Nigerian Journal of Perinatal and Neonatal Care

ORIGINAL REPORT

Morbidity and mortality associated with traditional uvulectomy among neonates in a tertiary health facility in Kano, Nigeria.

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Abstract

Introduction

Traditional uvulectomy is a procedure that involves the cutting of parts of the uvula with the erroneous belief that it will prevent throat infection. This practice predisposes to bleeding, sepsis and neonatal tetanus. We aim to report the prevalence and associated morbidity and mortality of traditional uvulectomy among neonates in a tertiary health center in Kano, Nigeria.

Method: Prospective cross-sectional study design was used. Consecutive neonates presenting at neonatal unit of Murtala Muhammed Specialist Hospital Kano with complications of uvulectomy were enrolled. Data included were, place of residence, sex, age at presentation, antenatal clinic (ANC) attendance, place of delivery, parity, complications and outcome. Data analysis was done using Stata STATA software version16 StataCorp®.

Results: Prevalence of uvulectomy was 2.6% (52/1959 admissions). Median (range) age was 8(2 -25) days, 57.7% were male, and majority 59.6% (31/52) were delivered at home while 82.8% (43/52) had ANC. The mean (SD) number of ANC visit was 2.8 (1.9). The case fatality was 30.7%. While 75% of babies whose mothers had ANC recovered, only 28% of babies whose mothers had no antenatal care survived. (X^2 = 6.2 9 = 0.01). Multivariate analysis adjusting for place of residence and place of delivery shows the odds of surviving after uvulectomy was 6 times higher amongst the ANC group compared to those with no ANC (OR = 6.3 CI 1.3-38.4). A higher proportion of those who died 56.3% (9/16) had Neonatal Tetanus, but this was not statistically different from the mortality rate from other complications. [X^2 =9.5, p= 0.05].

Conclusion: The practice of traditional uvulectomy is prevalent in Kano Nigeria and is

associated with high case fatality rate. Antenatal care with emphasis on awareness creation and health education about the dangers of this practice is recommended.

Keywords: Uvulectomy, Neonate, Mortality, Morbidity, Kano

Introduction

Nigeria has one of the highest neonatal mortality rates in the world.[1] Sepsis, perinatal asphyxia and prematurity are the top causes of death.[1,2] However, the underlying factors associated with neonatal death are lack of access to care, poverty and traditional beliefs and practices.[3,4] There are cultural practices related to childbirth and neonatal care that could negatively affect health and even lead to death.[5-7] Traditional practices like female genital mutilation and uvulectomy are common in many parts of Africa and the Middle East.[5,8-12]

Traditional uvulectomy is the surgical removal of the uvula, mainly performed by traditional practitioners (barber).[13-15] It is Usually performed during neonatal period, on the third day of life for a boy and on the fourth day for a girl in sub-Saharan Africa.[16] There are various reasons for performing traditional uvulectomy, from tradition as part of the birth ceremony, to disease prevention. There are traditional beliefs that the uvula is responsible for a range of health problems such as sore throat, chronic cough, growth failure in an infant, vomiting and gynecological problems, hence the need to remove it as a prophylactic treatment or measure.[16-22] In some part of Africa, the uvula is removed during infancy/neonatal period and sometimes in adults.[23-25] The prevalence of traditional uvulectomy among under-5 children is 19% in Niger, and 90% of a rural community in North western Nigeria reported they performed uvulectomy on their newborns.[26,27]

There is no documented proven benefit of traditional uvulectomy in the literature, furthermore traditional uvulectomy is associated with severe complications, mortality and is an important public health problem.[10,14,28-38] Its complications accounted for 7.8/1000 hospital admissions in Niger and 15.6% of neonatal admissions in Ethiopia.[14,28] The most common early complications include; acute bleeding, anaemia, neonatal sepsis (NNS), neonatal tetanus (NNT). Chronic complications such as obstructive sleep apnoea and pharyngeal dryness occur while transmission of HIV and viral hepatitis may occur.[14,32,33,35,36]

Aim: This study aimed to assess the associated morbidity and mortality due to traditional uvulectomy amongst neonates in a tertiary health center in Northern Nigeria.

