

## DAY CASE ADENOIDECTOMY: IS IT SAFE?

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### SUMMARY

**Objective:** To document the Clinical outcome of Day Case Adenoidectomy in Children in a Nigerian tertiary health Institution and a private Ear, Nose and throat Consultant Clinic.

**Methodology:** This is a prospective study of twenty eight children without any co-morbid condition operated for Adenoidectomy between June 2002 and May 2004. The patients were admitted on the day of surgery and discharged within 12 hours post surgery.

**Result:** A total number of 28 patients were operated for adenoidectomy. 16 children were treated as planned day cases and 12 were treated as inpatients. 50% of the patients were in the age group of 2-4 years. There were 12 males and 4 females with a M:F ratio of 3:1. All the parents of the patients had access to cars and 75% resided within 30 minutes of travelling time from the hospital.

**Conclusion:** Day case adenoidectomy is relatively safe and may prove advantageous considering long surgical waiting lists, preventing Hospital acquired infection and minimizing cost of hospitalization.

**Key Words:** Day case, adenoidectomy, urban, Nigeria

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### INTRODUCTION

The adenoid is an important site of contact of inhaled micro-organisms and antigens with immunoactive cells. It is covered by a pseudostratified ciliated columnar epithelium rich in goblet cells, plicated to form numerous surface folds which increase the total surface area. It is rich in lymphocytes, mainly B-lymphocytes and small T-lymphocytes and very few plasma cells in contrast to the lymphocyte in the peripheral blood, which are T cells<sup>1</sup>. There are conflicting reports regarding the immunologic consequences of tonsillectomy and adenoidectomy, yet it is clear that no major systemic immunologic deficiencies result from these procedures<sup>2</sup>. Adenoidectomy alone does not disturb the remainder of Waldeyer's ring, thus the likelihood of a major immunologic sequelae from adenoidectomy is remote. Adenoidal hypertrophy in children producing symptom is a major cause of anxiety to the parent especially the mother; the chief clinical disorder is nasal obstruction or mouth breathing with resultant snoring and sleep apnoea.

Day case surgery is not a new concept; it is an important part of elective surgery. The importance of this among other things include that the high cost of keeping patients in in-patient beds, the long surgical waiting lists in publicly funded health care systems,

and the risk of hospital acquired infection will be greatly reduced. There is no doubt that money is saved and resources are better utilized. The health care system in Nigeria like in any other country in the world is under financial pressure. Adenoidectomy is one of the commonest surgical procedures performed on children by the otolaryngologist. Any procedure that will bring some financial relief to the parent will be a welcome idea. The procedure must be safe and the complication if any should not be life threatening. This study is aimed at determining the Clinical outcome of day case adenoidectomy in children in our centre between June 2002 and May 2004. It is hoped that from the findings of our study, day case adenoidectomy may be chosen as a reasonable option in the paediatric population assuming careful selection of the child and adequate counseling of the parents.

### MATERIAL AND METHODS

This is a prospective study of all children with adenoidal vegetation seen and investigated at the Ear, Nose and Throat (ENT) Clinic University of Ilorin Teaching Hospital, Ilorin and Sure-Heights Ear, Nose and Throat Centre Ilorin, a private Consultant Clinic. A questionnaire was given to the parents whose children were scheduled for adenoidectomy. The children studied were divided into two groups: (a) those who fit the selection criteria for day-case adenoidectomy and (b) those for routine in-patient adenoidectomy as control, to see how safe

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day case adenoidectomy is in urban centre such as ours. Exclusion criteria included those with sickle cell disease, bleeding disorder, any other clinical illness and those for adenotonsillectomy.

### Operation Method

A careful selection of the patients was done based on selection criteria. The child must not have any bleeding disorder or Sickle Cell Disease, there should be no history of chronic medical problem and the parent must be suitable. The child was admitted on the day of surgery. There was no anaesthetic protocol, no premedication was given. Adenoidectomy was performed by curettage and the haemostasis was achieved by intra-operative nasopharyngeal gauze pressure. The children were assessed by ENT doctor six hours post operatively to check for pyrexia, vomiting, bleeding or hypernasal speech. The child was allowed to go home if the post operative signs were favourable. Those with unfavourable sign were kept overnight and routinely treated as in-patient cases. On discharge, the parents were given verbal information, regarding post operative care and back-up support. The patients were reviewed 1<sup>st</sup> and 7<sup>th</sup> day post surgery.

### RESULTS

A total number of twenty eight patients were operated for adenoidectomy. Sixteen children were treated as planned day cases and twelve were treated as in-patients. Analysis of the bio-data of the Day cases showed that 50% of the patients were in the age group of 2-4 yrs and 75% of them were male. Analysis of the social-data of the parents revealed that 100% of the parents had access to car about 87.5% of the parents had access to telephone, 75% were within 30 minutes of travelling time from the hospital. None of the parents had home support. The indications for surgery in this series were nasal obstruction with sleep apnoea (87.5%), recurrent rhinitis (12.5%) recurrent lower respiratory tract infection (50%), and failure to thrive (50%). One week feedback assessment from the parents, revealed the following: 12.5% of the parents in the Day case group preferred the operation as in patient, while 33.3% of the in-patient groups preferred the operation as day case procedure. None of the children in the Day case group were readmitted to the Hospital. There was no case of reactionary haemorrhage in the day case group. There was no mortality in this study. One of the patients suffered post-operative complication which could have required an over night stay and could be treated as an in-patient. A 3 year old child who developed mild fever was treated for malaria, the mother insisted that she would not sleep in the hospital and agreed to present the child for assessment the following day. The child was however better afterwards. None of the children in the Day case group was re-admitted to the hospital.

