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## *Postoperative Sore Throat, Nausea and Vomiting in Routine Nasal Surgery: Influence of Pharyngeal packing*

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### Abstract

**Introduction:** Pharyngeal packs are commonly used to prevent of postoperative nausea and vomiting (PONV) and Sore throat during nasal surgery following tracheal intubation. the aim of this study is evaluation of effectiveness of pharyngeal packing in the prevention of PONV. **Materials and methods:** This study with random sampling performed on 120 adult patients scheduled for routine nasal surgery referred Boo – Ali hospital in Tehran, Iran from March 2011 to March 2012. the study was approved in the ethical committee of Azad University and written informed consent to participate in the study. All subjects randomly allocated to Group A or Group B to have and not to have pharyngeal packing during surgery, Respectively. The incidence of PONV and sore throat in the recovery room, at 2 and 6 h were recorded by a 100 mm long visual analogue scale (VAS). Data were analysed using non-parametric tests in SPSS 18. Significant difference was set at  $p < 0.05$ . **Results:** The average age of patients was  $27.6 \pm 7.1$  years. The average of age in Group A was  $29.2 \pm 2.8$  years and in Group B was  $27.4 \pm 3.2$  years. The difference in throat pain scores in the two groups at each assessment time was statistically significant. The difference in PONV scores were not statistically significant. **Conclusion:** The usage of pharyngeal packing during nasal surgery leads to decreased incidence of sore throat in experiment group compared with the control group. Also has no effect on the incidence of PONV. [GMJ. 2012;1(1):24-28]

**Keywords:** Pharyngeal Pack - Sore Throat - Nausea, Vomiting - Nasal Surgery

### Introduction

Postoperative nausea and vomiting (PONV) and Sore throat is a most common postoperative complaint, occurring nasal surgery following tracheal intubation. Various Factors such as anesthetic agents tracheal-tube size and cuff design have been shown to be important Predisposing factors (1). During nasal surgery, hypopharyngeal blood may flows through airways and digestive passages (2).

This Condition is Exacerbated by the reverse Trendelenberg position (3). Blood as potent emetic, can lead to PONV and sore throat in the immediate postoperative period (3,4). Cuffed endotracheal tube do not able to 100% prevention of blood aspiration (5). Surgeons place hypopharyngeal packs during nasal surgery, following intubation to reduce blood loss and prevent ingestion of blood .thus

placement of pharyngeal pack is growing (6). However, it has been shown that pharyngeal pack does not 100% effective and associated with throat pain. Other complication such as bone and cartilage damages, swelling of tongue and thrush are not so rare (6-8). One of the most serious and dangerous complication of pharyngeal pack is injury to pharyngeal plexus (9,10). In addition, there is the potential of catastrophic upper airway obstruction following extubation (10). Considering the importance and the few studies performed in this field in Iran, the aim of this study is evaluation of effectiveness of pharyngeal packing during nasal surgery in the prevention of PONV.

## Materials and methods

This study with random sampling performed on 120 adult patients scheduled for routine nasal surgery referred Boo – Ali hospital in Tehran, Iran from March 2011 to March 2012 (table 1). The study was approved in the ethical committee of Azad University and written informed consent to participate in the study. The subjects were randomly allocated to two groups. Group A(n=60) and Group B(n=60) to have and not to have pharyngeal packing during surgery, Respectively. Exclusion criteria included active infection, pharyngeal tumor, coagulopathy. The patients were educated at the time of recruitment regarding postoperative throat pain and not to confuse this with nasal pain. Preoperative analgesia or anxiolytics were not prescribed. Anesthesia was same in both Group. Following tracheal tube placement and confirmation of correct position, anesthesia was maintained using nitrous oxide in oxygen and sevoflurane. Group A patients had the standard pharyngeal pack placed under direct vision, the end of which was left protruding at the corner of the mouth and sticky labels with the print ‘Group A’ were taped on the patient’s forehead. The pharyngeal pack used was a 7.5 cm · 120 cm (4-ply) saline soaked green ribbon gauze. During surgery all patients were given a single dose of ondansetron 9 mg intravenously. At the end of surgery, neostigmine 2.5 mg and glycopyrrolate 500 lg

**Table 1.** Type of nasal surgery

	Group A (n=60)	Group B (n=60)
Septoplasty	10	14
Rhinoplasty	41	38
Septoplasty + Rhinoplasty	7	5
TITs	2	3

TITs: Trimming of inferior turbinates.

**Table 2.** Distribution of throat pain

Throat pain	Variable	Group A(n=60) n(%)	Group B(n=60) n(%)	P - value
No pain	recovery room	41(68.3)	34(56.6)	0.04
	At 2h	35(58.3)	26(43.3)	0.03
	At 6h	37(61.6)	31(51.6)	0.04
Mild	recovery room	5(8.3)	9(15)	0.01
	At 2h	10(16.6)	15(25)	0.02
	At 6h	11(18.3)	13(26.6)	0.02
Moderate	recovery room	9(15)	11(18.3)	0.04
	At 2h	8(13.3)	9(15)	0.03
	At 6h	7(11.6)	9(15)	0.03
Severe	recovery room	5(8.3)	6(10)	0.04
	At 2h	7(11.6)	10(16.6)	0.02
	At 6h	5(8.3)	7(11.6)	0.03

