

Is daycare tonsillectomy a safe outpatient surgery at Pokhara ENT Center, Nepal

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ABSTRACT

Introduction: Tonsillectomy is one of the most common surgical procedure in the world performed by Ear, Nose and Throat surgeon. Over the past decade, there has been progress in surgical techniques for tonsillectomy, yet pain and bleeding after tonsillectomy remain important surgical complications. With the increasing need to reduce healthcare costs in developing countries, there is currently a trend towards performing tonsillectomy on a daycare basis and this study aims at evaluating how efficacious it may be in our setting. **Methods:** A retrospective review of all the daycare tonsillectomy surgeries performed at the Pokhara ENT Center, Pokhara, Nepal from February 2018 to January 2019. Patients aged 15 years and up of either sex who met the paradise criteria were included while patients who met the same but had a contraindication for tonsillectomy surgery were excluded. Demographic information as well as complications within six hours of surgery before discharge and on follow-up on the seventh post-operative day were evaluated, as were any emergency room visits in the first 24 hours and any complications requiring a visit to a healthcare facility. **Results:** On day of surgery 17% had worst pain and on seventh post-operative day 75% had no pain, only 2% presented with primary hemorrhage and 3% presented with secondary hemorrhage. None of them required revision surgery. **Conclusions:** Daycare tonsillectomy is being done in only some of the centers owing to the risk of postoperative complications in our country. In our study, the number of complications was lower and not life-threatening. It can be considered a safe and cost-effective method, though patient selection is crucial.

Keywords: Daycare, post-tonsillectomy hemorrhage, tonsillectomy.

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INTRODUCTION

Tonsillectomy is one of the most common surgical procedures in the world performed by Ear, Nose and Throat (ENT) surgeon. The first description of a surgical technique for tonsillectomy was performed by Aulus Cornelius Celsus, a Roman physician of the time of Christ, who extracted the tonsils using just his fingernails.¹ Since then, there has been progress in surgical and anesthetic techniques for tonsillectomy, resulting in faster surgical time with fewer complications.² However, post-operative pain and bleeding remain important surgical complications.^{3,4} The procedure is done as an inpatient surgery because of the risk of post-tonsillectomy hemorrhage, which can be serious. With the increasing need to reduce healthcare costs, spare precious hospital beds, and reduce the expense of these procedures, there is currently a trend towards performing tonsillectomy on a daycare basis in many major medical centers.^{5,6} Daycare tonsillectomies are being performed in many western countries, and the procedure is found to be safe.^{7,8} Post-tonsillectomy pain is a considerable problem, leading to suffering and unplanned health-care contact. Post-operative pain can be assessed by the visual analogue scale (VAS) after tonsillectomy,

which shows validity and reliability.⁹ Bleeding is another important complication after tonsillectomy. It can be primary, occurring within 24 hours of the post-surgical period and after the recovery of the patient from anesthesia, or secondary, occurring after 24 hours of the post-operative period. These complications after surgery can be studied to see the effectiveness of the method of surgery performed.

This study aims to find out the frequency of post-tonsillectomy complications that include pain and bleeding in the daycare setup at the Pokhara ENT Center in Pokhara, Nepal.

METHODS

This is a retrospective study and all the necessary data was collected from the medical records of the patients by using the semi-structured Performa who underwent daycare tonsillectomy surgery at Pokhara ENT Center, Pokhara Nepal from February 2018 to January 2019. The protocol had the approval from Nepal Health Research Council (NHRC Ref No:1935). Complication that were considered major primary hemorrhage- occurring within 24 hours of post-surgical period and secondary hemorrhage which occurs after 24 hours of surgery and minor complication post-operative pain were evaluated. Post-operative pain assessment of patients was done by using the universally accepted VAS (visual analogue score) system in which 0 represents “no pain”, 1 to 3: “mild pain”, 4 to 6: “moderate pain”, 7 to 9: “severe pain” and 10 represents “worst pain” (on the VAS). The patient was briefed about VAS before the surgery. Post-operative pain was measured two times for each patient; the first at six hours post-operative period after recovering from anesthesia before discharge and the seventh post-operative day during follow-up. Age, gender, and emergency department visit with complications such as surgical site bleeding and pain were all recorded.

