

Role of oral clonidine premedication for decreasing intra-operative bleeding with respect to scoring system at tertiary health care centre

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Abstract

Background: Functional Endoscopic Sinus Surgery (FESS) is gaining popularity over past two decades as it is helpful in restoring the drainage and aeration of paranasal sinuses, while maintaining the natural mucociliary clearance mechanism and seeking to preserve the normal anatomical structures. **Aims and Objectives:** To study role of Oral Clonidine premedication for decreasing intra-operative bleeding with respect to scoring system at tertiary health care centre. **Methodology:** After the Ethics committee approval and informed consent, 50 patients, age group 19-60 yrs, ASA Grade 1 and 2 for functional endoscopic sinus surgery were included into the study carried out at Government medical college Akola in the Department of Anesthesiology. A Randomized prospective double blind study with 2 groups (25 patients in each group) was conducted: Group I: Patient receiving oral Metoprolol, Group II: Patient receiving Oral Clonidine. The statistical analysis was done by SPSS 18 version software. **Result:** In our study we have seen that The mean age and weight were compared by t-test. No significant difference is present between groups with regard to the age and weight of patient. The study conducted of two groups; Group I Metoprolol and Group II Clonidine, with 25 patients undergoing Functional endoscopic sinus surgeries in both the groups (n=25 in each group). Fisher's test shows no significant difference in the sex of the two groups. Surgical field score was noted intra operative and compared with unpaired t-test with p value of 0.0282 and found that Clonidine group produce better surgical fields as compared to Metoprolol. Clonidine group had surgical score of 2 in 8 patients as compared to just 2 patients in Metoprolol group, while clonidine group had score of 4 in only one patient as compared to 3 in Metoprolol group. **Conclusion:** It can be concluded from our study that clonidine had better surgical field with respect to less bleeding during operation. **Key Words:** Clonidine, Intra-operative bleeding, Functional Endoscopic Sinus Surgery (FESS).

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INTRODUCTION

Functional Endoscopic Sinus Surgery (FESS) is gaining popularity over past two decades as it is helpful in restoring the drainage and aeration of paranasal sinuses, while maintaining the natural mucociliary clearance

mechanism and seeking to preserve the normal anatomical structures. However, there are some limiting factors in this surgery and mostly they are due to excessive loss of mucosa which rich in blood vessels¹. Over the past two decades, a considerable interest in endoscopic surgery of the paranasal sinuses has been expressed². There are some limiting factors in this surgery³ and the main consideration in that is blood loss because the mucosa are highly rich in blood vessels⁴. Operative bleeding results from cutting vessels which may be arteries; capillaries or veins⁵. Serious complications usually result from impaired visibility due to excessive bleeding during surgery. To avoid such complications, endoscopic sinus surgery can be performed either with local anesthesia⁶, with vasoconstrictors (e.g. epinephrine, cocaine and

phenylephrine)^{7,8,9} or under general anesthesia supplemented with controlled hypotension¹⁰. Several reports have shown various techniques for diminishing intra-operative bleeding¹¹⁻¹³

MATERIAL AND METHODS

After the Ethics committee approval and informed consent, 50 patients, age group 19-60 yrs, ASA Grade 1 and 2 for functional endoscopic sinus surgery were included into the study carried out at Government medical college Akola in the Department of Anesthesiology. A Randomized prospective double blind study with 2 groups (25 patients in each group) was conducted : Group I : Patient receiving oral Metoprolol, Group II : Patient receiving Oral Clonidine. The patients with age between 18-60 yrs., ASA Grade 1 and 2, were included into the study while, patient who doesn't given consent, ASA Grade 3 and 4, hypertensive patients/other ECG changes Asthmatics, Baseline pulse <55/systolic BP <100 mm Hg, H/o Bleeding disorder were excluded from the study. The surgical field score: by Fromme *et al* scale adapted by Boezaart *et al* was 0-No bleeding, 1-Slight bleeding; no suctioning of blood required, 2-Slight bleeding; occasional suctioning required. Surgical field not threatened.3-Slight bleeding; frequent suctioning required. Bleeding threatened surgical field after suction was removed.4-Moderate bleeding ; frequent suctioning required. Bleeding threatened surgical field directly after suction was removed. 5-Severe bleeding ; constant suctioning required. The statistical analysis was done by SPSS 18 version software.

