Traditional uvulectomy and reported complications in under-five children in Mkuranga Distric Pwani Region, Eastern Tanzania.

Mboneko KV[1], Fabian FM[2]
[1]MD4 student, School of Medicine, Muhimbili University College of Health Sciences, P. O. Box 65001 Dar es Salaam, [2]Department of Anatomy and Histology, School of Medicine, Muhimbili University College of Health Sciences, P. O. Box 65482 Dar es Salaam

Abstract
The aim of the study was to determine the practices, reasons and complications of traditional uvulectomy (TU) in under five children in relation to the level of education and tribe of the parent/guardian. This was a descriptive cross sectional study using the ballot and simple random sampling methods. It was done during the month of September 2005 and involved a total of 284 parents/guardians with their under fives. A structured questionnaire with both closed and open-ended questions was used to collect information and intra oral examination was done to confirm TU. Seventy one percent of the parents/guardians had no formal education, whereas 29% had formal education up to primary (elementary) education. About 34% (98) of the children performed TU, while 66% (188) did not perform the procedure. 31% of the children from parents/guardians who had no formal education performed TU while about 41% of the children whose parents/guardians had formal education performed TU. There were 3 major tribes but there was no significant difference in the prevalence of TU among the tribes. The major reasons for TU were recurrent sore throat (33%), cough (33%) and vomiting (33%) while major complications were bleeding (50%) and difficult in swallowing (50%). About one third of the under five children in this study population performed TU. TU was not associated with level of education and tribe. Major reasons for TU were upper respiratory tract infections, and major complications reported were bleeding and difficult in swallowing.

Correspondence: Fabian F. M. Department of Anatomy and Histology, School of Medicine, Muhimbili University College of Health Sciences; P. O. Box 65482, Dar es Salaam. Email: ffabian@muchs.ac.tz Tel. Number: +255 22 2150302, +255 744 485678

Introduction

The uvula is a muscular structure formed by the uvular muscle, which is one of the three muscles that form the soft palate, and it is located at the median plane extending posteriorly from the hard palate. The soft palate closes and opens the nasopharynx during swallowing and breathing respectively.

Traditional uvulectomy (TU) is a partial or radical removal of the soft palate commonly known as the uvula by traditional practitioners. TU has been reported to be widely practiced in Tanzania, other parts of Africa and in some Middle Eastern countries (1, 2, 3, 4). In these countries where TU has been reported, the major reasons given for the practice were cultural or traditional beliefs that children grow well following TU and it prevents death from swollen uvula (1, 2, 3). However others have reported the practice to be done to prevent or treat upper respiratory tract infections (4, 6, 7). Several

reports on prefessional uvulectomy sited sleep apnea, snoring and chronic cough as major reasons for performing the procedure (8, 9, 10). However most reports suggested that this practice has no medical/health benefits (2, 6, 8, 10) except one case report, which reported that uvulectomy cured chronic cough (9). Complications and secondary infections such as anemia, septicemia, gangrene, airway obstruction, HIV infection have been reported (1, 2, 11). TU has also been shown to increase morbidity and mortality rates in under fives (4, 10, 12). There are previous reports that in Tanzania there was an increase in pediatric wards admissions due to anemia that is mainly secondary to severe bleeding either post traditional uvulectomy or other mutilations (2,6). Other reported complications and infections include severe deformities of the palate, which may lead to problems in speech (rhinolalia operta), tetanus, otitis media, epiglottis, and hepatitis B virus have also been reported (3, 5).

Previous reports have shown that recurrent upper respiratory tract infections and chronic diarrhea are common reasons for performing TU (7).Indigenous Africans consider TU as a preventive measure for throat infections, which are explained as being caused by unusually long uvulae, by those who perform the procedure (5). However, there is no standard measure for too long uvula and very rarely medical personnel will recommend and perform uvulectomy for

medical reasons due to too long uvulae, which causes chronic cough, snoring or interferes with breathing (8, 9, 13)

Possibly there is a lot of cheating by traditional healers and lack of knowledge on the part of parentswith regard to the length of the uvulae as being the cause of upper respiratory tract infections.

