Experiences of submucous resection operation under local anaesthesia with deep sedation.

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Abstract

Background :Submucous resection (SMR) operation can be done under either local or general anaesthesia. This operation under local anesthesia (LA) with deep sedation is safe, simple, cost effective and reliable procedure which can save both money and time in developing country like Bangladesh. **Objective:** To achieve the experiences regarding SMR operation under local anesthesia with deep sedation. **Methods:** After taking proper approval from hospital administration, fifty cases were selected for doing SMR operation with maintain all aseptic precaution in Mymensingh Medical College Hospital during July 2013 to July 2014 and the effectiveness was done after completion of operation.**Results:** The age range of patients were from 18-37 years of both sexes where male and female ratio was 13:12. Thirty two (64%) patients felt the procedure was completely painless (Grade 1), 16 (32%) patients complained of slight discomfort (Grade 2) but none of the patients had experienced of severe discomfort. None of them felt any nausea or dizziness after deep sedation. **Conclusion:** SMR operation under LA with deep sedation is very well tolerated, simple, safe, less costly, less time consuming and highly acceptable procedure to the patient. Rhinologist should practice local anesthesia with deep sedation to perform SMR during their daily practice specially in Bangladesh where economy is the major concern.

Key words: SMR operation, local anesthesia, general anesthesia.

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Introduction

Nasal obstruction causing difficulty in breathing is one of the most common problems bringing a patient to the ENT OPD and septal deviation is a frequent structural etiology.[1] Physiological septum deviation is a deviation without subjective or objective reduction of the nasal breathing. Where as a pathological septum deviation is a deviation with subjective reduction of nasal breathing. Thus, the problem of precisely defining the septum deviation is evident.[2] Septal pathology may be deviation, dislocation or spur which can involve only cartilage or both cartilage and bone. Untreated deviations resulting functional sinus problems opened the doors for functional sinus surgery.[3] Surgical correction of septal deviation is the third most common head and neck procedure in the United States and it is generally performed to improve quality of life[4]. The submucous resection (SMR) was first described byFreer in 1902 and by Killian in 1904.The preservation of bilateral mucoperichondrial flaps and cartilaginous supports were considered essential in their technique.[4,5] Most of the surgeons adopted Killian's technique with preservation of caudal and dorsal struts of the septal cartilage to minimize the complications.[6] The major complications of this procedure are septal perforation, septal hematoma, bleeding and crust formation, saddling of nose and retraction of the columella and residual deviation.[4,5] Submucosal resection of the septum aims to remove or straighten part(s) of the deviated cartilage and bone of the nasal septum. The type of surgery used depends on the type of deviation. If the deviation lies posterior to the Cottle's line then sub mucosal resection of septum is

preferred.[1] Nasal septal surgery performed under local anesthesia with pethidine sedation resulted in less surgical bleeding, less post operative pain, a shorter recovery period and a higher level of anesthesia satisfaction. Moreover local anesthesia does not carry the risks of general anesthesia like aspiration and other respiratory problems. Recent evidence suggests that lignocaine with adrenaline is safe.[3] The purpose of this study was to obtain experiences of patients undergoing SMR with deep sedation for symptomatic deviated nasal septum.

Methods

Fifty symptomatic deviated nasal septum (DNS) patients were selected for SMR operation under local anaesthesia who came to the out patient department of ENT in Mymensingh Medical College Hospital during July 2013 to July 2014 after taking proper approval from hospital administration. Patients were informed about the whole operation procedure under LA. The age of the patients more than 17 years of both sexes were included in this study. Exclusion criteria include DNS with septorhinoplasty, any acute or chronic disease in the nose, paranasal sinus, ear and throat and other systemic disease like diabetes mellitus, hypertension, tuberculosis and bleeding or coagulation disorders. Informed written consent was taken before operation under LA with deep sedation. After introducing an intravenous channel, 1000 ml of 5% dextrose saline was pushed in drip and the channel was maintained during per and post operative periods. Injection pathedine (1mg/Kg body weight), pushed 50% in IV route and 50% intramuscular (IM) route. Pathedine was diluted 4 times while pushing through the I/V channel.With all aseptic precaution 2% xylocaine and 1:50,000 adrenaline was infiltrated in subperichondrial planes of nasal septum. A curvilinear incision was given at the mucocutenious junction on left side of the septum. It cuts only mucosa and perichondrium. Then elevate the mucoperichondrial and periosteal flap. Cartilage was incised just posterior to first incision. Elevate the opposite mucoperichondrium and periosteuum with the elevator passed through the cartilage incision. Then cartilage and bone was removed with preserve a strip of cartilage about 1cm wide along the dorsal and caudal border of the septum to prevent collapse of the bridge or retraction of columella. Then anterior nasal packing was giving with Ribbon gauze smeared with an antibiotic ointment and nasal dressing was applied and kept for 24 hours. All the patients were follow up a week later. A few hours after the operation, the patients were interviewed about the pain or discomfort during the operation procedure to grade the effectiveness of the LA with deep sedation. The grades were: grade I include painless, grade II have slight pain, grade III have moderate pain and grade IV have severe pain. The evaluation of SMR operation under local anesthesia was done by 4 parameters *i.e.* cost of the drug used for LA with deep sedation, amount of blood loss, time needed for operation and complications. Patient's satisfaction level regarding relieving nasal obstruction after operation was assessed by a 5 parameters such as strongly dissatisfied (SDS), dissatisfied (DS), un decide(UD), satisfied(S) and strongly satisfied (SS) at any convenient time during follow up after discharge.

