



PREDICTIVE VALUE TO THE EFFECT OF ANESTHESIA ON NAUSEA AND VOMITING FACTORS IN IRAQ.

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Article history:	Abstract:
<p>Received: January 26th 2022 Accepted: February 28th 2022 Published: April 4th 2022</p>	<p>This paper aims to know the predictive value to the effect of anesthesia on nausea factors in Iraq, where 200 patients were collected from different hospitals in Baghdad, Iraq, and the survey and questionnaire distributed to patients were relied on to know the relationship generated between nausea and anesthesia</p> <p>The statistical analysis program spss soft, MS EXCEL 2013, was relied upon to analyze data and demographic information to patients.</p> <p>as the severity of nausea and vomiting were found in eight patients for, vomiting and for nausea in ten patients with a statistical value in the results ≤ 0.001</p> <p>The incidence of females in this study was higher than males, and the predictive value was analyzed for nausea and vomiting with the type of anesthesia was somewhat high, as it was relied on a meta-analysis and Pearson's coefficient</p> <p>Given that 60% of the patients were female, it is very likely due to the type of surgery; therefore, that PONV occurred more in women than in men, and it is logical to understand that the highest risk of infection with PONV occurs in this gender. on the number of events or incidence of PONV that showed a higher frequency of symptoms</p>

Keywords: LA, PONV, anaesthesia, nausea, vomiting.

INTRODUCTION

Nausea and vomiting are common complications after anesthesia and surgery. The incidence of postoperative nausea and vomiting (PONV) ranges from 20-to 30% [1], but this incidence may increase up to 80% in patients with more risk factors and in certain types of surgery [2]. Although most of PONV episodes are mild and transient, possible serious complications may occur [3,4].

Nausea and vomiting are unpleasant subjective sensations familiar to almost everyone. They result from a variety of causes and involve complex physiological and biological mechanisms. Nausea and vomiting may be an early sign of illness, poisoning, or complications associated with surgery and anaesthesia

However, nausea and vomiting are more common as complications after anaesthesia. In the era of monomers with ether or chloroform, the rate of vomiting after anaesthesia reached 75-80% [5,6,7,8]. It often recurred, causing fears of fatal complications in the form of inhaled vomiting, anterior abdominal wall sutures, expulsion, haemorrhage, increased intracranial pressure, cerebral edema, and post-operative complications [9,10,11].

A direct relationship was observed between vomiting frequency and duration of surgery and anaesthesia [12,13,14]. Most drugs and narcotics have a potential emetic effect, and as the duration of anaesthesia increases, the total dose of sedatives and narcotics usually increases, and the possibility of their toxic effect on the sensitive receptor system increases [15,16,17].



MATERIAL AND METHOD

Patient sample

200 patients were collected from different hospitals in Baghdad, Iraq, and the necessary and required analyzes were performed on them to know the relationship and meta-analysis between anesthesia with nausea and vomiting

Study design

A survey was conducted in the province of Baghdad to find out the relationship generated between anesthesia and nausea with vomiting, where 200 patients who underwent multiple surgeries were collected. The patients were of both sexes. The proportion of females in this study was 60%, and the proportion of males was 40%. The questionnaire distributed to patients was relied on to know the information and data. The demographics of the patients of this study, in addition to that, the severity of vomiting was relied upon by the patients by knowing the events that the patients faced after 24 hours, and the statistical analysis program SPSS soft 25 and Microsoft Excel 2013 and Windows 7 was relied upon to know the type of relationship resulting and the predictive value to this study

Study period

After obtaining special approvals related to this study by the relevant committees, the study period was for 18 months, from May 19, 2019, to February 2, 2021

Aim of research

This study aims to know the predictive value to the effect of anesthesia on nausea and vomiting factors in Iraq

Statistical analysis

Statistical analyses were performed using SPSS SOFT software. If there are more than 5% missing data, it is planned to use a multiple imputation method. Corresponding univariate and bivariate analyzes, including normal analysis of numerical variables (age, sedation, gender, and sedation type) using the Kolmogorov-Smirnov test with correction, were performed in order to identify the corresponding variables. Parametric and non-parametric tests.

