

Belonwu R

Non-accidental dettol poisoning in a 3 day old neonate : a rare form of child abuse

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Belonwu R (✉)

Department of Paediatrics
Aminu Kano Teaching Hospital Kano
Nigeria.

Email: raybeloo@yahoo.com

Abstract: In Nigeria, Dettol® Antiseptic Solution poisoning is an uncommon occurrence in all age groups. In a registered child specialist clinic in Kano, a three – day old neonate presented with clinical features believed initially to be due to neonatal seizures and sepsis, but which turned out to be due to non-accidental dettol® poisoning by a single mother who contaminated the glucose D

granules that was meant to supplement baby's feed. Greater vigilance on single mothers and coordinated services to single mothers is highly advocated to improve maternal – infant bonding and hence reduce infanticidal ideas.

key words: Dettol® Poisoning, Neonate, socially disadvantaged mother, child abuse

Introduction

Dettol® Antiseptic solution is one of the chemical disinfectants used in the homes and it is recognizable by its distinct odour. The components are chlorxylenol (4.8%), pine oil (9%) and isopropyl alcohol (12%)¹. While the chlorxylenol and pine oil can cause renal failure and hepatitis, the 3 components can cause additive central nervous system depression¹. With passage of time, dettol® has unfortunately become a notorious chemical for its role in accidental and intentional poisoning in children and adults as reported widely in various studies²⁻⁸. While most studies agree that accidental ingestion of drugs, household chemicals (including dettol®) and therapeutic mishap^{9,10} are the common causes of poisoning in children, especially in those less than five years of age, there has been no specific report of non-accidental poisoning with dettol® in a neonate. This report presents a case of dettol® poisoning in a three-day old neonate which is a rare form of child abuse. Therefore this report will serve as an alert signal to sensitize health care practitioners.

Case Report

A three-day old male neonate was brought to the consulting room of a child specialist clinic in Kano city Nigeria with complaints of fast breathing and poor suck of two days duration. He was born in a secondary health facility located in Kano city; pregnancy, labour and delivery were not adversely eventful. Mother did not however receive antenatal care. The neonate is the only child of the unmarried young lady aged 20yrs who just completed secondary education. It was the parents of the biological father (himself a young secondary school leaver) who took care of the delivery bills and brought the new born to the clinic.

Further questioning revealed that the child was suckling

well in the 1st 24hrs after birth and that poor suckling developed subsequently. He had been placed on oral glucose water to supplement the alleged inadequate breast milk. The child was said to have been sleeping excessively and had been feeding infrequently. He had passed normal stool three times on the day of presentation.

On examination, he was a full term male neonate with the following anthropometric measurements: weight – 3.37kg (digital scale), occipito –frontal circumference (OFC) – 37cm and length – 51cm. He was unconscious with Glasgow coma score (GCS) of 11 and had generalised tonic seizures and bicycling movements involving both lower limbs. Other pertinent findings included mild jaundice, bilateral eye discharge and exaggerated bowel sounds. Respiratory rate was 48 cycles/min, heart rate – 120/min regular and temperature was 37- °C. Urgent random blood sugar was 1.1mmol/litre. Full blood count result was normal. Serum bilirubin and renal function tests were not done due to logistic reasons. Based on the above findings, a clinical diagnosis of neonatal seizure secondary to hypoglycaemia was made. A differential diagnosis of septicemia was entertained and patient was commenced on phototherapy, and jaundice cleared within 24hrs. Intravenous 10% glucose 4ml/kg was given bolus and was maintained on intravenous paediatric saline. Nasogastric tube feeding was commenced with artificial milk and the mother was encouraged to breast feed baby any time he was awake. He was commenced empirically on intravenous antibiotics (ampicillin-cloxacillin and gentamycin), and phenobarbitone 7.5mg 12hourly via nasogastric tube. On subsequent reviews for 2 consecutive days, the persisting complaint was prolonged sleep and that the baby hardly opened his eyes and so was not able to suckle. At that juncture a decision was made to withdraw oral phenobarbitone but even that did not improve alertness. On

the 4th night of admission, the grand mother of the newborn who decided to sleep over that night observed that the glucose D granules which was with them smelt of dettol[®] and promptly withheld it. It was the next morning after the discovery that the attention of the pediatrician –in –charge was drawn to the dettol[®] contaminated glucose D granules who confirmed the smell and noted the brownish discoloration of the glucose granules. On further enquiry, the mother of the baby confessed that she had been giving it to the baby right from home and had continued in the hospital. She stated that she did not want the child to survive and become an unnecessary obstacle to her future academic career, being unmarried. That same night, the child woke up twice and took milk. Later in the day, the child was fully awake and was feeding regularly and frequently. He was discharged accordingly after four days of hospitalization after counselling the young mother and the guardian grand parents. No toxicologic screening to assess the level of dettol was done as the area of practice lacked such capacity. The child was lost to follow up.

