

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

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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).<sup>1,2</sup> 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 26<sup>th</sup> 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 *Eshcherichia 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, where 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 5<sup>th</sup> 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.<sup>3</sup> If left unchecked the condition rapidly deteriorates to cancrum oris, which in turn is disfiguring and fatal.<sup>4</sup> 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.<sup>5</sup>

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 deciduous 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.

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

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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,<sup>4,5,6</sup> 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.<sup>7</sup> 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 *Candida albicans*.<sup>2</sup> 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.<sup>8</sup> Public enlightenment 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.<sup>9</sup> 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.

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