive information about complications that will occur after the procedure . (Akinsulore, 2017)

The situation before entering the operating room can provide discomfort and anxiety that affect the patient's mentality. This will affect the body's response to release catecholamines so that it can lead to an increase in heart rate, heart muscle contraction, arterial vasoconstriction, increased blood sugar and others, these conditions can aggravate the condition before entering the operating room.

Most patients awaiting elective surgery have anxiety. The incidence of preoperative anxiety has been estimated to vary from 11-80% in the adult sample. A 2007 study on preoperative anxiety levels showed that from 40 samples of respondents there were 16 samples or 40% who had an anxiety level in the moderate category or 37.5% in the mild category.

Management for preoperative anxiety is divided into two, namely pharmacodynamics with anxiolytic agents and non-pharmacodynamics with distraction methods. The distraction method is by installing music, watching television, relaxation and visitation from the doctor himself to provide calm to the patient. For pharmacodynamic measures, several preoperative medication options were found. Premedication choices include benzodiazepines, diazepam and propranolol. Several studies have also shown that the administration of diazepam with different anxiolytic doses has a significant effect on preoperative anxiolytic management. The study by Mark Mitchel, et al collected some of the previously conducted studies on the use of diazepam as an anxiolytic agent. Wikinski et al, investigated the effect of diazepam 10 mg randomly assigned to patients who were divided into two groups, one of which was a placebo group. Emotional level examination was checked with STAI and VAS and found no significant difference in MAP between the use of diazepam 10 mg and diazepam 5 mg. Another study also administered diazepam 5 mg 30 minutes before surgery, and found a decrease in anxiety 30 minutes after surgery. Diazepam at a dose of 2 mg orally was also used as an antianxiolytic medication in some studies. Until now, research is still

ongoing on the most appropriate dose of diazepam for preoperative anti-anxiolytics. The right dose of diazepam will provide a significant difference in anxiety levels. (Micthel Mark, 2019)

II. RESEARCH METHODS

A. Research methods

This study is an analytical study with an *experimental* double-blind randomized clinical trial design with the administration of 2 mg diazepam and 5 mg diazepam for anxiety in patients who will undergo elective operative procedures.

B. Place and time of research

The study was conducted at the Central Surgical Installation of the Haji Adam Malik General Hospital, Medan. Sample collection starts from February – March 2022.

C. Object of research

All adult elective surgery patients who will undergo anesthetic and operative procedures at the Haji Adam Malik General Hospital Medan.

D. Inclusion Criteria

The inclusion criteria for this study were adult patients aged 18-65 years with an APAIS score <20 who were scheduled to undergo surgical procedures, ASA I-II patients, patients who agreed to participate in the study (Informed consent).

E. Exclusion Criteria

Exclusion criteria were patients with a history of severe anxiety before surgery and patients taking anti-anxiety drugs before

F. How it works and data collection techniques

After obtaining approval from the ethics committee to conduct research, the study began by collecting research subjects according to inclusion and exclusion criteria. After receiving an explanation of the objectives, benefits and procedures of the study and signing an agreement to participate in the study, interviews were conducted with questionnaires to find out the data needed by the researcher. Then the anxiety measurement was carried out using the APAIS score before anesthesia was performed, the first APAIS score was assessed 12 hours before diazepam was given, and the second APAIS score was assessed 8 hours after administration. Diazepam 2 mg or 5 mg was administered to groups of patients with predetermined mild and moderate levels of anxiety, intervention was administered 12 hours before surgery. Then the APAIS score was assessed again after 12 hours. Data were then recorded in each experimental group. Performed data analysis with SPSS

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G. Data Management

The results of the data that have been collected are then processed using the Kolmogorov Smirnov normality test. The data obtained are normally distributed, a *paired parametric test will be carried out t-test* to see the effect of giving diazepam on APAIS scores.