RESULT

Table 1: Age and Weight distribution between groups

	Metoprolol		Clonidine		p-value	Significance
	Mean	SD	Mean	SD		
Age	25.84	5.014	26.20	5.401	0.525	NS
Weight	57.60	6.144	57.96	7.845	0.8574	NS

The mean age and weight were compared by t-test. No significant difference is present between groups with regard to the age and weight of patient.

Table 2: Sex distribution between Groups

	Metoprolol	Clonidine	p-value
Male	14	13	p=0.776,NS
Female	11	12	
Total	25	25	

The study conducted of two groups; Group I Metoprolol and Group II Clonidine, with 25 patients undergoing Functional endoscopic endoscopic sinus surgeries in both the groups (n=25 in each group).Fisher's test shows no significant difference in the sex of the two groups.

Table 3: Surgical Field Score between groups

Sr	Metoprolol (%)	Clonidine (%)
1	2(8%)	8(32%)
2	20(80%)	16(64%)
3	3(12%)	1(4%)

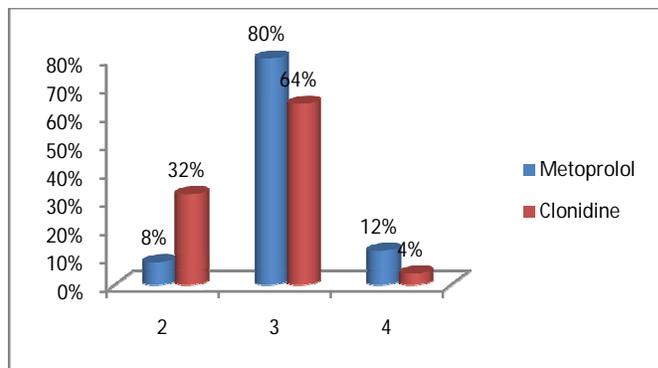


Figure 1: Percentagewise Distribution of Surgical Field

Surgical field score was noted intra operative and compared with un-paired t-test with p value of 0.0282 and found that Clonidine group produce better surgical fields as compared to Metoprolol. Clonidine group had surgical score of 2 in 8 patients as compared to just 2 patients in Metoprolol group, while clonidine group had score of 4 in only one patient as compared to 3 in Metoprolol group.

DISCUSSION

Clonidine is a centrally acting α_2 agonist useful as a premedication as it also decreases analgesic consumption¹⁸, postoperative nausea, vomiting¹⁹ and shivering²⁰. It has antihypertensive property with decreasing sympathetic outflow²¹. The use of drugs such as oral clonidine given before operation would be desirable to enhance the hypotensive action of inhalation agents without disadvantages of intravenous vasodilators^{22, 23}. In the past two studies, premedication with oral clonidine significantly reduced bleeding in middle ear microsurgery. Intra-operative bleeding was assessed on a four point scale by a surgeon^{14,15}. In our study we have seen that The mean age and weight were compared by t-test. No significant difference is present between groups with regard to the age and weight of patient. The study conducted of two groups; Group I Metoprolol and Group II Clonidine, with 25 patients undergoing Functional endoscopic endoscopic sinus surgeries in both the groups (n=25 in each group).Fisher's test shows no significant difference in the sex of the two groups. Surgical field score was noted intra operative and compared with un-paired t-test with p value of 0.0282 and found that Clonidine group produce better surgical fields as compared to Metoprolol. Clonidine group had surgical score of 2 in 8 patients as compared to just 2 patients in Metoprolol group, while clonidine group had score of 4 in

only one patient as compared to 3 in Metoprolol group. These findings are similar to M.Jabalamedli *et al* and Kazuhiko Okuyama MD *et al*¹⁶ both used Clonidine 5 mcg/kg and showed improvement in surgical field as compared to placebo. Thus we can say that oral clonidine 3 mcg/kg, 90 min prior to surgery can provide surgical field comparable to high doses of clonidine.

CONCLUSION

It can be concluded from our study that clonidine had better surgical field with respect to less bleeding during operation.

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