A study done in Tanzania by Wind (1984) showed that many of the children subjected to TU are brought to hospital due to complications resulting from TU and anemia reached almost epidemic proportions (2). From the same study it was reported that Tanzanian mothers submit their children to TU in the belief that by so doing they are increasing the child's well being and prospects of longevity. The study also reported that more than 80% of the children who had tetanus were reported to have undergone TU. The same study reported TU to be the most frequently performed traditional surgery and there was no gender difference in the performance of traditional uvulectomy.

The aim of this study was therefore to determine the practices, reasons, and complications of TU as reported by parents/guardians, as well as association between the level of education of parent/guardian and TU.

Subjects and Methods:
This was a descriptive cross sectional study using the ballot sampling method. A total of 284 under fives with their parents/guardians participated in the study. This study was done during the 3rd year of MD course as part of research skills development. It was conducted during the long vacation in the month of September 2005. Random sampling using the ballot system was done to select ten cells in Mkuranga district. Twenty five cells (25%) were randomly selected from 100 cells available. This number was only based on the time allocated for the study. The inclusion/exclusion criterion was the presence of a child at the age of five years or less in the household. All households with children five years or under were selected from the sampled cells following explanation to the parents on the procedures to be followed during the study.

Permission to carry out the study in the area was obtained from the local authority at ward and ten-cell leader level after explaining the purpose and procedures to be followed during the study. Informed consent was sought from parents/guardians of the under fives again after explaining to them the purpose of the study and procedures to be followed during the study. Those who decided not to participate were respected and excluded, and only those who consented were included. No names were recorded for ethical reasons. The School Ethical Committee gave ethical clearance for the study to be conducted.

A structured questionnaire with both closed and open-ended questions was developed in English and translated into Swahili. The questionnaire was used to interview the parents/guardians. Among the questions asked included level of education of parent/guardian, whether TU was performed or not, and reasons that led to perform TU, and the tribe of parents/guardian. Other questions included were time at which TU was done, qualification of the person who performed the procedure, and complications that arose following TU.

The uvulae were examined with the mouth wide open, and retracted by using a wooden tongue retractor to ascertain whether uvulectomy has been done or not. Permission was requested from the parents/guardians for intra oral photography of the uvulae for those children reported to have been subjected to TU.

Data from the questionnaire was analyzed by using the EPINFO 6. The statistical test used was Chi-square test and the level of significance was taken at P = 0.05.

Results
Two hundred and eighty four under five children with their parents/guardian participated in the study. Seventy point seven percent (70.7%) of the parents/guardians had no formal education, 29.23% had formal education up to primary level. Thirty four percent (34%) of all children in this study performed TU, while 66% did not perform the procedure. Thirty one percent (31%) of children from parents/guardians who had no formal education performed TU while 40.96% of children whose parents/guardians had formal education performed TU (Table 1) and the difference was close to statistical significant (P = 0.054).

Table 1: Parent's/Guardian's level of education and TU

Education level	Traditional Uvulectomy		
	Done	Not done	Total
No Formal Education	62 (31%)	139 (69%)	201 (70.77%)
Elementary education	34 (40.96%)	49(59.09%)	83 (29.23%)
Total	96 (33.86%)	188 (66.19%)	284 (100%)

P = 0.0543

Major reasons given for performing TU were recurrent sore throat (33.2%), cough (32.8%) and vomiting (32.5%). Other reasons were tonsillitis (1%) and cultural reasons (0.3%). Most parents/guardians objected for their children to be taken intra oral photographs. Only one parent whose child has been subjected to TU at 2 years volunteered but the child was already more than 5 years during the time of the study. It was interesting to note that the uvula has grown and no signs to indicate that any mutilation of the uvula has been done (Fig 1).

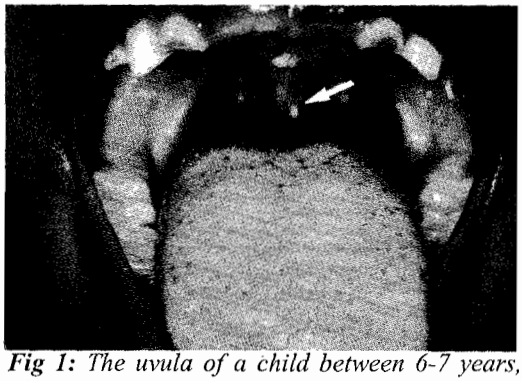

Fig 1: *The uvula of a child between 6-7 years, who was subjected to TU at the age of 2 years. Note normal shape of uvula (arrow)*

Among the parents/guardian studied, there were 40 (14%) Zaramo where 75% of their children had performed TU, 11 (5.97%) Makonde where 72% of their children had performed TU and 24 (8.45%) Ndengereko where 50% of their children were subjected to TU. There was no significant difference among the tribes who subjected their children to TU.