H. Research Ethics

All research participants who were included in this study, were given an explanation, in patients with decreased awareness of family education is very necessary. About the objectives, benefits, and risks of research as well as the responsibilities of researchers. After they understand, they are asked for approval by signing the agreement letter that has

been provided. Every patient has the right to know the results of the examination and may withdraw from the study if they are not willing to continue the study. This research was conducted with the approval of the Ethics Committee of the Faculty of Medicine, University of North Sumatra

III. RESEARCH RESULT

A. Sample Characteristics

Sample on study this amount 146 sample which in accordance with criteria inclusion and exclusion, sample shared Becomes 2 group where group first get diazepam 2 mg and group to two get diazepam 5 mg. Characteristics sample shown on Table 4.1.

Table 1 Sample Characteristics

Characteristics	Group		T-4-1	p value
Characteristics	Diazepam 2 mg	Diazepam 5 mg	- Total	
	n	n		
Gender				
Man	31	35	66	0.67
Woman	42	38	80	
Age (Mean ± SD)	39.8 ± 11.3	38.6±11.5	39.2 ± 11.4	0.88
Education				
College	32	28	60	
SENIOR HIGH SCHOOL	21	23	44	0,72
JUNIOR HIGH SCHOOL	18	19	37	
SD	2	3	5	

Table 1 shows the distribution of sample characteristics, at This study had a mean patient age of 39.2 ± 11.4 years. Most patients manifold sex woman of 42 samples. Based on the characteristics of education, there are 32 samples found in universities. The sample in this study whole planned for operation elective without looking at technique anesthesia

with general anesthesia or with regional anesthesia and the data obtained were homogeneous or normally distributed due to the p value > 0.05.

B. Comparison of Anxiety in the Diazepam 2 mg Group Before and After Treatment

Table 2 Comparison of anxiety in the Diazepam 2 mg group before and after treatment

Group			Total
APAIS before Treatment	Diazepam 2 mg		
	Before	After	
Anxiety light	14	60	0.04
Anxiety currently	59	13	0.03
Total	73	73	

^{*} Paired T Test

Based on table 2 level anxiety on patient after gift Diazepam 2 mg There were 14 samples of mild anxiety level and 60 samples of mild anxiety level after administration of diazepam 2 mg with a P value of 0.04 there was a significant difference between anxiety levels before and after administration of 2 mg diazepam. Subjects with moderate

levels of anxiety in the group receiving diazepam 2 mg as much 59 samples and after administration of diazepam 2 mg obtained moderate anxiety levels 13 samples with p value < 0.03, there was a significant difference between moderate anxiety levels before and after administration of diazepam 2 mg

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C. Comparison of Anxiety in the Diazepam 5 mg Group Before and After Treatment

Table 3 Comparison of anxiety in the Diazepam 5 mg group before and after treatment

Group			Total
APAIS before Treatment	Diazepam 5 mg		
	Before	After	
Anxiety light	9	69	0.04
Anxiety currently	64	4	0.03
Total	73	73	

^{*} Paired T Test

Based on table 3 levels anxiety on patient after gift Diazepam 5 mg 9 samples of mild anxiety level and after administration of 5 mg diazepam mild anxiety level of 69 samples with a P value of 0.04 there was a significant difference between anxiety levels before and after 5 mg diazepam administration. Subjects with moderate anxiety level in the group that received diazepam 5 mg as much 64 sample and after administration of diazepam 5 mg obtained moderate anxiety level 4 samples with p value < 0.05 there was a significant difference between moderate anxiety level before and after administration of diazepam 5 mg

IV. DISCUSSION

This study is to determine the difference in anxiety levels on patient which get diazepam 2 mg and diazepam 5 mg with use scoring APAIS on patient which will undergo surgery elective in RSUP H. Adam Malik Medan. This study consisted of 2 groups where each group consisted of 73 samples, in this study based on the distribution of sample characteristics, in This study had a mean patient age of 39.2 ± 11.4 years. Most patients manifold sex woman of 42 samples in the 2 mg diazepam group and at least 31 samples in the male diazepam 2 mg group. Based on the characteristics of Religion most many Islam was 41 samples in the 5 mg diazepam group. Based on the characteristics of the ethnic sample, the most Batak tribes are 34. Based on the characteristics of education, the sample is mostly found in universities. The sample in this study whole planned for operation elective without looking at technique anesthesia with general or regional anesthesia.

