An Unusual Complication Of Malnutrition In An African Child; Acute Necrotizing Ulcerative Gingivitis: Case Report

O Oyedeji, T Esan, P Elemile, G Oyedeji

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Abstract

We report the case of a 2-year-old malnourished-underweight girl who developed acute necrotizing ulcerative gingivitis, while recuperating from malaria complicated by severe anaemia.

INTRODUCTION

Childhood malnutrition is not uncommon in developing countries. It is rarely complicated with ulcerative infections such as Cancrum Oris and acute necrotizing ulcerative gingivitis (ANUG). [1,2] Most physicians are unfamiliar with ANUG.

CASE REPORT

OB a 2-year-old girl presented at the emergency unit of State Hospital Osogbo on the 26th of September 2004 with two weeks history of palor and intermittent fever. Severe anaemia secondary to malaria was diagnosed. She was managed with blood transfusion and antimalarial drugs. In addition the patient was underweight for age and moderately dehydrated as a result of diarrhoea. This was managed with oral rehydration solutions. On the second day of hospitalisation, she was noticed to have lost the lower left incisor tooth. Furthermore, though the fever and the diarrhoea had completely subsided by the next day the patient lost another two teeth. The mother is a petty trader and the father a peasant farmer. The nutritional history appeared satisfactory.

On examination the patient was not ill but was malnourished with angular stomatitis and poor oral hygiene. She was wasted and weighed 8 kilograms and there was no oedema. The sockets from where the teeth were lost were necrotic and the adjoining teeth loose and shaky. Systemic examination was entirely normal.

The haematocrit were 14 and 28 percent pre and post transfusion respectively and the stool culture yielded a growth of Eshcerichia coli sensitive to Chloramphenicol but resistant to Cotrimoxazole and Cefuroxime. Screenings for HIV virus as well as other tests were negative.

The patient was referred to the dental hospital at the Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, Nigeria, were a diagnosis of acute necrotizing gingivitis was made. She was treated with oral Ampiclox, Metronidazole, multivitamins, saline irrigation of the mouth and 1:8 dilutions of hydrogen peroxide gaggles. From then on she made an uneventful recovery and was discharged home on the 5th post admission day.

DISCUSSION

Acute necrotizing ulcerative gingivitis (ANUG) is a distinct periodontal disease characterized by necrosis and ulceration of the gingiva between the teeth with clinical loss of the attached overlying tooth. [3] If left unchecked the condition rapidly deteriorates to cancrum oris, which in turn is disfiguring and fatal.[4] It has been associated with spirochetes and fusobacteria. However, it is not clear whether bacteria initiate the disease or are secondary invaders. Other factors associated with the occurrence of ANUG are poor oral hygiene, malnutrition and acquired immunodeficiency disease in the developing countries. [5]

As seen in our patient the presentation of ANUG including the tooth loss may not be dramatic. Thus, a high index of suspicion is needed to make a diagnosis. Bonafide cases of ANUG may be mistaken for instances of decidous teeth loss in children, which will be replaced by the permanent dentition. This is dangerous because it may delay treatment intervention. This was actually the case in our patient until she was referred to and seen by the specialist dental surgeon.

In addition, the sudden loss of teeth in the absence of trauma or acute illness may make superstitious caregivers consult traditional practitioners thus, predisposing the patient to the attendant unhelpful consequences.

Poor oral hygiene previously documented by research, [4,5,6] to be contributory to the development of ANUG in some Africans was seen in our case of ANUG. The teaching and promotion of improved quality parenting and nursing care in African countries should receive more attention than at present. Oral hygiene should also be given a more prominent place in the curriculum of nursing and medical schools as a means of promoting better oral hygiene.

Malnutrition is common among children aged less than 6 years in the underdeveloped countries. [7] Infections experienced by malnourished children may be as a result of the impaired immunological status of the child. A previous study has stated that ANUG may be the early phase of cancrum oris.[2] In order to reduce the frequency of Acute ulcerative necrotizing gingivitis in our communities, it is important to improve the nutritional status of the children. [8] Public enlightment programmes have a role to play in the improvement of community oral hygiene. Physicians also need to be well educated to promptly diagnose, treat and refer this disease when necessary.

Third world governments need to make concerted effort to provide facilities, and other amenities such as electricity and potable water, which will make attainment of hygiene and health achievable. Health service facilities such as hospitals should be well equipped and staffed. [9] Community dental health assistants should also play the role of promoting satisfactory levels of oral hygiene in their communities. Assistance from the international community can be in the form of programmes of proven ability such as debt forgiveness to poor countries. This would reduce the level of poverty in the third world countries. The respective affected national governments should improve its economy by the effective utilisation of resources so released, to raise the standard of living of its citizenry and make nutritious food cheap.

CORRESPONDENCE TO

Dr. O.A Oyedeji. Department of Paediatrics and child health, Ladoke Akintola University of Technology Teaching Hospital, Osogbo, Nigeria. E-mail: soltomoyedeji@yahoo.com Telephone: +234 (0) 8056715508

References

1. Enwonwu CO, Philips RS, Ferrell CD. Temporal relationship between the occurrence of fresh noma and the timing of linear growth retardation in Nigerian children. Trop Med Int Health. 2005 Jan;10:65-73.
2. Jimenenz LM, Duque FL, Baer PN, Jimenenz SB. Necrotizing ulcerative periodontal diseases in children and young adults in Medellin Colombia 1965-2000. J Int Acad Periodontol 2005; 7:55-63
3. Johnsen D, Tinanoff N The Oral cavity In: Behrman RE Kliegman RM Jenson HB, (eds). Nelson's textbook of paediatrics 16th Edition. W.B Saunders company, 2000;1108-1121.
4. Barmes DE, Enwonwu CO, Leclercq MH, Bourgeois D, Falkler WA Editorial: The need for action against oro-facial gangrene (noma) Trop Med Int Health 1997;12: 1111-1114.
5. Folayan M.O The epidemiology, etiology and pathophysiology of acute necrotizing ulcerative gingivitis associated with malnutrition. J Contemp Dent Pract 2004; 5:28-41.
6. Pilot T. The periodontal disease problem. A comparism between industrialised and developing countries. Int.Dent J 48(3 supp 1): 221-232
7. Oyedeji G.A, Olamijulo S.K, Osinaike A.I, Esimai V.C, Odunusi E.O, Aladekomo T.A Secular trends in the growth of the children aged 0-6 years in a rural Nigerian community. Annals of Tropical Paediatrics 1996; 16:11-17
8. Lopez R, Baelum V. Necrotizing ulcerative gingival lesions and clinical attachment loss. Eur J Oral Sci 2004 112:105-7
9. Bermejo-Fenoll A, Sanchez-Perez A. Necrotising periodontal diseases. Med Oral Patol Oral Cir Bucal. 2004;9 Suppl:114-9; 108-14

Author Information

Olusola Adetunji Oyedeji, MBChB, FWACP
Lecturer/ Consultant paediatrician, Department of paediatrics and child health, Ladoke Akintola University of Technology Teaching Hospital

Temitope Ayodeji Esan, BChD FNMC
Lecturer/ consultant prosthodontist, Department of restorative dentistry, Obafemi Awolowo University

Peter Olusola Elemile, MBBS, DCTH FWACP
Lecturer/ Consultant paediatrician, Department of paediatrics and child health, Ladoke Akintola University of Technology Teaching Hospital

Gabriel Ademola Oyedeji, MBBS, DCTH FWACP FRCP
Professor/ Consultant paediatrician, Department of Paediatrics and child health, Ladoke Akintola University of Technology Teaching Hospital