

A Study on the Factors Affecting Postoperative Vomiting in Children Who Undergo Operations of Chelio and Palatoscysis Defects

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Abstract

Postoperative nausea and vomiting (PNOV) is common and distressing problem after chelio-palatoscysis surgery associated with which also delay discharge from hospital. While gender, motion sickness, previous history of PONV, and the surgery itself remained as risk factors also drugs used for general anesthesia. Postoperative analgesia and antiemetic may affect the incidence of PNOV. Here we present the related factors as: age, sex, agitation operation, and time of operation. Materials and methods : We have studied 108 patients from 9month to 36months ASA status I-II .We have study the incidence of PNOV on related factors as ASA, age, sex, weight, anesthesia and time of operation. The PNOV is observed on 24 hours after op. Results were expressed as mean \pm standard deviation median. Comparisons of numerical variables between groups were done by employing t test for independent samples. It is considered significant $p < 0.10$. Results: The results shows that there is no any significance on sex, weight, ASA, anesthesia. But there is significance on time of operation. ($p < 0.10$). The mean standard for ASA is 0.18, time 60.09, age 11.3month, weight 5.13, anest. 0.45, PNOV 0.12. The confidence R2 means that there are other factors which interfere on the incidence of PNOV. Conclusions: The increased incidence of PNOV on time of the operation ask from the anesthesiologist to consider seriously to administer antiemetic, cortisone and analgesic drug during the operations of chelio - palatoscysis surgery. The collaboration between surgeon and anesthesiologist for applying local anesthesia and cortisone in the end of the surgery will be helpful on pain controlling affecting the on lowering of the incidence of PNOV.

Keywords: chelio-palatoscysis; PNOV; pediatrics.

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1. Introduction

Children born with congenital defects in the lip and palate are patients who are sensible to quickly affected by the upper respiratory tract overload. This because the fact of locating of this birth defect [2]. Nausea and vomiting is apparent important outcome, patients often rate PONV as worse than postoperative pain [7]. Postoperative nausea and vomiting (PNOV) is common and distressing problem after operation. This situation may interfere on general conditions (the patient may aspirate the vomit liquid) and to the success of the chelio-palatoscycsis surgery associated also delay discharge from hospital. The incidence of PNOV has been reported to different author between 32%-80% [1,6,11]. Other authors refer higher results [5,6,10]. While gender, motion sickness, previous history of PONV, and the surgery also drugs used for general anesthesia itself remained as risk factors. Postoperative analgesia and antiemetic may affect the incidence of PNOV [1,2,9]. During the operation the surgeon apply local anesthesia sometime which help on post analgesia after operation. We have observing some of the related factors as: age, sex, operation, and time of operation. We think that studing the incidence of the PONV on those patients will help us to choose the right way to reduce this unwanted complication.

2. Materials and Methods

There is a randomized trial. We have studied 108 patients from 9 month to 36 months ASA status I-II. They had undergone the chelioplastic , palatoplastic or cheliopalatoschisis surgery . All children were in optimal health conditions and they were prepared in advance for surgeons' entrance. The operations were done under general anesthesia with sevoflurane and propofol. No antiemetic were used. All cases were itubated and none of cases were exulted. None of the patients had any other complications during and after surgery. We have study the incidence of PNOV on related factors as ASA, age, sex, weight, anesthesia and time of operation. The PNOV is observed on 24 hours after operation. Results were expressed as mean \pm standard median deviation. Comparisons of numerical variables between groups were done by employing t test for independent samples. Also, we test if the vomiting depends on the ASA classification, time of operation, age, sex and weight of the patients, or the type of anesthesia inducted. To achieve this, we first analyzed the correlations of each variable with vomiting. Then, since we believe that the characteristics do not only affect vomiting independently but those they are interrelated to each other, we tested the relationship between the dependent variable (vomiting) and the independent variables by the use of a linear regression analysis. Means square method regression was applied. The significance of the variables was controlled by means of probability. Consequently, the variable is considered to be statistically significant if the p value is lower than <0.10 and the sign of relation is the expected one. The results have been considered within a confidence interval of 95%. The goodness of fit of the mode l was tested by R2. In addition, statistical tests were performed through the use of views.

3. Results

The results shows that there is no any significance on sex, weight, ASA, anesthesia. But there is significance on time of operation. ($p < 0.10$). The mean standard for ASA is 0.18, time 60.09, age 11.3month, weight 5.13, anest. 0.45, PNOV 0.12. The confidence R2 means that there are other factors which interfere on the incidence of PNOV.

Table 1: Descriptive statistics

	ASA	Time	Age	Wheight	Sex	SEV	Vomiting
Mean	0,18	60,09	11,3	5,13	0,61	0,45	0,12
Std. Dev.	0,38	13,29	1,12	4,58	0,49	0,50	0,33
Observations	108	108	108	108	108	108	108

Table 2: Correlation coefficients

	ASA	Time	Age	Wheight	Sex	SEV
Correl	-0,17	0,37	0,01	0,03	0,06	0,01

Table 3: Results of statistical analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ASA	-0,05	0,08	-0,59	0,56
Time	0,01	0,00	3,82	0,00
Age	-0,08	0,07	-1,20	0,23
Weight	0,01	0,02	0,78	0,44
Sex	0,04	0,06	0,66	0,51
SEV	0,03	0,06	0,46	0,64

The significance of the variables has been controlled by means of P value. As in the case of correlation analysis, the only significant variable is the duration (time of operation).

The goodness of fit of the model was tested by means of R2 coefficient. The 0.16 R2 means that there are other influencing variables that affects the vomiting reactions which have not been considered in the analysis.

4. Discussion

This study includes a modest number of patients, it is apparent that the highest correlation coefficient is observed between vomiting and the duration of the operation. The fact that all patients were ASA I-II makes us believe that vomiting does not have any correlation with the general condition [3]. At this point the patients entered in the operation in good general condition and they were well prepared before. The weight of the children could be a factor if we had given much doses of anaesthetics [1,8]. We observed that the patients did not presented intraoperative complications and they had not late awake. Sex did not affects on PNOV too [4]. The result suggests us to run the regression analysis where multiple variables may affect vomiting. This result matches with the different authors. 4, 6, 8 Operations of lip defects, palates or cheliopalatoscycsis have different duration. Also, the surgeon's operator techniques and may affect the duration of the operation. The result shows that the duration of operation is the highest the probability of vomiting. No other variable resulted significant in affecting vomiting reaction. B

5. Conclusion

The increased incidence of PNOV on time of the operation ask from the anesthesiologist to consider seriously to administer antiemetic, cortison and analgesic drugs during the operations of cheliopalatoscycsis surgery. The collaboration between surgeon and anesthesiologist for applying local anesthesia and cortison in the end of the surgery will be helpful on pain controlling affecting the on lowing of the the incidence of PNOV.

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