Table 1: Showing Age and Sex Distribution.

AGE (YEAR)	AGE FREQ.	%	SEX	FREQ.	%
1 – 2	0				
2 – 4	8	50	Male	12	75
4 – 6	6	37.5			
6 – 8	2	12.5	Female	4	25
8 – 10	0				
<b>Total</b>	<b>16</b>	<b>100</b>	<b>Total</b>	<b>16</b>	<b>100</b>

Table 2: Showing Access to Mobility and Telephone.

MOBILITY	YES		TELEPHONE	YES	
	Freq.	%		Freq.	%
Has a vehicle	8	50%	Has Telephone	8	50%
Neighbours have a vehicle	8	50%	Neighbours have a Telephone	6	37.5%
Free access to Mobility	16	50%	Free access to Telephone	14	87.5%

### DISCUSSION

Adenoidectomy is one of the commonest surgical procedures performed in a paediatric otolaryngological practice. Day case adenoidectomy is not a new concept in some parts of the world especially developed countries. Though Day case adenoidectomy from certain centres in the United Kingdom, were considered a safe procedure, there are still worries among Otolaryngologist that such practice is unsafe especially in rural environment<sup>3,4</sup>. Our experience from this study showed that Day case adenoidectomy on carefully selected patients is safe in an urban centre in Nigeria. Day case adenoidectomy is not very popular in Nigeria and in most developing countries. Many surgeons still prefer to keep the children in the hospital overnight. It is even more unpopular in other regions of the U.K. such as in Wales and Scotland. The agreed selection criteria and clinical audit for Day-case adenoidectomy in 5 different hospitals in East Anglia region of the U.K. include:

1. The children must be three years old or above
2. There should be no history of chronic medical problems, bleeding disorder, sickle cell disease or immunosuppression.
3. The parent should have a car, telephone and sufficient support at home
4. The traveling time to the hospital should be less than 30 minutes.

In our study 50% of the patients were in the age group 2-4 years. Preoperative assessment shows that nasal obstruction with sleep apnoea accounted for 87.5%, of the indication for Surgery. This is in keeping with other reports<sup>4-7</sup>. Tonsillectomy and adenoidectomy are known to be beneficial when sleep apnea and cor-

pulmonale are complication of upper airway obstruction<sup>9</sup> Upper respiratory tract allergy may also cause obstructive adenoid, its Seems reasonable to recommend adenoidectomy for Children with moderate to severe nasal obstruction that is unresponsive to medical management; especially when it negates the quality of life of the child. The present study shows that day case adenoidectomy is a safe procedure on a carefully selected patients and parents. In this study the parent social data revealed that all the parents had access to cars, while about 87.5% of them had access to telephone. Lack of traffic congestion is a favourable factor in the consideration of day case surgery. Seventy-five percent of our patients were within 30 minutes traveling time by car from the hospital. This compares favourably with 80% of children in a similar study in East Anglia U.K. Post operative recovery of our day case adenoidectomy patients was smooth and uneventful. The most common complication of the adenoidectomy is post operative bleeding Helmus et al<sup>10</sup> noted that 0.4% of their patients bled after outpatient adenoidectomy; all instances of bleeding occurred in the first 6 post operative hours. We believe, with careful patient selection, preoperative assessment and observation for 6 hours post operatively one should be able to detect potential problems. The average blood loss in 87.5% our patients was less than 50ml. Other less common complications include nasopharyngeal stenosis from excessive tissue destruction such as might occur from excessive use of cautery, excessive curettage of the Fossa of Rossen Mullar and removal of lateral pharyngeal adenoid<sup>8,9,11</sup>. Post operative pain in children could be worrisome to the parents. In a survey questionnaire about pain, pain medication, adverse effects and daily activities during first week after the operation, eighty three percent of children had pain at home and 17% of them had moderate or severe pain on a four points verbal rating scale. 80% of children used pain medication at home, while over 90% of children were back to normal daily activities during first three post operative days<sup>12</sup>. Most of the patients did very well with simple analgesic like paracetamol syrup. Post operative pain should be controllable with simple analgesic our experience suggest this is possible. Only one of our patients, a 3 year old male child who developed a low grade fever after surgery, developed post operative complication but recovered uneventful. He was treated for malaria. There was no case of reactionary haemorrhage in the day case group. Health care providers should be concerned about the process and the expected outcome of his/her services. Whilst the process is important, the outcome determines quality. It is imperative that service providers recognize that outcomes other than short term clinical outcomes are also important to those whom

they serve (i.e Families not management) Long term outcomes should also be borne in mind such as Behavioural disturbance associated with the hospitalization experience, satisfaction and cost. The Practice of out patient surgery has been shown to have economic advantages for both the patient<sup>13,14,17</sup> and the health service<sup>15,16</sup>. On one week feedback assessment from the parents of our patients, a parents in the day case group preferred the operation as in-patient, while 33.3% of the in-patient group preferred the operation as day case procedure.

In conclusion, day case adenoidectomy is relatively safe and may prove more advantageous considering long surgical waiting lists, and when there is need to prevent risk of hospital acquired infection and the need to minimize cost is desirable.

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