

A Fatal Case of Infant Oral Mutilation Practice

Abstract

Infant oral mutilation (IOM) is a traditional dental practice where traditional healers enucleate primary canine tooth buds in children in the hope of preventing or curing childhood illness. The method applied is heinous, painful, and carried out in unsterile environment, and this increases the morbidity and mortality of children from the communities where IOM is rife. The case report described here arose from a village, where an infant with a medical issue ended up in the hands of a local traditional healer who enucleated her four primary canine tooth buds. The traditional treatment resulted in the fatality of the child in <24 h of the procedure, a testimony that some traditional therapeutic procedures have no place in managing common childhood illnesses.

Keywords: *Enucleation of primary canines, infant oral mutilation, traditional dental practice*

Introduction

Infant oral mutilation (IOM) is a traditional traumatic dental practice involving the gouging out of teeth in a child, usually around the age of 4–18 months, in the hope of preventing and/or treating the feared common childhood illnesses such as diarrhea, vomiting, fever, and itching in the mouth. The natural gingival swelling over the developing primary canines at this age is mistakenly thought to indicate the presence of “tooth worms” that are responsible for these childhood illnesses. Consequently, it is believed that these “worms” must be removed to prevent or cure the child’s illnesses. The parent or caregiver will usually be shown the white soft enucleated tooth buds, which at this stage of development exhibit milky appearance resembling “worms.”

The practitioners of IOM, usually family members, traditional midwives, schoolteachers, local priests, and imams, use crude instruments such as sharpened bicycle spokes, hot needles, pointed knives, nails, and other sharp objects.^[1-4] These operators sometimes apply healing concoctions such as charcoal powder, ashes of herbs, lizard feces, crushed antibiotics, sulfur capsules, mustard and garlic, salt, sodium bicarbonate, and herbs, to help promote healing and relieve pain.

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Obviously, the concoctions are more of a hazard to the health of the child than what they are intended to achieve. Further, the nonsterile invasive method used to gouge out the tooth may predispose the child to hemorrhage and infection, resulting in anemia, septicemia, osteomyelitis, or meningitis.^[5,6]

For over 2000 years, people have practiced body mutilation for many reasons, such as superstition, culture, esthetics, rituals, and so on. The earliest reported case of body mutilation was by a French Surgeon, Ambroise Parè, who, in an attempt to relieve the pain of tooth eruption, made an incision of the gingiva with a lancet to help the tooth erupt. It is also recorded that in 1742, Joseph Hurlock, a European surgeon, promoted the practice of incising the gingiva over erupting teeth as a means of relieving dental pain associated with tooth eruption.^[7] It is possible that the practice of IOM, which is rife in the East and Central African regions, might have been adopted by the local traditional healers from the early European settlers in the region. In the East African region, the earliest literature report on IOM was recorded in the year 1932 among the Nilotic people of Sudan,^[8] and since then, more reports on IOM have come from countries such as Ethiopia, Somalia, Kenya, Tanzania, Uganda, the Democratic Republic of Congo, Burundi, and Rwanda.^[9]

The general prevalence of IOM in the East Africa region varies from place

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to place. Pindborg in 1969 found a high prevalence in Uganda of 16.1%^[10] However, a recent study in Uganda in 2018 has reported a prevalence of 8.1% in children aged 3–5 years old.^[11] A survey involving 260 Somali children aged 4–17 years in Sheffield, UK, found that 31% exhibited features suggestive of IOM, yet 22% of these children were UK born.^[12] In Sudan, 80 infants in a children’s hospital, admitted with diarrhea in 1987, 70% of them were found to have undergone IOM.^[13] Further, a study of 398 Sudanese children aged 4–8 years in 1992 showed 22.4% of the children had been subjected to “haifat” (lancing of the alveolus over the deciduous tooth).^[14] A recent study in 2018 from Sudan showed a prevalence rate of IOM of 10.8% among 212 children aged 4–7 years from Khartoum city.^[15] A study done in Ethiopia on “killer canine removal” in Addis Ababa found that 15% had primary canines removed.^[16] In 1991, child emigrants of Ethiopian Jews to Israel had a prevalence rate of IOM of 59%.^[17] In 2015/2016, a study carried out in an Institution in North West Ethiopia on a group of 355 children aged 2–12 years (mean age: 7.3 years) gave a prevalence of IOM of 86.8%.^[18]

In Kenya, a 1988 study on Maasai children revealed a 35% prevalence of IOM among 5–7-year-old children,^[19] and in another study of 3–7-year-old children among the same Maasai tribe, a prevalence rate of IOM of 72% was reported.^[20] Another Kenyan study in 2012 in Ngong and Kajiado areas of the Maasai revealed a prevalence of IOM of 24.5%.^[21] In 2018, a study of teenagers from another area of Maasai land showed that 61.1% had had removal of primary canines mandibular central incisors in the form of dental enucleation/mutilation.^[22]

From the foregoing, it is evident that the traditional practice of IOM is still very much rife in many areas in the East and Central African countries. The communities that practice IOM believe that the practice is a cure for childhood illnesses, yet the removal of the primary canines has no relationship with the cause, prevention or cure of these these childhood illnesses.

