

## Original Research

### A comparative study of LA with MAC and LA after induction of GA for patients undergoing FESS

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#### ABSTRACT:

**Background:** Sinusitis is defined as a condition manifested by inflammation of the mucous membranes of the nasal cavity and paranasal sinuses. The present study was conducted to compare LA with MAC and LA after induction of GA for patients undergoing FESS. **Materials & Methods:** 108 cases scheduled for FESS of both genders were included. Patients were divided into 2 groups of 54 each. Group I received LA with MAC and group II patients received LA after induction of GA. Parameters such as operative time, surgical time, bleeding, MAP, heart rate and complications was recorded in both groups. **Results:** Group I had 34 males and 20 females and group II had 28 males and 26 females. The mean surgical time in group I was 70.2 minutes and in group II was 94.2 minutes, operative time was 45.2 minutes in group I and 41.3 minutes in group II. Bleeding time score 0 was seen in 50 in group I and 51 in group II and 1 in 4 in group I and 3 in group II. The common complication was nausea seen in 2 in group I and 1 in group II, vomiting 6 in group I and 5 in group II, headache 5 in group I and 4 in group II. sore throat 7 in group I and 35 in group II and dental numbness 1 in each group. Diclofenac requirement (mg) was 73.1 in group I and 75.2 in group II, time to PACU discharge (mins) was 13.5 in group I and 47.6 in group II, time to home discharge (mins) was 62.5 in group I and 260.1 in group II. The difference was significant ( $P < 0.05$ ). **Conclusion:** LA with MAC provided excellent surgical and postoperative profiles in patients undergoing FESS.

**Key words:** Functional endoscopic sinus surgery, Sinusitis, local anesthesia

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#### INTRODUCTION

Sinusitis is defined as a condition manifested by inflammation of the mucous membranes of the nasal cavity and paranasal sinuses, fluids within these cavities and/or the underlying bone. Chronic rhinosinusitis is sinusitis lasting more than 12 weeks of persistent symptoms and signs with no complete resolution.<sup>1</sup>

Functional endoscopic sinus surgery (FESS) has been considered as one of the most common ambulatory rhinologic procedures that surgically manage sinusitis with a target to resume drainage of paranasal sinuses using nasal endoscopes. Functional endoscopic sinus surgery (FESS) is today the most common type of surgery for chronic Rhinosinusitis FESS is minimally invasive which means that it is done without an open

incision and is much less invasive than older surgery methods.<sup>2</sup>

Generally, excess bleeding has been known to limit safety and efficiency of surgical manipulation of the sinuses; therefore, it is an anesthetic priority to conduct a technique that optimizes surgical field, limits surgical risk, and raises the satisfaction for both patients and surgeons.<sup>3</sup>

The anesthesiologist should act as a knowledgeable consultant for appropriate patient selection and preparation, understand some of the unique anesthetic goals for FESS and be comfortable with total intravenous anesthesia (TIVA). FESS can be performed under monitored anesthesia care (MAC) or general anesthesia (GA) under inhaled anesthesia or total intravenous anesthesia, using either laryngeal

mask airway or endotracheal tube or local anesthesia (LA) after induction of GA.<sup>4</sup> Most of the FESS procedures are performed in a free-standing ambulatory surgical centers, which presents additional challenges due to a combination of limited anesthesia back-up, variability of monitoring modalities and anesthesia equipment, and the pressure to produce cost-effective, efficient, and quality care.<sup>5</sup> The present study was conducted to compare LA with MAC and LA after induction of GA for patients undergoing FESS.

## MATERIALS & METHODS

The present study comprised of 108 cases of scheduled for FESS of both genders. All were

informed regarding the study and their written consent was obtained.

Data such as name, age, gender etc. was recorded. Patients were divided into 2 groups of 54 each. Group I received LA with MAC and group II patients received LA after induction of GA. Patients in both groups were operated by the same surgeon and anesthesia either LA with MAC or after induction of GA was administered by the same anesthetist. Parameters such as operative time, surgical time, bleeding, MAP, heart rate and complications was recorded in both groups. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

## RESULTS

**Table I Distribution of patients**

Groups	Group I	Group II
Method	LA with MAC	LA after induction of GA
M:F	34:20	28:26

Table I shows that group I had 34 males and 20 females and group II had 28 males and 26 females.

**Table II Intraoperative profile of patients**

Parameters	Group I	Group II	P value
Surgical time (mins)	70.2	94.2	0.02
Operative time (mins)	45.2	41.3	0.91
Bleeding			
0	50	51	0.04
1	4	3	
2	0	0	
3	0	0	
4	0	0	
5	0	0	

Table II shows that mean surgical time in group I was 70.2 minutes and in group II was 94.2 minutes, operative time was 45.2 minutes in group I and 41.3 minutes in group II. Bleeding time score 0 was seen in 50 in group I and 51 in group II and 1 in 4 in group I and 3 in group II. The difference was significant ( $P < 0.05$ ).

