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**TONSILLECTOMY AND ADENOTONSILLECTOMY IN SUDANESE PATIENTS**

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**TONSILLECTOMY AND ADENOTONSILLECTOMY IN SUDANESE PATIENTS**

K. SHAMBOUL and Y. M. YOUSIF

**ABSTRACT**

**Objectives:** To highlight the indications for and complications of tonsillectomy or adenotonsillectomy operations in Sudanese patients and to find out whether any correlation can be deduced between routinely requested pre-operative investigations and the complications which may arise.

**Design:** A prospective study.

**Setting:** Khartoum ENT Teaching Hospital, Khartoum, Sudan.

**Subjects:** One hundred and twenty patients, 55% females and 45% males, age range 3 to 50 years. Pre-operative investigations consisted of a complete blood count and bleeding and clotting times., ASO titres and urinalysis.

**Interventions:** Consisted of tonsillectomy or adenotonsillectomy performed on in-patients by one of the authors under general anaesthesia.

**Main outcome measures:** High erythrocyte sedimentation rate (ESR) or ASO titres should not deter an indicated tonsillectomy operation which can still be carried out if meticulous haemostasis is observed.

**Results:** Three or more episodes of exudative tonsillitis per year and upper airway obstruction were the commonest indications for tonsillectomy or adenotonsillectomy accounting for 72.5% and 16.7% of the operations. Intra-operative bleeding occurred in 63 (52.5%) of the patients. Low figures of reactionary and secondary haemorrhages were seen.

**Conclusion:** It is concluded that as bleeding, both intra- and post-operative is the main complication of tonsillectomy, its incidence can be reduced to minimal levels by careful selection of patients, in whom the operation is carried out under general anaesthesia with gentle handling of tissues and detention of the patients post-operatively for two to three days. We also found out that coagulation tests need not be routinely requested and reserved for patients with a history of bleeding tendencies.

**INTRODUCTION**

Tonsillectomy is the most frequently performed otolaryngological procedure, especially in young children(1). It is usually indicated for a patient who has three or more episodes of exudative tonsillitis in one year, or in a patient who develops a peritonsillar abscess(2). According to Sprinkle and Veltri(2), tonsillectomy is now not indicated in children who have had rheumatic fever or glomerulonephritis unless they have local complications such as persistent secretory otitis media or recurrent otitis media with suppuration. On the other hand, Rubo and Cruz(3) reported that tonsillectomy or adenotonsillectomy can even be performed in children below three years of age who have upper airway obstruction associated with obstructive sleep apnoea syndrome.

Secondary haemorrhage still remains the most frequent complication of tonsillectomy or adenotonsillectomy in spite of the improvement in surgical techniques(4). Late post-operative complications include otalgia, nasal regurgitation, retracted soft palate due to scarring and tonsillar remnants.

In reviewing the literature and medline computer search no report on the indications or complications of these operations in the Sudan were found. The objective of this prospective study was to highlight these issues, and to see whether a correlation can be deduced between routine pre-operative investigations and the development of operative or post-operative complications.

**MATERIALS AND METHODS**

The subjects of this study consisted of 120 patients who had undergone tonsillectomy or adenotonsillectomy by one of the authors (Y.M.Y) in Khartoum ENT Teaching Hospital during a one year period (1988-1999). Eighty one patients (68%) were females and thirty nine (32%) were males, forming a ratio of 2:1. Their ages ranged between 3 to 50 years, and 75% of the patients were below the age of twenty years (Figure 1). Almost 96% of the patients had three or more genuine episodes of exudative tonsillitis during the year preceding surgery. Half of the patients had snoring and more than one third had fever or joint pains (Table 1).

Figure 1

Age distribution/percentage of patient population

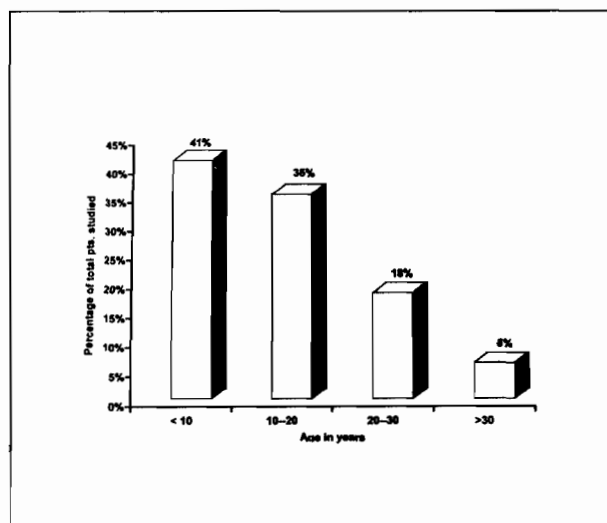


Table 1

Clinical complaints and their incidence

Symptom	No of patients	%
Recurrent sore throat	115	95.8
Snoring	62	51.7
Fever	46	38.3
Joint pains	53	44.2
Recurrent earache and otitis media	19	15.8
Generalised ill health and malaise	20	16.7
* Others	51	42.5

\* Headache, convulsions, palpitations, abdominal pain and loss of appetite.

Routine investigations included a complete blood count, bleeding and clotting times, for ASO titres and urinalysis. An ESR of more than 70mm/hour was recorded in 17 patients (14%) who were, nevertheless, included in the study if they had no history of sore throat or upper respiratory tract infection three weeks prior to surgery. The bleeding and clotting times were found to be within normal limits in all but 8 patients (7%) in whom further coagulation tests in form of prothrombin time and partial thromboplastin time were found to be within normal limits. The ASO titre was positive, more than 1/200 IU in 57% of the patients; and highly positive, more than 1/600 IU in 18 (15%), and negative in 28% of the patients.