All the patients above the age of 15 years, of both genders, with recurrent attacks of tonsillitis fulfilling the paradise criteria. Recurrent tonsillitis (without any history of acute tonsillitis within 4 weeks prior to surgery). Upper airway obstruction symptoms or sleep apnea, recurrent peritonsillar abscess and unilateral tonsillar hypertrophy. After an anesthetist evaluation, the patient is deemed fit for surgery. The presence of an adult guardian who could arrange an immediate visit to the hospital of a patient in case of an emergency were included. Exclusion criteria were: patients with acute attacks of tonsillitis, bleeding disorders, quinsy, uncontrolled medical illness, anemia, pregnancy and lactation. Patients who are medically unfit for surgery after assessment by an anesthetist.

The family was verbally informed in great detail regarding the operation, the discharge process, and about any potential complications. After six hours of surgery, the patient was instructed to sip ice cold liquid. Patients were scheduled for discharge:

- If patients were awake, alert and their vital signs (temperature, blood pressure, heart rate and respiratory rate) were within the normal range.
- The patient moving around and tolerating fluids.
- The oropharynx of the patient has been checked for post-operative hemorrhage.
- Emesis was controlled and pain was reduced by oral medication.

RESULTS

There were 59 daycare tonsillectomy cases in 12 months duration of which patients with age group 15-20; 21-25; 26-30; 31 and above were (n=23; 38.98%), (n=17; 28.81%),

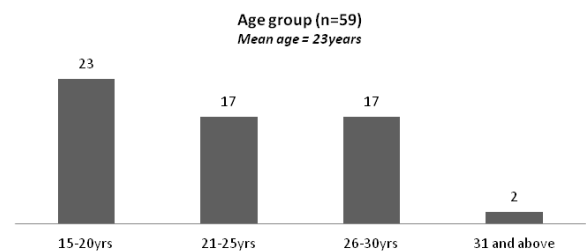


Figure 1: Age distribution of patients who underwent tonsillectomy surgery

(n=17; 28.81%) and (n=2; 3.39%) respectively. Most of the patients were between the age 15-20 years. Mean age was 23 years. Males were higher in frequency (38,65%) than female (21,35%)

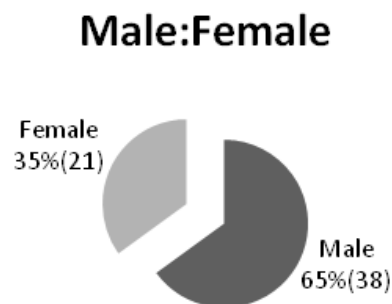


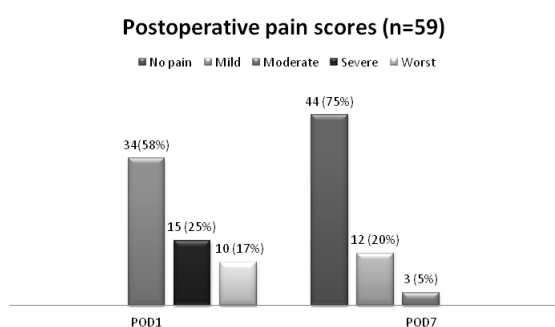
Figure 2: Sex distribution of patients who underwent tonsillectomy surgery

Among 59 patients all had pain on day of tonsillectomy surgery and (n=15; 25%) had pain on seventh post-operative day. Only (n=1; 2%) had primary bleeding and (n=2; 3%) had secondary bleeding.