Method:

The study was a prospective cross-sectional design.

It was conducted from June 2015 to May 2018 at the Special Care Baby Unit (SCBU) of Murtala Muhammad Specialist Hospital (MMSH) Kano. This is an 826 bedded tertiary health care facility with average delivery of 1000 babies per month. The neonatal unit has an 18-bed capacity with rapid turnover rate of approximately 60 neonates/month and annual admission of 720 neonates. The neonatal outpatient clinic has a daily turnover of about 40 to 50 neonates.

Consecutive neonates who had uvulectomy presenting at the neonatal unit over the study

period were enrolled. Data obtained included place of residence, sex, age at presentation, antenatal clinic (ANC) attendance, place of delivery, parity, complications and outcome. The outcome of interest was either survival or death.

Data was entered into excel spreadsheet; Stata software version 16 (Statacorp®) was used for statistical analysis. Descriptive statistics, ratios and rates were computed, the chi squared test and fisher exact t test were computed to find the association between the categorical variables as appropriate. Logistic regression model was used to test for associations while adjusting for confounding variables.

The ethics committee of Kano State ministry of health approved the study and informed consent was obtained from the parents of the neonates.

Results: Total of 1959 neonatal admissions were recorded during the study period and 52(2.6%) were due to complications of traditional uvulectomy. Majority 60.8% (31/52) where delivered at home compared to 39.2% (20/52) delivered at a health facility; 53.9% (28/52) came from rural area compared to 46.2% (24/52) from urban settlements.

Majority [82.8% (43/52)] of mothers had antenatal care (ANC), median ANC visit was 3(IQR 0-8). The mothers had an average parity=4.6 (range 1-13). The median age of the neonates was 8 (IQR 2 -25) days, 30(57.7%) where male and 22(42.3%) were female. Sepsis and tetanus were the main complications on admission, with neonates delivered at home and from the rural area more likely to present with NNT as shown in table I (p<0.001). The case fatality rate due to uvulectomy was 30.7% (16 of the 52 cases admitted died). A higher proportion of those that died 56.3% (9/16) had NNT, (p = 0.05) see table II.

There was a significant association between antenatal care and positive outcome of uvulectomy; 75% (34/45) of those whose mothers had ANC survived compared to 28% (2/7) of those who did not (X^2 = 6.2 P = 0.01). Using logistic regression model, after adjusting for address, place of residence, and place of delivery, the odds of surviving after uvulectomy was 6 times higher among neonates whose mothers attended ANC compared to those with no ANC (aOR = 6.3, CI =1.3-38.4).

Table I. Complications of Uvulectomy in relation to place of delivery, ANC, and place of residence,

Complictn	Tetanus	Sepsis	Jaundi	Bleedin	Anaemi	P-value
Delivery						
Home	15(48.4)	13(41.9)	1(3.2)	0(0.0)	2((6.5)	0.001
Hospital	1(5.0)	13(65.0)	1(5.0)	4(20.0)	1(5.0)	
Place of residence						
Urban	2(8.3)	18(75)	2(8.3)	2(8.3)	0(0.0)	0.000
Rural	14(50)	8(28.6)	0(0.0)	3(10.7)	3(10.7)	
ANC						
Yes	12(26)	23(51.1)	2(4.4)	5(11.1)	3(6.7)	0.5
No	4(57.1)	3(42.9)	0(0.0)	0(0.0)	0(0.0)	
				1.6		
Sex						0.3*
Male	19(63.3)	11(36.7)				
Female	17(77.3)	5(22.7)				

* = X^2

Table II. The Outcome of Uvulectomy in relation to Presenting complications, ANC, Residence and Place of Delivery of the Neonates at MMSH Kano.

