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# International Journal of Pediatric Otorhinolaryngology

journal homepage: http://www.ijporlonline.com/



# Profile of pediatric traditional uvulectomy in North-West Nigeria: The need for caution and education\*



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#### ARTICLE INFO

Article history:
Received 29 February 2016
Received in revised form
7 July 2016
Accepted 8 July 2016
Available online 12 July 2016

Keywords: Traditional uvulectomy North-West Nigeria Complications

#### ABSTRACT

*Objectives:* The study assessed the prevalence of complications associated with traditional uvulectomy and identified factors associated with favorable outcome after management in a pediatric population in North-Western Nigeria.

Study design and setting: This cross-sectional descriptive study was carried out at the accident and emergency section as well as at the otolaryngology out-patient clinic of the Federal Medical Centre, Birnin-Kebbi, Nigeria.

*Methods:* Patients with traditional uvulectomy complications were recruited on consecutive basis and sample size was dependent on the patients seen over the study period. This was done over a 6 month study period (January 2014–June 2014).

Results: A total of forty one participants, all within the paediatric age group (<15 years) participated in this study. The age of the participants ranged from 2 to 13 years while the mean age was 6.17 years  $\pm$  2.47. The  $\leq$ 5 year age group constituted about 44% of the children studied. Gender distribution noted a slight male preponderance (Male: Female ratio = 1.05: 1). A total of 58.8% of the participants were fully immunized, while the Haemoglobin concentration status (packed cell volume) at hospital presentation of <10 g/dl (<30%) occurred in 34.1% of the participants of the study. The duration of hospital stay in pediatric patients with post-traditional uvulectomy complications was significantly associated with the maternal immunization status (p = 0.007). Also, subjects with completed maternal immunization status had about 0.1 times odds (CI = 0.19–0.64) likelihood to have a prolonged hospital stay when compared with subjects whose mothers were partially immunized or not immunized at all.

Conclusion/Significance: In conclusion, this study found that favorable outcome post-traditional uvulectomy is related to early presentation and maternal immunization status, but adversely affected by anemia. Traditional uvulectomy remains a cultural practice that should be discouraged using both advocacy and legislative measures.

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## 1. Introduction

The role of the uvula has largely been attributed with velopharyngeal function in swallowing, preventing regurgitation of feeds into the nasopharynx and speech articulation. This anatomic structure consists mainly of the *musculus uvulae* which has superior

and inferior attachments to the posterior nasal spine, palatine aponeurosis and mucosa of the uvula respectively [1]. It is located in the antero-superior aspect of the oropharynx and completes the distal portion of the soft palate. The surgical removal of this anatomic structure is termed uvulectomy. While the term, traditional uvulectomy refers to a cultural practice which involves the partial or total excision of the uvula, often without aseptic considerations. This practice while often asymptomatic, could result in complications and its attendant sequelae.

The cultural practice is said to be common and has been reported in parts of Africa [2,3]. The procedure is often carried out by

<sup>\*</sup> This research work was accepted and presented at the 15th British Academic Conference in Otolaryngology (BACO) Liverpool, UK: 8–10 July 2015.

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barbers (most predominantly), Arabic teachers and petty traders based on the study carried out by Ijaduola [4]. The practice of traditional uvulectomy is carried out in North-western Nigeria during the period of circumcision (surgical removal of the foreskin) which is the 7th day of birth, but could be delayed in the advent of other factors which affect the health of the child. While most of the children do not have any complications resulting either directly or indirectly from the procedure, complications have been known to occur. Septicemia, hemorrhage, abscess collections have been reported early complications while velo-pharyngeal insufficiency, tetanus, cavernous sinus thrombosis and HIV/AIDS are reported long term complications [5,6].

The procedure is often carried out in the early mornings and evenings, seldom done in afternoons. For the pediatric cases, the barbers are often called when the child is 7 days old to cut the hair, during which they are also requested to examine the uvula. Based on any presumed abnormal findings, they perform the traditional uvulectomy, otherwise the uvula is left alone. Later on in life, if there are any problems in the throat, the barbers are often the first point of call. After the procedure, traditional medications (components often undisclosed) are then administered to the patient and often repeated after being discharged home.

Traditional uvulectomy remains a harmful cultural practice despite the skill of the barbers. There is thus a need to elicit information about the various factors that make parents and care givers subject their children or wards to this procedure, despite the obvious attendant risks involved. There is also need to identify possible factors that may contribute to a favorable outcome especially in patients presenting with complications.