were administered to reverse neuromuscular blockade. The pharyngeal pack was gently removed prior to extubation. All patients were extubated awake. Group B patients did not have pharyngeal packs placed during their operation. In the recovery room nursing staff, who were unaware of the group allocation of the patients, recorded the incidence of PONV and the incidence of sore throat by using a 100 mm long visual analogue scale (VAS). Normal post-operative analgesia and PONV management practices were followed. The patients were transferred to the ENT ward after the normal recovery period. On the ward, nursing staff, who were also unaware of the group allocation of the patients, collected data on the severity of sore throat and PONV on visual analogue scales (0 no pain or no PONV to 10 severe pain or severe PONV) at 2 and 6 h postoperatively. Analysis was done using non-parametric tests and multivariate regression in SPSS 18. Significant difference was set at  $p < 0.05$ .

The average age of patients was  $27.6 \pm 7.1$  years. The average of age in Group A was  $29.2 \pm 2.8$  years and in Group B was  $27.4 \pm$

3.2 years. Among them 93 cases (78%) were female and 27 cases were male. Nineteen (31.6%) of the patients in Group A experienced pain in the recovery room compared to Twenty six (43.3%) in Group B. The postoperative data for pain at 2 and 6 h are shown in Table 2. The difference in throat pain scores in the two groups at each assessment time was statistically significant ( $p < 0.05$ ). PONV was experienced by 31 (50.5%) of patients in Group A and 29 (49.5%) in Group B. The difference in nausea and vomiting scores were not statistically significant ( $p > 0.05$ ). Fig 1

### Discussion

Unlike the Iran, the use of pharyngeal to prevent PONV is common in the England, during oral and nasal surgery. This is the first study in the Iran to Evaluate the role of pharyngeal packing in nasal surgery. Previous studies investigated variable incidence of sore throat(11). Basha et al reported 93% of patients with pharyngeal pack were experienced sore throat at 2 and 6 h after nasal surgery (2). Also, in a study show that the incidence and

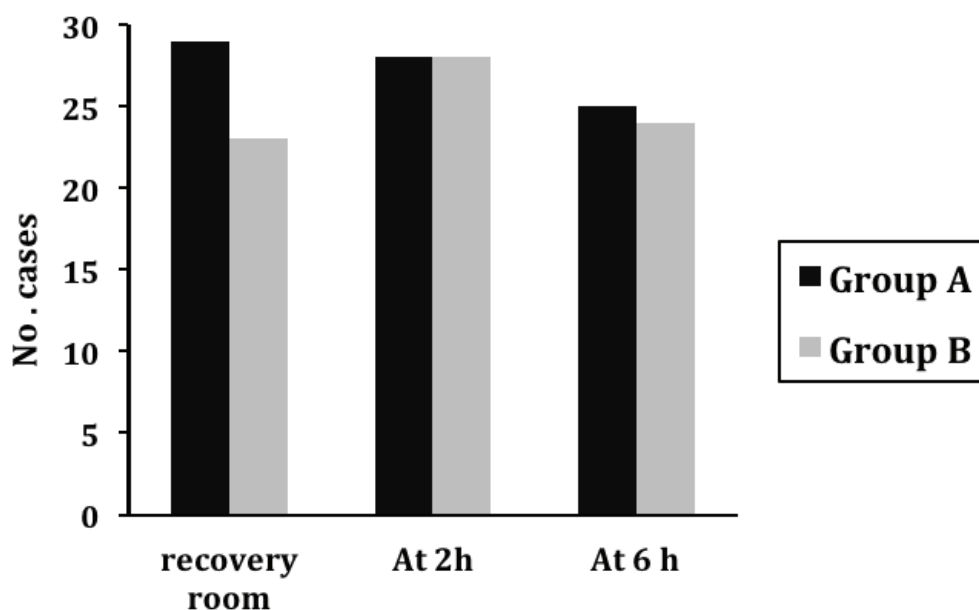


Figure 1. Number of patients with nausea and vomiting at recovery room, 2 and 6 h following surgery.

severity of postoperative sore throat following tracheal intubation is not influenced by the insertion of a pharyngeal pack (2,12). However, In this study 68.3% of the patients in Group A experienced postoperative sore throat at 2 and 6 hour compared to 56.6% in Group B. Whiles the results of this study showed that placement of pharyngeal pack had significant relationship with decreased postoperative sore throat. The causes of PONV are variables but believed that there is most Correlation with ingestion of blood(2,13). The impact of anesthesia duration on PONV is described in many studies(14,15). It is generally believed that longer and more invasive surgeries are associated with a higher incidence of PONV(16). In present study also it was shown that the difference in PONV scores were not

statistically significant. Pilther et al reported that there was no benefit in hypopharyngeal packing on PONV prevention in nasal surgery (17). Whiles based on other studies placement of a pharyngeal pack during nasal surgery is effective with regard to the incidence of PONV(17,18). Although there is no real evidence as to the efficacy of the routine practice of pharyngeal packing during nasal surgery. Considering the findings of this study the usage of pharyngeal packing during nasal surgery leads to decreased incidence of sore throat in experiment group compared with the control group. Also has no effect on the incidence of PONV . Further studies on larger groups are recommended in order to make more reliable conclusions.

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