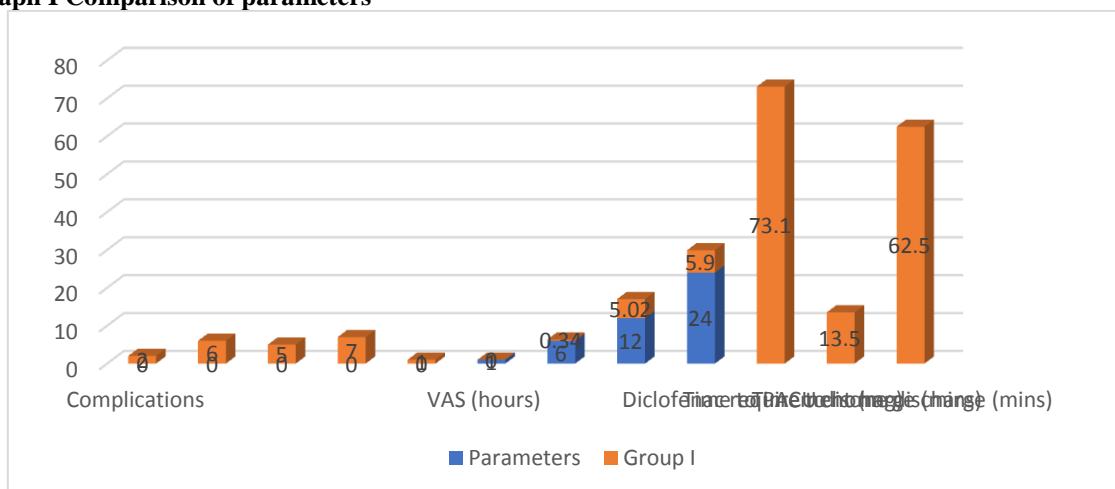
**Table III Comparison of parameters**

Variables	Parameters	Group I	Group II	P value
Complications	Nausea	2	1	0.09
	Vomiting	6	5	0.92
	Headache	5	4	0.08
	Sore throat	7	35	0.01
	Dental numbness	1	1	1
VAS (hours)	1	0	0	0.81
	6	0.34	0.39	
	12	5.02	5.9	
	24	5.90	6.12	
	Diclofenac requirement (mg)	73.1	75.2	0.71
	Time to PACU discharge (mins)	13.5	47.6	0.02
	Time to home discharge (mins)	62.5	260.1	0.01

Table III, graph I shows that common complication was nausea seen in 2 in group I and 1 in group II, vomiting 6 in group I and 5 in group II, headache 5 in group I and 4 in group II. sore throat 7 in group I and 35 in group II and dental numbness 1 in each group. Diclofenac requirement (mg) was 73.1 in group I and 75.2 in group II,

time to PACU discharge (mins) was 13.5 in group I and 47.6 in group II, time to home discharge (mins) was 62.5 in group I and 260.1 in group II. The difference was significant ( $P < 0.05$ ).

**Graph I Comparison of parameters**



**DISCUSSION**

Normal ventilation and drainage of the major sinuses is usually altered if there is any abnormality in the osteomeatal complex.<sup>6</sup> This is the major drainage pathway of sinuses and, as it is the most narrow area, obstruction most likely to occur due to any pathology in the nose and paranasal sinuses.<sup>7</sup> Functional Endoscopic Sinus Surgery (FESS) aims at correcting the underlying pathology and maintaining physiological function and anatomical structures of the nose and paranasal sinuses as much as possible.<sup>8</sup> Endoscopic sinus surgery is one of the most commonly performed surgical procedures in the United States. The increased use of precision, image-guided surgery has led to improved patient safety and to a rise in functional endoscopic sinus surgery (FESS) cases performed for treatment of chronic rhinosinusitis (CRS).<sup>9</sup> The present study was conducted to compare LA with MAC and LA after induction of GA for patients undergoing FESS.

In present study, group I had 34 males and 20 females and group II had 28 males and 26 females. Ghanem et al<sup>10</sup> compared FESS under local anesthesia (LA) with monitored anesthesia care (MAC) and LA after induction of general anesthesia. Patients and methods One hundred patients scheduled for FESS were randomly recruited in this randomized controlled study. Fifty of them received LA after induction of general anesthesia (G group), while the rest of the patients received LA with MAC (M group). The outcome measures included satisfaction for the patient and surgeon, cost, surgical, and postoperative profiles. Results Surgeon’s satisfaction was comparable in both groups, while patient’s satisfaction was significantly higher in the M group ( $P < 0.001$ ).

We found that mean surgical time in group I was 70.2 minutes and in group II was 94.2 minutes, operative time was 45.2 minutes in group I and 41.3 minutes in group II. Bleeding time score 0 was seen in 50 in

group I and 51 in group II and 1 in 4 in group I and 3 in group II. Razzak et al<sup>11</sup> determined efficacy of surgery (FESS) and quality of life of the patient after Functional Endoscopic Sinus Surgery (FESS) for chronic rhinosinusitis. Total 60 (sixty) patients were included in this study. In this study, 22 (36.67%) patients were operated for Ethmoidal polyp, 19 (31.67%) for chronic rhinosinusitis, 9 (15%) for Antrochoanal polyp, 6 (10%) for Rhinosporidiosis and 4 (6.67%) for Inverted papilloma. Per operative difficulties were gross DNS 07 (11.67%), unusual bleeding 6(10%), concha bullosa 5(8.33%). Post-operative complications were periorbital echymoses (10%), Synechiae (1.67%), Epiphora (1.67%), infection (1.67%). Complete relief of symptoms were noted in 81.67% cases. Majority of patients 46 (76.67%) were released from the hospital on 2nd post-operative day.

We found that common complication was nausea seen in 2 in group I and 1 in group II, vomiting 6 in group I and 5 in group II, headache 5 in group I and 4 in group II, sore throat 7 in group I and 35 in group II and dental numbness 1 in each group. Diclofenac requirement (mg) was 73.1 in group I and 75.2 in group II, time to PACU discharge (mins) was 13.5 in group I and 47.6 in group II, time to home discharge (mins) was 62.5 in group I and 260.1 in group II. Hassan and Ehab<sup>12</sup> evaluated the efficacy of sphenopalatine ganglion block (SPGB) combined with GA compared with GA alone; they found that the number of patients requiring esmolol was significantly higher in the nonblocking group.

**CONCLUSION**

Authors found that LA with MAC provided excellent surgical and postoperative profiles in patients undergoing FESS.

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