Statistical tests in the bivariate analysis included calculating Spearman's correlation coefficients, chi-square tests, and Mann-Whitney tests. Finally, binary logistic regression was performed to build a correlation model based on identifying variables of statistical and clinical significance. Then, to obtain the modified model, we proceeded to eliminate irrelevant variables, search for the presence of confounding factors, check for goodness of fit, and perform a residual analysis.

RESULTS

Table 1- demographic results of patient

P	N	P%
Age		
20-29	40	20
30-39	50	25
40-49	60	30
50-60	50	25
Smoking		
Yes	50	25
No	130	75



Sex		
M	80	40
F	120	60
anesthesia		
Propofol, Fentanyl	100	50
regional anesthesia	45	22.5
local anesthesia	55	27.5

Figure 1- results of patient-related severity of nausea and vomiting

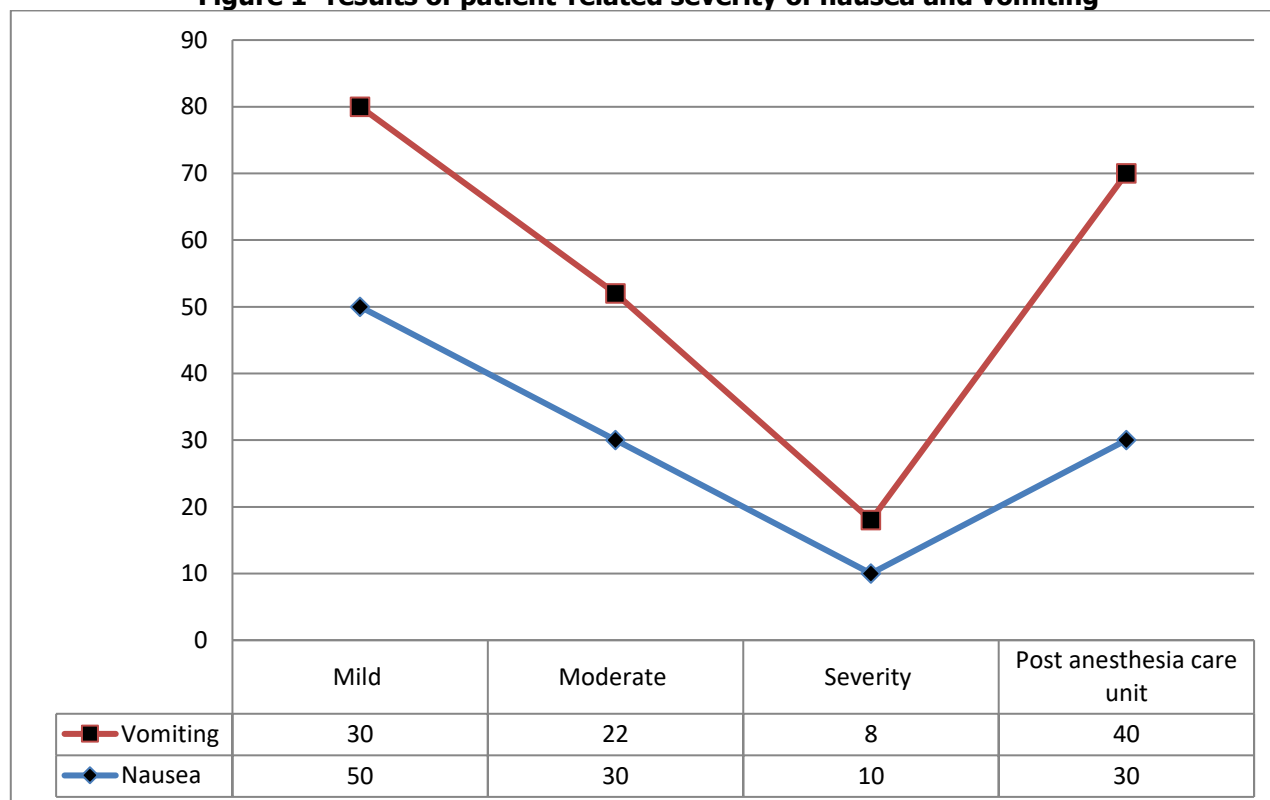


Figure 2- p-value between results of 2 groups

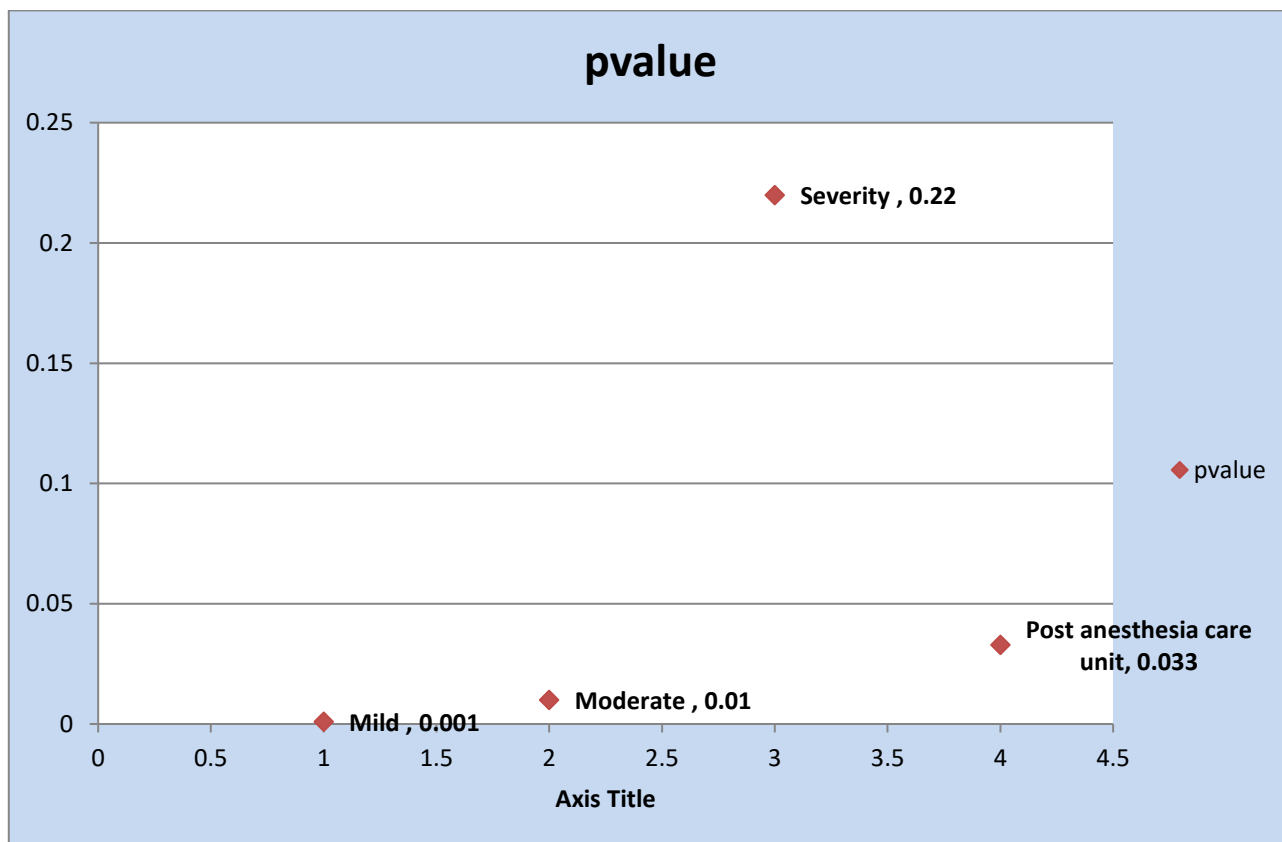


Table 2- outcome results of patients related to Nausea and vomiting occurrence

	P	GA	LA	P value	CHI-SQUARE
Nausea	Recovery	20	5	0.05	3.33
	24h	40	15		
Vomiting	Recovery	15	15	0.001	4.12
	24h	35	20		