	Outcome		Total	*P*
COMP	SURV	DIED		0.05
	n (%)	n (%)		
NNTn	7(43.5)	9(56.25)	16(19.2)	
NNSp	19(73.0)	7(26.9)	26(50)	
NNJd	2(100)	0(0.0)	2(3.8)	
BLD	5(100)	0(0.0)	5(9.6)	
ANM	3(100)	0(0.0)	3(5.7)	
ANC				
Yes	34(75.6%)	11(24.4)		0.01*
No	2(28.6)	5(71.4)		
				0.4
RSD				
Rural	18(64)	10(35.7)		
Urban	18(75)	6(25)		
				0.16
POD				
Home	19(61.3)	12(38.7)		
Hsp	16(80.0)	4(20.0)		

Discussion

Uvulectomy accounted for 2.6% of admissions at our facility. This is lower than what was reported from Niger,[28] Ethiopia[14] where up to 15% of the neonatal admissions was due to traditional uvulectomy, and the DRC where it accounted for 18.7% of two paediatric hospital admissions.[15,37] The fewer cases in this study compared to the DRC, could be attributed to the study population. We exclusively studied neonates whereas, the DRC study included children age 0 to 15 years of age hence the larger prevalence. Majority of the neonates were males similar to reports from Ethiopia and Sokoto in Nigeria.[10,14]

More than half of the babies that had uvulectomy were delivered at home, similar to reports from Tanzania and other parts of Nigeria.[14,23,32] It was noteworthy however that majority of mothers of babies subjected to this harmful practice had ANC. It could therefore be inferred that our ANC services do not address/or discourage harmful neonatal care practices particularly uvulectomy or perhaps other factors not studied like extended family pressure among others could be responsible for this trend. This contrasts with Bayih et al findings of 94% less likelihood of parents subjecting their newborns to traditional uvulectomy if they were counseled against uvulectomy during the antenatal care. However, survival after uvulectomy was significantly better among neonates whose mothers had ANC. This shows that ANC had a positive impact on survival among the victims of uvulectomy. It may be that mothers who had ANC were more likely to seek for care earlier compared to those who did not. They also had fewer cases of NNT compared to those without ANC where as high as 57% had NNT. Neonatal tetanus had the highest case fatality rate amongst these neonates. Although a higher proportion of those delivered at home died compared to hospital delivery, interestingly, it was not statistically significant. Similarly, an insignificant higher proportion of mortality was seen among rural dwellers. Both home delivery and living in rural areas are documented associated risk factors for adverse neonatal outcomes.[1,3,38]

The patients in this study presented commonly with NNS followed by NNT. Similarly, Bayih et al reported sepsis as the commonest presentation among neonates with uvulectomy in Ethiopia.[14] Other studies have identified uvulectomy to be an important risk factor for NNT.[30,39] Unsterilized crude instruments used for the procedure and the application of contaminated herbal extract for securing haemostasis would inoculate the neonate and predispose to these complications.[16] This contrasts with other reports that identified bleeding (haemorrhage) as the predominant complication.[10,29] Possible explanation could be

that patients with bleeding could have died before reaching the health facility; majority of the patients we saw came from rural areas where access to health care generally and to neonatal care in particular is difficult.[1,3]

Neonatal tetanus and NNS were the leading cause of death in the neonates post traditional uvulectomy in our study. Neonates that were delivered at home and those from the rural address significantly presented with NNT ($p<0.001$). This may be attributed to unhygienic delivery circumstances leading to inoculation with tetanus. Furthermore, rural dwellers are more likely to hold on to traditional beliefs and practices. NNS and NNT are largely preventable conditions that have remained endemic in Nigeria. NNT has been eliminated from many parts of the world but has remained prevalent in our environment due partly to traditional beliefs and practices, unhygienic delivery practices and poor immunization(40, 41).[40,41]

Conclusion: The practice of traditional uvulectomy is prevalent in northern Nigeria, and is associated with neonatal sepsis and tetanus.

Recommendation: Health education and improved community awareness on the dangers associated with uvulectomy and focused ANC is key to preventing this practice and its associated complications including mortality.

Limitations and recommendation for future study

The study did not include the socio-demographic factors of the mothers; these may negatively influence the practice of traditional uvulectomy.

Possible reasons why families do the procedure were not looked into. It is imperative to discover community perceptions and practices related to neonatal care so that appropriate health information and subsequent education can be developed to change dangerous neonatal care practices in Nigeria.

Acknowledgement: We will like to acknowledge matrons Laraba Gaya and Maryam Magashi for keeping the record.

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