Discussion

Acute accidental and non-accidental poisoning in children has remained a major public health problem and it has continued to be a common medical emergency in childhood in developing and developed countries of the world^{2,11-15}.

In recent years, various studies are replete with the notoriety of dettol[®] as agent of both accidental and intentional poisoning with varied mortality rates^{1,3-6}. However, most reported cases of dettol[®] poisoning involved adults and adolescent boys and girls who engaged in deliberate self poisoning³⁻⁵. In Nigeria the only reported case of dettol[®] poisoning was a case of accidental poisoning in the study by Asindi at Calabar,² and even that particular case in his series was asymptomatic.

In our index patient the mother deliberately contaminated the glucose D granules with dettol[®] antiseptic solution with the intention to poison the newborn child. This is obviously a clear case of child abuse as the aim was to cause harm to the baby¹⁶⁻¹⁸. This kind of abuse is rarely reported as noted in an earlier study by mark and mark who reported seven cases of non-accidental poisoning involving other house hold chemicals¹⁹. What is even more intriguing is that the mother of the baby continued the act even while in the hospital, and this underscores the need for greater vigilance and thorough assessment when dealing with mothers who fulfill the criteria for committing child abuse that may lead to infanticide²⁰. The practice of continued child abuse while in hospital had earlier been documented in a multi-center study in the United Kingdom using covert video recording²¹

It is noteworthy that the patient presented with signs and symptoms ascribable to neonatal seizure and septicemia which are common presentations of newborn babies in Nigeria and elsewhere^{22,23}.

It therefore presupposes that without a high index of suspicion, children including newborn who are being abused may pass through the health personnel with their risks undetected as it nearly happened in our index patient. It is equally noteworthy that it was the grand mother of the patient, and not the clinic personnel that initially detected that the glucose granules which was being used to supplement the new born's feed was dettol[®] – contaminated. This again highlights the need for greater diligence and commitment on the part of health care givers as well as emphasizes important roles relations can play in patient management.

The mother did not receive any antenatal care apparently because of the circumstances of the child's pregnancy, and so her psychological status during pregnancy and immediately after delivery remains a matter of conjecture. Probably, she was depressed and acted it out by attempting to poison her baby. This is in keeping with earlier studies that showed that some disadvantaged mothers who are single parents, unemployed, poor and with lower educational level have infanticidal ideas²⁴⁻²⁶. The index case has brought to the fore the enormous challenges faced by unmarried young ladies with pregnancies in Nigeria. These ladies are generally not supported by their families either due to poverty or cultural reasons and there is no clear government policy on how to take care of their wellbeing. This has led many of them to engage in self-help initiatives, such as patronizing nursing homes often regarded derogatorily in Nigeria as 'baby factories' to get some measure of care. Where the children of these single mothers are not adopted, the children certainly will be at grave risk of suffering abuse, hence there is great need to plan and improve the mental well-being of single mothers to stave off the risk of child abuse which may culminate in infanticide. Properly organized adoption procedures and foster care will be highly beneficial. Despite the fact that diagnosis of dettol[®] poisoning was made later in the management, the clinical features of dettol[®] poisoning were evident right from time of admission, and included respiratory distress due probably to pulmonary aspiration, digestive disturbances with increased bowel sounds and stool frequency (despite poor feeding), prolonged sleep as a consequence of central nervous system depression which are all in keeping with the findings of Sherat Kumar and other authors^{4,5}.

Conclusion

In conclusion, the knowledge of chemical poisoning using dettol[®] either for self poisoning or non-accidental poisoning of others now exists in Nigeria and may be other developing countries. Therefore household use as a disinfectant should be monitored, especially among vulnerable groups (single mothers and adolescents) who may use it to harm young children or themselves. There is also the need to establish regional poison control/toxicologic screening centers to enhance capacity for early detection and management of poisoning cases

including dettol® antiseptic solution

There is a great need for creation of well co-ordinated services for single mothers to care for their physical and mental well-being during pregnancy and immediately after delivery to enhance maternal – infant bonding which will go a long way to eliminate child abuse ideas.

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