Results

A total of 50 patients, 26 (52.0%) were men and 24 (48.0%) were women, male:female ratio was 13:12. Highest [35 (70.0%)] number of patients were in the age group of

18-37 years, followed by 13 (26.0%) in the age group 38-57 years and the rest 2 (4.0%) were more than 57 years.

All the patients well tolerated the procedure. Out of 50 patients, 32 (64.0%) patients were in Grade I, 16 (32.0%) patients were in Grade II and only 2 (4.0%) were in Grade III and none in Grade IV (Table 1). None of them complain about operative analgesia or felt any nausea or dizziness. Most of them were discharged on the following day or at the day after the operation. Regarding relieving of nasal obstruction, 36 (72.0%) patients were very satisfied, 14 (28.0%) were satisfied and none was dissatisfied (Figure 3). Average cost of drugs including local anesthesia with deep sedation was only Tk.500. Average blood loss during the surgery in all cases was minimum (40 – 50 ml both in gauze piece and in the suction bottle). The average operating time in all cases was average 30 - 40 minutes. Complications were negligible, few patients complained only the slight or moderate pain (Table 2).

Table 1: Effectiveness of local anesthesia during operation

Grading	Frequency (%)
Grade I (Painless)	32(64.0)
Grade II (Slight pain)	16(32.0)
Grade III(Moderate pain)	2(4.0)
Grade IV(Severe pain)	0(0.0)

Table 2: Evaluation of submucous resection operation under local anesthesia.

Parameters of evaluation	Findings
Cost of drugs per patient	Tk. 500 per patient
Bleeding at the time of operation	Minimum (40-50 ml)
Total time of operation	Average (30 - 40 minutes)
Complications	Very much negligible

Discussion

SMR under local anesthesia is a better for relieving nasal obstruction due to short hospital stay, cheap, less bleeding, no serious complication, no post operative vomiting and hangover like general anaesthesia and postoperative sore throat.[3] These findings are agreed with this previous observation. Present study suggested that males (52%) cases are more than females (48%). This study is consistent with other studies done by Padma K *et al.*[1] Sheikh MS *et al.*[4], Buckland J R *et al.*[7] The possible reason for male dominance may be more environmental exposure and trauma.[4] Most of the patients remains in age group range of 18-37 years (70%) which was compared favorably with other studies.[1,4,6,7] Majority of the patient (82%) who underwent SRM operation under local anesthesia for relief of nasal obstruction were in very satisfactory. None of the patients were dissatisfied. Similar findings also observed in a study of Gian Chand *et al.*[6] in Pakistan.

In previous studies it was found that patients performed SMR operation under local anesthesia was well tolerated without any pain or anesthesia related complications like,nausea, vomiting, dizziness etc. But a few SMR operated patients under general anesthesia were found to have nausea and vomiting.[3,6] The present study also suggested that most of the patients did not felt any pain or discomfort or anesthesia related complications during SMR operation under local anesthesia with sedation.

In present study the drug expenses of local anesthesia with sedation was remarkably lower than that of general anesthesia which was observed in previous studies.[3,6] This suggests, SMR operation under local anesthesia with sedation is less costly than general

anesthesia. Bleeding at the time of surgery was mild in which was consistent with Chand G *et al*.[6] The average operating time was 34.5 mins. with a range 30-40 mins which was comparable with other study where operating time ranged from a minimum of 10 mins. to a maximum of 1 hr. 55 mins. and the median being 30 mins.[8-10] and the complication was very negligible like other studies.[3,6]

The present study findings suggested that SMR operation under local anaesthesia with deep sedation was cost benefit in comparison of general anesthesia considering short hospital stay, being cheap, less operative bleeding, no serious complication, patient compliance, no post operative vomiting and hangover as in general anesthesia.

This study has some limitations as no comparison group of general anesthesia was allocated. Due to this limitation, the evaluation of SMR operation under local anesthesia in comparison of general anesthesia was dependent completely on previous literatures.

The results of this study have certain implication in clinical practice. Since local anesthesia with deep sedation is the better option in case of SMR operation than general anesthesia. Rhinologist should practiced local anesthesia with deep sedation to perform SMR during their daily practice specially in Bangladesh where economy is the major concern.

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