This research was carried out because so far to reduce preanxiety always use diazepam 5 mg, while for the dose of diazepam itself is an incremental dose where the dose given starts from dose which smallest (2 mg), on study for use drug this previously only limited to administration of 5 mg only without judging the effect produced to reduce anxiety at lower doses, and has not There are studies that assess the effectiveness of giving diazepam 2 mg and 5 mg in reducing anxiety in similar elective preoperative patients who conducted in Indonesia.

Anxiety preoperative defined as condition which no pleasure from restlessness and tension due to illness, hospitalization and planning for surgery and anesthesia conducted. Some patient manifestations of anxiety depends on several factors, including age gender, type of anesthesia, surgery experience and anesthesia previously, as well as

response personal to Anxiety. Level High preoperative anxiety will increase the risk associated with surgery and drug anesthesia which needed including morbidity and mortality (Batista, MM , 2014). Anxiety causes an increase in catecholaminestachycardia, hypertension and hemodynamic instability, arrhythmiasand a high pain threshold that persists well into the postoperative period. Indicator biological which could reliable for reaction Anxiety is marker which valuable in study psycho-physiological and practice clinical (Paryanto, 2009).

Anxiety can be measured by measuring the level of Anxiety according to the tool measuring Anxiety which This is called APAIS (*Amsterdam Preoperative Anxiety and Information Scale*). Scale APAIS is measurement Anxiety specifically designed to measure the anxiety of preanesthesia and preoperative patients.

This study was followed by 146 samples of patients who have met the criteria inclusion, divided into two groups with the same number, each each amount 73 sample. Where study this have average age patienthad a mean patient age of 39.2 ± 11.4 years. Most patients manifold sex woman with percentage 54.8%. Patient most many Islam with a percentage of 54.8%, with the most ethnic Batak tribes that is 45.2%. Most patients with tertiary education are 41.2%. The sample in this study whole planned for operation elective without looking at technique anesthesia with general or regional anesthesia.

Study previously Anita D, et al, on year 2017 To do study where as many as 40 patients met the inclusion criteria. Effectiveness diazepam and placebo. There was a decrease in Alpha Amylase levels after administration of diazepam but not significant (p = 0.117) while at group placebo obtained enhancement rate Alpha Amylase by significant (p=0.000). In addition, the results showed that there were differences in the levels of Alpha Amylase after intervention between second group (p=0.040) rate Alpha Amylase group diazepam more low compared to with group placebo. Diazepam 5 mg orally preoperatively effectively reduces salivary alpha amylase compared to with placebo on patient which will conducted operation tumor breast.

In this study, dizepam 2 mg and 5 mg were administered. in patients who will undergo elective surgery with anxiety levels medium and heavy. Diazepam is given the night before surgery and assessed on the APAIS scale, then reassessed the APAIS scale after 10 hours gift drug diazepam.

Results analysis use test T pair showed that there was a significant difference in anxiety levels in patients with 2 mg and 5 mg diazepam. This researchnot assess in detail about the side effects that occur due to administration diazepam by details.

V. CONCLUSION

There was no significant difference in the administration of diazepam 2 mg or 5 mg in reducing anxiety levels in patients who will undergo elective surgery . There is drop level anxiety on patient which get diazepam 2 mg with use scoring APAIS on patient which going to have surgery elective. There is drop level anxiety on patient which get diazepam 5 mg using APAIS scoring in patients who will undergoing elective surgery.

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