



Evaluating Outcome of Adenotonsillectomy in Children in Port Harcourt

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Abstract

Background: Adenotonsillectomy is a common surgical procedure with various indications. Despite obvious indications surrounding the procedure, some parents, clinicians sometimes suggest a watch and see approach. Others will go for immediate surgery as soon as indication is observed. Thereby creating variability as when to perform procedure.

Aim: The study is therefore set to evaluate the outcome of adenotonsillectomy in children. Advantages/disadvantages of early and late surgery.

Patients and Methods: This is a prospective study of 120 children who had adenotonsillectomy between Jan 2009-Jan 2011 in Otolaryngology Department of University of Port Harcourt Teaching Hospital and Braithwait Memorial Specialist Hospital, all in Port Harcourt. Age, Sex, indication, presenting symptom and duration of symptom as well as postoperative complications were recorded and analyzed in tables. Above information were recorded in their various folders, during operative and postoperative period.

Result: Patients recruited in the study were in the age range of 1-16 yrs. 50 (60%) males and 70(84%) females. Male/female ratio of 1:1.4 Age group 1-4yrs had greater number of patient that had surgery. Complications were observed more in the older children who had surgery, especially in age group greater than 5 years.

Conclusion: Children in the younger age group, below Age 4 tolerated procedure better than those in the older age group. Few complications were also observed in the younger age group. It is obvious that surgery is better performed as early as symptoms become obvious.

Keywords: Adenotonsillectomy, Children, Cold steel dissection method

INTRODUCTION

Adenotonsillectomy has been a common procedure, done to relief Airway obstruction in children who have obstructive symptoms. Other indications exist, all depend on the child's presentation (Helen MC et al., 2008). As early as 5 months of life the presence of lymphoid tissues of the post nasal space, including the palatine tonsil are identified in most children especially with MR1 imaging (Helen MC et al., 2008) (William SM et al., 2008). From this period, there is

progressive increase in the size of these lymphoid tissue in form of metaplasia, resulting from repeated attack of upper respiratory tract infection. This increase plateaus between 2 and 14 yrs of age (in our environment it is 3-4 years and in Caucasians 5-7 years) (William SM et al., 2008). Regression of adenoid occur rapidly after 15 years in most children.

However, clinical symptoms are more common in a younger age group, due to relative small volume of their nasopharynx. With these background some surgeons in

assessing their patients sometimes advocate a watch and see approach, hoping that their patient fall with category that will have regression of the enlargement and subsequent disappearance of symptoms.

Some have gone ahead to offer surgery after the first contact and assessment, depending on the severity of symptoms. Some parents had taken the surgeon to task, asking if there can be regression. And when informed that there could be regression with advancing age, such parents will opted out of surgery early in life, only to present later asking for the surgery to be performed, due to over whelming symptoms observed in their child (Helen MC et al., 2008) (Sie KN et al., 1997). This happens one or several years after the first assessment and offer for surgery. As a result of these differences in acceptance to procedures even when the symptoms are severe, this paper therefore is to evaluate the outcome of these procedures, advantages/disadvantages of early and late surgery through a prospective study.

Clinical Presentation

Observed in these children are:

- Snoring
- Mouth breathing
- Sleep Apnoea
- Night restlessness at sleep
- Intercostals recessions
- Tracheal tugs

Problems arising from these Presentation Include

(A) Psychosocial

(B) Systemic

Psychosocial

- Malnourish appearance
- Sleep disturbances
- Somnolence
- Parental anxiety
- Poor mental development
- Poor learning and performance at school

Systemic

- Hypoxia
- Increased sympathetic output
- Peripheral vasoconstriction
- Pulmonary hypertension
- Right heart failure
- Cor pulmonale

PATIENT AND METHODS

This is a 2 year prospective study of 120 children who had adenotonsillectomy between January 2009 - January 2011. Age between 1 yr - 16 yrs. 50 males and 70 females. Case notes of patients recruited were retrieved from the medical/theatre records of UPTH and BSMH all in PH. Age, sex, presenting symptoms, durations of symptoms, complications, number of days in the hospital were recorded and analyzed in tables. These were recorded in their various folders, during operative and postoperative period Patient with co-morbid states and syndromic children were excluded.

All had simple baseline investigation – FBC/diff, clothing profiles and plain radiographs of the post nasal space and chest. Operative method was cold steel dissection method in all cases with endotracheal intubations of the airways.

RESULTS

Table 1. shows that greater number of children were encountered in age group 1- 4 years. Age group 13-16 years presented with least number. More female presented with m/f ratio of 1:1.4.