A case report of a fatality resulting from IOM practice

A mother accompanied with her 1-month and 2-week-old girl reported to the casualty wing of a local referral hospital complaining that her child was experiencing bleeding from the gums after removal of four “plastic teeth” by a local healer a day before. According to her history, the child had been well until a day before (December 8, 2019) when she started crying incessantly for unknown reasons. The following day, she decided to take the child to the nearest clinic for evaluation. However, on her way to the clinic, the mother met a local traditional tooth extractor, and this woman advised her that the cries of the child were due to the presence of “plastic teeth” that needed to be removed for the child to stop crying. The belief by the community is that the prominence seen on gum pads in the areas where

canine tooth buds are developing [Figure 1 with arrows pointing to the primary canine bulge], contains “worms” which are the cause of high fever, diarrhea, and vomiting in a child.

After the enucleation of the primary canines, the child started experiencing severe bleeding from the gums, episodes of vomiting blood clots, and voiding black tarry stool that lasted for nearly 15 h, before the decision to seek for medical help from the hospital on December 10, 2019.

At the emergency room of the hospital, enquiry into the baby’s past medical history was unremarkable. A review of the antenatal history indicated that the child had been born at 34-week gestation through a cesarean section and had a good “appearance, pulse, grimace, activity, and respiration or APGAR” score. Postnatal history revealed that the child had had no history of treatment for fever or any other infections but had been exclusively breastfed and fully vaccinated and her developmental milestones were normal. On family and social history, the baby was a firstborn, and there was no known history of bleeding disorders in the family.

Initial assessment showed an extremely pale child, who had copious amounts of fresh blood mixed with clots within the oral cavity, and which was cleaned and sucked out from time to time [Figure 2].

There were associated episodes of vomiting clotted blood and voiding of black tarry stool, but no change in urine

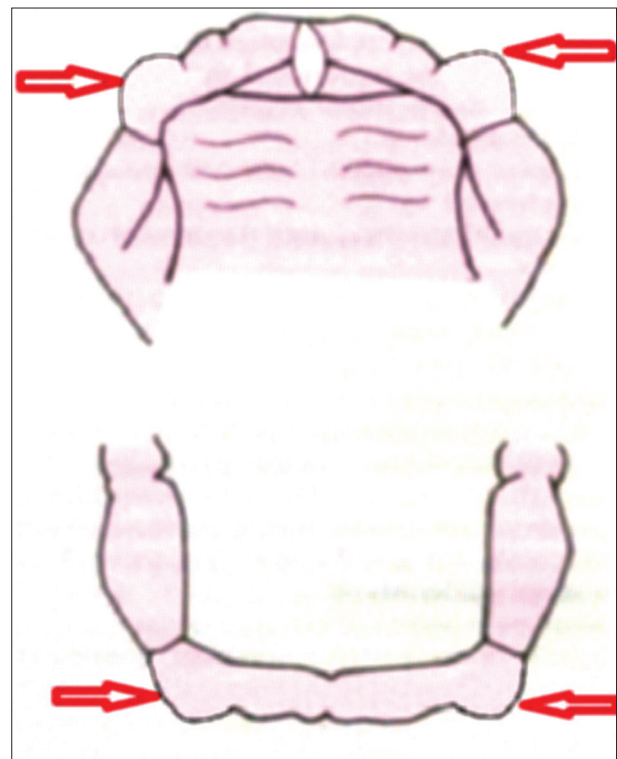


Figure 1: An illustration of upper and lower gum pads of an infant with arrows pointing to the canine bulge



Figure 2: The child after undergoing infant oral mutilation and soon after admission when putting on intravenous feeding and oxygen. Notice also the extensive bleeding that had taken place

color. Examination of the abdomen revealed nontender but distended abdomen. Other systems were essentially normal. Local examination of the oral cavity after evacuation of the blood clots showed wounds in all the four quadrants in the canine regions. The nostrils had visible clotted blood. An initial impression was made of severe anemia and septicemia secondary to traumatic teeth extraction. The child was immediately admitted and put on oxygen via nasal prong and antibiotics, and after blood match was done, blood transfusion was commenced, as further investigations continued. A final diagnosis of disseminated intravascular coagulopathy was reached, and the full range of treatment given to the child at the hospital is shown in Table 1. The treatment given to the child was aimed at correcting hemodynamic instability and control of sepsis. However, throughout the admission, the vital signs deteriorated until the child succumbed to the effects of IOM on December 10, 2019, at 12.45 pm, a few hours postadmission. During all this period, it was not possible to obtain an intraoral photograph of the child, and because of the child's loss of blood and eventual death, the final diagnosis of what initially caused the discomfort the child had was never actually elucidated.