Table 1: Complication rate among daycare tonsillectomy

Post-Operative Complications	
Pain POD 1 st	59 (100%)
Pain POD 7 th	15 (25 %)
Primary Bleeding	1 (2%)
Secondary Bleeding	2 (3%)

On the day of tonsillectomy surgery 34(58%) had moderate pain, 15(25%) had severe pain and 10(17%) had worst pain as on the seventh post-operative day pain was absent in 44(75%), mild pain was present in 12(20%) and moderate pain in 3(5%).

**Figure 3:** Distribution by intensity of pain on day of operation and on seventh post-operative day of tonsillectomy surgery

DISCUSSION

Daycare tonsillectomy is a well-established procedure in adults and children in the developed world, but due to the lack of resources, most of the patients have to be admitted in our part of the world.¹⁰ One of the major pros of daycare surgery is reduced health care costs for patients. It requires minimal post-operative care, which can be easily made available at home with appropriate instructions. Daycare surgery leads to less physical and psychological trauma, an increased sense of safety, minimally affects the lifestyle and patients can return to their normal day-to-day life very quickly.¹¹ However, there are some limitations of daycare surgery, which include management of post-operative unplanned admissions, management of the consequences of delayed treatment of complications if required.¹¹

The most common group of patients who underwent daycare tonsillectomy in our study was 15-30 years (n=23), which is similar to the findings of Tong et al. and Sapana et al., where the maximum number of daycare surgeries were performed in the age group of 13-36 years.^{12,13} In our study, we mainly evaluated two major complications following this surgery which are hemorrhage and post-operative pain.

Primary post-operative hemorrhage:

One of the complications that needs immediate care following daycare surgery might be post-operative

hemorrhage. Tewary, in his review of literature, found that the rate of primary post-operative hemorrhage in the setting of daycare surgery was 0.5%.⁷ Schloss et al. in his surgery found primary post-operative hemorrhage was found to be 3.5%.¹⁴ In his study, Tami et al. found primary post-operative hemorrhage to be 1.5%.¹⁵ Our study showed almost similar findings, in which out of 59 patients, primary was 2%. In our case, the patient with primary hemorrhage was immediately controlled by bi-polar cautery under local anesthesia.

Secondary post-operative hemorrhage:

The secondary post-operative hemorrhage in our study was presented on the fifth and eighth post-operative days in two patients (3%). Both the cases had minimal bleeding and were managed conservatively with hydrogen peroxide and betadine gargles, after which they were uneventful. Tewary, Schloss et al. and Tami et al. in their studies found that secondary post-operative hemorrhage was 1.02%, 5.1%, and 3.7% respectively.^{7,14,15}

Pain is another most common complication after tonsillectomy surgery which leads patients to seek outpatient medical attention within two weeks of surgery.¹⁶ Optimizing pain management is necessary to maximize the benefits of ambulatory surgery for both patients and healthcare providers. In our study, we saw that all 59 of our patients presented with moderate to worst pain on the first post-operative day, which was similar to other study Karatzias et al.¹⁷, moderate to severe pain on the first postoperatively and Francisco et al.¹⁸, mild to severe pain on the first post-operative day. On the seventh post-operative day, 12 patients presented with mild pain and only three patients presented with moderate pain in our study, which was managed by oral paracetamol. In the studies by Lachanas et al.¹⁹ and Stavroulaki et al.²⁰ they described mild to moderate pain in seventh post-operative day which is similar to our study. None of the patients were re-admitted due to severe pain or inability to eat or drink due to pain. So, we concluded that post-operative pain in most cases of the cases in daycare tonsillectomies can be managed very efficaciously with oral analgesics.

For any surgery to be considered safe as a day-care procedure, the incidence of the complications resulting in readmission should be very low and shouldn't be life-threatening or debilitating to the patients. The complications in our study were too low to be considered unsafe.

CONCLUSIONS

Daycare tonsillectomies are being practiced at very limited centers in Nepal but have great potential. We hope that this

publication will shed some light on the efficacy and safety of this procedure in a developing country like ours, though patient selection, their co-operation and proper counseling regarding the procedure and complications are crucial.

CONFLICTS OF INTEREST: None declared

SOURCE OF FUNDING: None

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