The study aimed at assessing the prevalence of complications associated with traditional uvulectomy and identify the factors associated with favorable outcome after management in a pediatric population in North-Western Nigeria. This was carried out amongst the pediatric patients presenting as emergencies to the accident and emergency section of the Federal Medical Centre, Birnin-Kebbi, Nigeria and those with late complications at the otolaryngology out-patient clinic of the hospital.

### 2. Materials and methods

# 2.1. Study design

The study was a cross sectional descriptive study which was carried out amongst pediatric patients presenting with traditional uvulectomy complications at the otolaryngology (ORL) out-patient clinics or presenting through the accident and emergency section of the Federal Medical Centre (FMC), Birnin-Kebbi, Nigeria.

The patients were recruited on consecutive basis and sample size was dependent on the patients seen over the study period. Prior to the commencement of the study, ethical approval was sought and obtained from the institutional Ethics committee of the FMC Birnin-Kebbi. Anonymity of the various patient's records were obtained by special coding rather than using names of patients. This was done over a 6 month study period (January 2014—June 2014).

# 2.2. Study population/characteristics

Kebbi State is a state in north-western Nigeria with its capital at Birnin Kebbi. It has a total land mass area of 36,800 km and a population of 2,062,226 [7]. Created from part of the then Sokoto state in 1991 and thus shares a common boundary with the new Sokoto state, on its North-Eastern aspect, the Republics of Benin and Niger on the Western aspect and Niger State on the Southern part.

#### 2.3. Study sampling

Kebbi state is made up of four emirate councils and 21 Local Government Areas (LGAs). These are Gwandu emirate which comprises of 10 LGAs; Yauri (3 LGAs); Zuru (4 LGAs) and Argungu (4 LGAs) emirate councils respectively. Gwandu emirate council was selected among the four emirate councils in the town by purposive sampling technique since it was the largest of the four emirate councils with 10 of the 21 LGA's. Of the 10 LGA's in Gwandu emirate, 5 LGAs were selected by simple random sampling technique without replacement. Initial contact was made with the head of the traditional uvulectomist, *Serkin Askin Gwandu* (Head of barbers in Gwandu emirate) of the community in order to ensure prompt referral of complicated cases to FMC, Birnin-Kebbi (the referral hospital).

Details of socio-demographic characteristics including, age, gender, tribe, occupation, socio-economic status (assessed after Oyedeji model) [8] were obtained. The body mass index (BMI) was calculated for each child based on the International Obesity Task Force (IOTF) cut-offs [9]. Also, the clinical presentations and prevalence of traditional uvulectomy complications, immunization status, duration of symptoms prior to presentation, forms of medications received, and treatment outcomes were considered.

The diagnosis of the complications seen post-traditional uvulectomy, was made based on the following criteria. *Septicaemia* (presence of axillary body temperature >38.5 °C or <36 °C and white blood cell count, wbc count >10,000/cm²), *Respiratory distress* (presence of respiratory rate that is 2 standard deviations above normal for age) and *Acute renal failure* (presence of urinary output of <0.3 mL/kg/h in 24 h).

Inclusion criteria included all consenting pediatric patients (<15 years) presenting with complications of traditional uvulectomy during the study period. Excluded from the study were patients who did not give consent or whose records were incomplete.

# 2.4. Statistical analysis

All statistical analysis were done using SPSS statistical package for Windows, version 18 (SPSS Inc., Chicago, IL). The results were presented in simple charts and tables as appropriate. For the variables of the logistic regression, the dependent variable was the duration on admission (<5days or  $\geq 5 \text{days}$ ), while the only independent variable was the maternal immunization status (present or absent). All analysis were done at statistical significance set at p < 0.05.

## 3. Results

There were forty one participants which were all within the paediatric age group (<15 years) who participated in this study. The age of participants ranged from 2 to 13 years while the mean age was 6.17 years  $\pm$  2.47. The  $\leq$ 5 year age group constituted about 44% of the children studied. Gender distribution noted a slight male preponderance (Male: Female ratio, 1.05: 1). The most prevalent ethnicity of the participants was the Hausa tribe 68.3%, followed by the Fulani tribe (17.0%) while others (Yoruba, Igbo and other tribal groups) were 14.7%. The Low socio economic class (groups IV and V) constituted 68.1%. Other socio-demographic characteristics of participants are as seen in Table 1.

The Body Mass Index (BMI) status of the participants was noted to be within the Normal category in 70.7%, while the Thinness and Overweight category were 19.5% and 9.8% respectively (Table 2). The Maternal Immunization status of participants was complete in 58.5% while the presence of haemoglobinopathy occurred in 14.6% of subjects. The main sources of referral for traditional uvulectomy

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