Table 2. shows complications that were observed in our patient, intraoperative and post operative period. Major complication was haemorrhage, manifesting per operative and post operative.

Age group 5-8 yrs had greater number of patients presenting

Table 1. Age Group and Sex Distribution.

Age group	Male	Female
1 – 4	30	40
5-8	10	20
9-12	9	9
13 - 16	1	1

Table 2. Complications Arising In various Age Group.

Complications	1-4	5-8	9-12	13-16
Intraoperative Haemorrhage with silk tie haemostasis	5	20	18	2
Post nasal pack	2	5	9	
Haemorrhage 5 – 8 hrs post op with IV fluids	-	4	3	
Haemorrhage 5-8 hrs post op with blood transfusion	-	2	2	
Haemorrhage 5-8 hrs post op with revisit to theatre and transfusion of blood	-	1	1	
Haemorrhage 24 hrs post op	-	1		
infection requiring re-admission	-	1		
TMJ dislocation	1	1		
Loss of teeth	-	1		

with haemorrhage. Three main presentations were observed and stated in (**Table 3**).

They are sleep apnoea and mouth breathing, otological symptoms (otalgia, hearing impairment), and recurrent throat infection. Those in higher age group stayed longer in hospital, as showed in (**Table 4**). Age group 13-16 had average hospital stay of eight days.

Table 3. Presenting Symptoms in various Age Group.

Presenting Symptoms	Age group			
	1-4	5-8	9-12	13-16
Sleep Apnoea and mouth breathing	60	23	6	1
Otological problems (otitis media, otitis media with effusion)	4	2	3	
Recurrent throat infection	6	5	9	1

Table 4. Duration of Hospital stay after Surgery.

Age group	Average duration of hospital stay
1-4	3 days
5-8	5 days
9-12	7 days
13-16	8 days

DISCUSSION

More children in the younger age group had clinical symptoms presenting with obstruction to air passage. This has been noted in the literature due to small volume of nasopharyngeal space in children **Table 1**.

1. Small increase in size of adenoid resulting from hypertrophy can create overwhelming symptoms in small volume nasopharynx. More females were noted in our study. A literature review shows that more female are involved in obstructive symptoms.

2. Reason for this is not well known. Females may be having more frequent attack of upper respiratory tract infection than males. The study noted that complications were **Table 3** observed more in older children, specifically from age 5 years and above. This was recorded more in age group 5-8 years 36 (43.2 %), followed by age group 9-12 years 33(39.6 %), only 8 (9.6%) were recorded in age group 1-4 years.

(Suen et al., 1995) also noted increased complications in older children in their series of adenotonsillectomy for the treatment of obstructive sleep apnoea in children 3, 4. Intraoperative haemorrhage was easily arrested in younger age group than in older children.

Post tonsillectomy bleeding was not observed in age group 1-4. (Wei et al., 2000) in their evaluation of post tonsillectomy bleeding and risk factor, noted low rate of post tonsillectomy bleeding in younger children compared to adult (Wei JL et al., 2000).

Obstructive symptoms and otological symptoms were observed more in younger age group **Table 3**. Consequence

of this arc accompanying psychosocial and systemic problems, enumerated in the introductory portion of this study.

(Sei et al., 1997) highlighted some of these associated problems in their study of acute right heart failure due to Adenotonsillar hypertrophy (Sie KN et al., 1997) looking at the hospital stay those children in age 1-4 had average of 3 days stay in hospital compared to those in older age group.

(Adoga et al., 2008) in their daycare adenotonsillectomy experience noted no post-operative complications and hence advocated early discharge from hospital (Adoga AS et al., 2008) (Afolabi OA et al., 2009). Despite adequate results of clotting profiles, post-operative bleeding were also observed especially in older children. None relevance of clotting profile had been noted by Onokoya et al., (2004) in their study of Adenoidectomy and tonsillectomy, where relevance of clotting profile was questioned (Onokoya PA et al., 2004) (Zwack GC et al., 1997).

Therefore complications like intraoperative or postoperative bleeding cannot be predicted accurately based on preoperative clotting profile assessment (Thomas GK et al., 1970). Therefore, in our study pre-op assessment was based on individual child and those above 5 years had more bleeding pattern.

CONCLUSION

Children in lower age group 1-4 years tolerated procedure, compared to those in older age group. Few complications were also observed in the lower age group, with less hospital stay. Procedure is there lore better performed as soon as indications arise. Late procedure, might attracts more complications.

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CONFLICT OF INTEREST

None

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