Table 2

Indications for tonsillectomy, adenoidectomy or adenotonsillectomy

Indication	No of patients	%
Exudative tonsillitis (3 or more in one year)	87	72.5
Upper airway obstruction	20	16.7
Secretory otitis media or drum perforation with intermittent otorrhoea	10	8.3
Gross unilateral tonsillar enlargement	2	1.7
PH of peritonsillar abscess	1	0.8
Total	120	100

Table 3

Postoperative complications of tonsillectomy or adenotonsillectomy

Complication	No of patients	%
Haemorrhage:-		
a. Operative bleeding	63	52.5
b. Reactionary haemorrhage	2	1.7
c. Secondary haemorrhage	0	0.0
Infection of tonsillar bed, associated with respiratory tract infection	3	2.5
Earache	22	18.3
Trauma to soft tissue (uvula)	3	2.5
Nasal regurgitation	2	1.7
Remnant tonsil	1	0.8
* Others	2	1.7

\* Fever, vomiting and headache

## RESULTS

Surgery is indicated for patients who had three or more attacks of exudative tonsillitis during one year, or one attack of a peritonsillar abscess, or in young children with gross hypertrophy of the adenoids, or with a history suggestive of obstructive sleep apnoea syndrome (Table 2). Sixty three patients (55%) had undergone tonsillectomy by dissection and fifty four (45%) had adenotonsillectomy; all as in-patients and under general anaesthesia. In almost half of the patients, mainly adults, an excessive intraoperative bleeding was noticed especially during left tonsillar dissection. This was arrested by gauze pressure, crushing or ligation and no diathermy coagulation was used. All patients were routinely covered by a suitable antibiotic and kept in hospital for two to three days. Two patients developed reactionary haemorrhage during the first six hours and this was stopped by ligatures under general anaesthesia. No patient developed secondary haemorrhage. Three patients developed infection of the tonsillar bed associated with upper respiratory tract infection. Other minor complications are listed in Table 3.

## DISCUSSION

This is the first study on the indications or complications of tonsillectomy or adenotonsillectomy to be carried out in the Sudan. In this study female patients outnumbered males by a ratio of 2:1. Figure 1 indicates that almost 50% of the patients are older children or young adults. The possible explanation for female predominance is that young adult males probably prefer repeated trials of medical treatments so as to avoid absence from work and earnings deduction. Moreover, females may be more aware of the distressing symptoms associated with tonsillitis such as halitosis and snoring. The latter symptom is, however, prevalent in children with adenoid hypertrophy leading to narrowing of the nasopharyngeal airway. Adenoidectomy is advised for these children, and this operation or adenotonsillectomy is strongly indicated if

these children have signs and symptoms of obstructive sleep apnoea syndrome as delay in surgery may result in pulmonary hypertension, cor pulmonale and even right sided heart failure(5).

There is no consensus on the number of recurrent tonsillitis which should be accepted as an indication for tonsillectomy. However, an absolute indication is an elderly adult who presents with rapidly enlarging unilateral tonsil. In one out of two patients with such presentation in our study the tonsillar biopsy proved to be a non-Hodgkin lymphoma. In agreement with Halomus *et al*(6), more than three attacks of exudative tonsillitis in one year should be accepted as an indication for tonsillectomy, while in patients with local complications of tonsillitis this number may even be less. In this study we performed elective tonsillectomy two months following a single attack of peritonsillar abscess and its incision and drainage. Lockhart *et al*(7), suggested abscess tonsillectomy for patients with peritonsillar abscesses. However, such patients are usually weak and febrile and abscess tonsillectomy on their friable infected tissues may be complicated by reactionary or secondary haemorrhage.

In the study we found that 15% of the patients had strongly positive ASO titre and high ESR. These are usually adult patients in whom we felt that the tonsillar dissection was rather difficult and probably they bled more than usual. However, we cannot draw conclusions from these findings and deter an indicated operation, as these investigations are expected to be high with repeated streptococcal infections. Such patients with high ASO titre should, however, be operated on by a senior member who should aim at good haemostasis.

Coagulation studies are routinely requested for in some centres. However, we found that the bleeding and clotting times were within normal limits in all but seven per cent of our patients, in whom further coagulation tests were found to be normal. In agreement with Bogler *et al*(8), these tests need not be routinely requested, but they are, nonetheless, justified if there is a family history of undue bleeding tendency.

Many factors contributed to the absence of secondary haemorrhage in this study. Among these were exclusion of patients with recent sore throats or upper respiratory tract infection, adopting tonsillar dissection method with meticulous haemostasis, avoiding use of diathermy coagulation as it may lead to sloughing of tissues, detention of patients postoperatively in hospital for two to three

days and covering them with antibiotics. It should be emphasised that careful dissection is the gold standard in reduction of late postoperative complications. Only 2.5% of our patients had accidental trauma to the uvula and less than one per cent had tonsillar remnants.

## CONCLUSION

In this prospective study we found that detailed pre-operative investigations are probably unnecessary. The ASO antibody is a diagnostic indicator of a previous streptococcal tonsillitis. A high ESR or ASO titre should not deter an indicated tonsillectomy which should be done, as expected, with careful haemostasis. Coagulation tests should not be routinely requested for except in patients with bleeding tendencies. The indications for tonsillectomy in the study do not differ from those suggested by previous authors. Reactionary and secondary haemorrhages can be kept to a very low figure by careful selection of patients and gentle handling of tissues during the operation. Tonsillectomy or adenotonsillectomy are better performed under general anaesthesia and the patient kept in hospital for two to three days post-operatively and covered with a suitable antibiotic.

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