The age at which TU was done was mainly from two years (68.4%) and three years (24.4%) but a small number at a younger age at one year (2.1%) and at a later age of 4-5 years (5.3%) of life (Table 2). The prevalence of those who did TU at two years was significantly higher than those in other ages ($P < 0.005$). All study participants reported the procedure to have been done by a traditional healer commonly-called "kinyozi" except one, which was done by medical personnel. The "kinyozi" is believed to have the skill and tools required to perform TU in certain tribes, they are actually regarded as Uvulectomy specialists by local people. The medical person who performed the single case of uvulectomy was a clinical officer and the diagnosis was a too long uvula interfering with breathing.

Complications reported by parents/guardians in this study following TU were severe bleeding (50%) and difficulties in swallowing (50%). In this study population secondary infections were not among the reported complications

Table 2: Age at which children are subjected to TU

Age (years) when TU was Performed	Prevalence	
	n	%
1	2	2.1%
2	65	68.4%
3	23	24.2%
4-5	5	5.3%
Total	95	100%

P = 0.0054

Discussion

The results from this study population show that about 34% of the children were subjected to TU. The major reasons given for the procedure were mainly upper respiratory tract infections and vomiting, while only 1% mentioned cultural or traditional reasons. This differed from a previous study done in Nigeria where cultural practice was the major reason given while vomiting was not mentioned (2). However, it agrees with others who reported upper respiratory infections as major reason for TU (5, 14).

The age at which TU was done in this study population was higher (two years) compared to findings from other populations for example west Africa indicate a lower age from 7 days to six months (5, 15). This can be explained by the

fact that since TU was done following symptoms of upper respiratory tract infections it will wait until such symptoms appear, while those who subject their children to TU for cultural reasons would have done so during infancy. All except one of the procedures of TU in this study were reported to be performed by a traditional healer. This is comparable with findings from other studies (2, 3). The one case where uvulectomy by medical personnel was reported, it was said to have been done to treat difficult in breathing. This agrees with some reports elsewhere, which sited the procedure to have been done to treat sleep apnea, snoring and chronic cough (8-10, 14). However most of these reports have indicated that there were no benefits in the treatment of snoring and sleep apnea (8, 10) except one rare case where professional uvulectomy was reported to cure chronic cough (9)

Bleeding and difficult in swallowing were the only two complications reported by the study participants whose children had been subjected to TU. This is in agreement with other reports where parents were asked about the complications of TU (5, 6). Bleeding and difficult in swallowing could be the easiest symptoms to be noted by the parents/guardians and they may miss other complications such as secondary infections and fever probably due to lack of knowledge to associate these with the performance of TU. However previous reports have mentioned secondary infections such as tetanus, severe anemia, septicemis, gangre, airway obstruction, HIV infection and fever to be among the major complications that lead to pediatric ward admissions following TU (6, 11, 14, 16).

Level of education and tribe of the parent/guardian were not significantly associated with the practice of TU. This could be explained by the fact that even those who attended formal education the highest level of education attained was elementary education so all had low level of education, which may not modify knowledge and behavior regarding health issues unless special programs are put in place. It is difficult to speculate reasons for the low level of education but it is common knowledge that people along the coast rarely pursue higher education, probably due to their fishing and farming activities. The tribes studied are mostly living in similar environment and proximity and their cultures could resemble, which may imply that attitudes and beliefs of those with primary education and those without, did not differ much. We conclude that this population had low level of education and that almost one third of children in this population were subjected to TU, which was meant to cure or prevent upper respiratory tract infections according to the parents/guardians.

The major complications reported by the parents/guardians were bleeding and difficulties in feeding whereas other complications such as infections were not sited.

It is recommended that efforts should be made to educate parents of the dangers of these procedures, either through pediatric clinics or schools to prepare future parents in order to reduce morbidity and possible mortality from complications of TU.

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