Table 3- Predictors value of study

Predictors	Pearson χ^2	Odds ratio	95% Confidence interval	Information gain
Gender*	7.89	3.14	1.29–3.50	0.024
Age	1.11	N/A	0.34-0.55	0.21
Duration of anaesthesia*	N/A	N/A	N/A	0.045
Type of surgery*	5.63	N/A	N/A	0.01149
Anesthesia type	6.77	1.12	0.99-0.65	0.001
PONV	5.66	2.2	1.21-1.11	0.00245

DISCUSSION

Two hundred patients were collected from the hospital, and all statistical data were analyzed to find out the predictive value in the relationship between sedation, nausea, and vomiting; using the statistical analysis program SPSS SOFT, four categories were found according to the age of patients from 20 years to 60 years, and the most frequent category was between the ages of 50 to 60 years as if 75% of patients were non-smokers. As for the types of anesthesia that were found, they were Most of the disease is subject to the type of anesthesia Propofol, Fentanyl!

As for the severity of nausea and vomiting, were eight patients found for vomiting and for nausea 10 patients were found, and the statistical value in the results was ≤ 0.001

Postoperative nausea and vomiting (PONV) is defined as nausea, vomiting, or retching that occurs within 24-48 hours after surgery. It is one of the most common causes of patient dissatisfaction after exposure to anesthesia. Its total frequency is about 30%, but it can occur in up to 80% of high-risk patients. Although the multipliers derived from PONV are Rare and may cause delays in discharge or unscheduled hospitalization in patients who have been works in the outpatient clinic.

Smoking represented a protective factor in the study. Nicotine doubles the activity of hepatic microsomal enzymes that play an important role in the metabolism of drugs used in the perioperative period; in addition, smokers have a saturation of nicotinic and muscarinic receptors.

Nausea and vomiting often occur after receiving anesthesia, which is the same anesthesia that is necessary for surgical procedures. Postoperative nausea is more likely to occur with longer procedures and the length of time the patient must remain under anesthesia. Certain types of surgical procedures increase the chance of developing nausea after surgery, including some abdominal procedures, plastic surgery, eye muscle repair due to strabismus (crossed eyes), surgeries involving the ear, and certain types of brain surgery

The risk of postoperative nausea and vomiting generally decreases after surgeries that require local anesthesia to numb a small area,

Or after a peripheral nerve blockage blocks sensation in one area of the body. These anesthesia techniques also reduce the need for morphine-type pain relievers, reducing the risk of nausea and vomiting.

CONCLUSION



Nausea and vomiting and its relationship to anesthesia (PONV) are frequent problem, causing stress for both the patient and the anesthesiologist. PONV is associated with the administration of anaesthesia, anaesthesia, and surgery.

It is estimated that the incidence of PONV is present in 25-30% of patients undergoing surgery and anesthesia; But in high-risk patients, the rate can be as high as 60-80% within the first 24 hours, and unplanned PONV results in a prolonged stay in the post-anesthetic care unit.

RECOMMENDATION

1. When there is an increased risk of nausea and vomiting after surgery, other medications may also be used. This prevents from sending impulses that would lead to vomiting.
2. Scopolamine skin patch (Transderm Scop), which is sometimes used for motion sickness. Scopolamine patches last up to three days on the skin, unlike other medications that usually only last four to six hours.

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