The Relation Between Gastroesophageal Reflux And Postoperative Nausea And Vomiting İn Pediatric Patiens Applied Laparoscopic Appendectomy

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Introduction: Postoperative nausea and vomiting (PONV) is difficult for pediatric patients and their parents. In addition, it can result in aspiration of gastric contents, dehydration and electrolyte imbalance, prolongation of hospital stay and disturbance of life quality. Otherwise, it has been showed that anesthesia reduces gastric emptying and motility¹. The reduction of gastric emptying and motility cause gastroesophageal reflux. The monitoring of pH is a confidential method that used to detect reflux presence. With this study we aimed to search the relation between gastroesophageal reflux (GER) and PONV with esophageal reflux measures in pediatric patients applied laparoscopic appendectomy.

Material and Methods: After the approval of the faculty ethic committee, 55 patients that were operated by Mersin University, Department of Pediatric Surgery were included. All of the patients were operated by the same surgeon team. Thiopental 5 mg/kg, rocuronium 0,6 mg/kg and fentanyl 2 mcg/kg were used for anesthesia induction. Sevoflurane (1 MAC), 50% N₂O + 50% O₂ were used in the maintenance. The tidal volume was set as 6-8 ml/kg and PEEP was 5 cmH₂O. An esophageal pHmeter catheter 2.1 mm diameter and 180 cm length was placed from the nasal passage to the patients as 3 cm above the lower esophageal sphincter. pH measurements were evaluated with DeMeester score. It was accepted as acid reflux if the score was >14,72. A study form contains demographic data of patients, GER history, Verbal Descriptive Scale (VDS) to assess PONV and esophageal pH values. The data were recorded to SPSS 21 programme.

Results: The patients included to the study 41,8% was girl, 58,2% was boy, the average age was 13,2 years, the average preoperative fasting period was 7,47 hours, the mean operation time was 1,1 hour. The average values of preoperative fasting and operation times were not statistically significant in VDS groups ($p>0,05$). Between the VDS group and gender no significant relation was found ($p=0,287$). There was no statistically significant relation between pH and VDS groups ($p=384$). GER history was not detected in none of the patient included to the study. The DeMeester score was >14,72 in 9 patients.

Discussion: We didn't encounter a study searching gastric pH and PONV relationship in anesthetized patients. Although in some studies a relation between anesthesia and reflux can be attained and in our study reflux occurred in 9 patients, reflux formation is determined not significant statistically on PONV.

Conclusion: We could find different results if the patients having reflux history or risk factors for PONV were included in the study. Further studies with large patient groups are needed to register about this subject.

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