Discussion

A typical African child is said to have a 25% chance of suffering from acute respiratory infection and a 10% chance of experiencing diarrhea (World Bank, 1994), and these could be attributed to many factors such as malaria, infections, poor health, poor nutrition and environmental sanitation, teething problems, parents who rely on traditional health beliefs and practices, and due to economic problems. The World Health Organization has also reported that 80% of African populations use traditional medicine as their primary source of care for cultural and economic reasons.^[23] These practices when employed in a child to manage the common childhood ailments can also be

Table 1: The antenatal, admission, and intra-admission profiles and the treatment regimen adopted for the child who had infant oral mutilation undertaken on her

Test/Treatment done	Outcome
Antenatal profile results	
Hemoglobin	11.8g/dl
Blood group	A+ve
VDRL serology	Negative
HIV test	Negative
Urinalysis	Normal
Birth weight	2.9kg
Developmental milestones	
Grip reflex	Present
Suckling reflex	Present
Vitals at admission	
Hemoglobin	3g/dl
Temperature	340C
Capillary refill	<2 seconds
Pulse rate	94 bpm
SPO ₂	95%
Investigations done during admission	
Random blood sugar	4mmol/L
Grouping and cross matching	Patient's blood group A+ve
Treatment given during admission	
Vitamin K 1 mg stat	
Blood transfusion	
Oxygen via a non-rebreather mask	
Ceftazidime 180mg I. U	
IV Ringer Lactate 360ml/24 hours	
IV bolus of 10% dextrose	
Gastric/stomach lavage	60mls blood stained coffee brown fluid removed

Change of vitals in the process of treatment

At some point the child developed hypothermia and was transferred to a resuscitator for warming when the vitals changed for worse. Temperature, oxygen saturation, and pulse rate dropped to 32°C, 44% and 28bpm respectively.

harmful to the child leading to increased morbidity and mortality.^[24]

IOM is deeply entrenched in some communities, who have the belief that it will prevent or cure childhood illness.^[9] However, this belief has no scientific basis and often results in delayed treatment for common childhood illnesses resulting in increased child morbidity and mortality. The symptoms seen in children of the age at which IOM is done can arise from common childhood diseases such as malaria and diarrhea. Children subjected to IOM miss the opportunity for proper treatment required for specific diseases^[25,26] that then become a contributory factor to the health burden of the children.^[27] The methods used to perform IOM are usually primitive and unhygienic and can result in immediate detrimental effects such as hemorrhage, shock, and even death. In the medium term, the practice

can result in anemia, septicemia, meningitis, osteomyelitis, tetanus, and blood-borne diseases, such as hepatitis and HIV/AIDS.^[28] Due to the fact, IOM is done at this young age in a crude manner using crude instruments, and at the time when the teeth are developing, the damage caused can lead to long-term effects on the oral health of the child. Some of the long-term effects of this practice to the child can be in the form of missing primary lateral incisors, peg-shaped incisors, dilaceration of primary or permanent canines, retention of primary lateral incisors, missing permanent lateral incisors, distal eruption of permanent successors, displacement and impaction of permanent canines, failure of development of permanent canine, compound odontoma, and orthodontic complications such as crowding and midline shift.^[10,11,28]

A study of 124 Tanzanian children with tooth germ removal by traditional healers resulted in 10 deaths.^[29] A Ugandan study scrutinized the discharge records from a pediatric ward and found 156 out of 740 (21.1%) children admitted because of treatment for “nylon teeth resulted in death.”^[30] Another study in Uganda in 1999 by Accorsi *et al.* found that one-fourth of the children in Northern Uganda, who had been hospitalized, had died as a result of *ebinyo*, which had mostly resulted from septicemia and severe anemia. In this study, *ebinyo* ranked third behind meningitis and malnutrition as causes of death.^[5]

Although these adverse effects associated with IOM are well recognized by health-care providers in the areas where IOM is practiced, IOM is still overlooked when addressing oral health issues of children from the same areas. Further, IOM has still found its way into developed nations due to increasing migration of people.^[31] A study in a Somali migrant community in Sheffield (UK) in 2000 found that children from the community had IOM, and 22% of those with IOM had been UK born.^[12] Dentists have focused on improving the oral health of children with regard to dental caries and periodontal infections, but they have forgotten these detrimental practices that have serious impact on the oral and systemic health of the child. We now know the unhygienic condition used by untrained personnel during IOM practice causes more harm than good to the child and can lead to serious complications such as death and transmission of blood-borne diseases, besides the malformation of the child’s permanent dentition.^[10,11,28]

Conclusion

Although some African traditionalists still believe that IOM can prevent or cure childhood illness, this practice can result in fatalities that negate the belief. There is a need for community education and good policies to help eradicate IOM. Further, the health workers in their course of duty should be able to help in safeguarding the welfare of the child through the prevention of this form of child abuse that has no curative value to the childhood illness.

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Conflicts of interest

There are no conflicts of interest.

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