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CANCERUM ORIS IN HIV INFECTED CHILDREN IN LESOTHO: REPORT OF TWO CASES

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SUMMARY

Cancrum Oris (Noma) has been known to mankind since time immemorial. Its public health importance is lately being realised especially in Africa, where majority of the cases occur. It affects those whose immune systems are compromised and thus, it is no wonder that it is being reported in HIV infected individuals. This development could have serious implications regarding the impact of the HIV pandemic globally and in particular the African region where poverty is rife.

INTRODUCTION

Cancrum oris, otherwise known as Noma is a disease of antiquity described by Hippocrates and Galen among other authors. The term Noma was derived from a Greek verb 'to devour'. It presents as a severe form of gangrene that destroys both the soft and hard tissues of the mouth and the face, especially in children. Poverty, poor oral hygiene, malnutrition, childhood fevers and other conditions resulting in reduced host resistance such as the human immunodeficiency virus (HIV) infection are known predisposing factors(1,2). Although Noma occurs mainly in children, there have been reports of the disease afflicting adults with leukemia and immunodeficiency(3).

Noma usually presents initially in the form of ulcers in the oral mucosa and bleeding gums with areas of necrosis. The cheeks, chin and lips soon swell rapidly and develop dark greyish areas, which if untreated disintegrate to expose destroyed soft and hard tissues. A case-mortality rate of 80% has been reported for those who do not receive treatment at this late stage(1,3,4). The mortality has, however, decreased since the advent of antibiotics, improvement of sanitation, vaccination and effective treatment of childhood fevers. Those who survive Noma are usually disfigured for life coupled with functional problems requiring complex, multistage reconstructive surgery. The emergence of HIV in the early eighties has led to a resurgence, discovery and alteration in the clinical presentation of some recognised clinical manifestations of diseases. It is, therefore, not unusual that cancrum oris could present in an individual who may be HIV infected. This report presents two HIV infected cases of cancrum oris.

CASE REPORTS

Case 1: A five year-old boy was referred to our department for management of a rapidly spreading gangrenous ulceration of the right cheek of about one-week duration.

During this period there were also fevers, lassitude, anorexia and general irritability. Prior to this the child had had recurrent and prolonged diarrhoea, skin rashes and progressive weight loss for a period of years with one hospitalisation. Immunisation was incomplete. The family history revealed that the child was a fourth born among five siblings. The child's father had died. The last-born child in the family (fifth sibling) was reported to have died at the age of three months of an unknown illness. The remaining three siblings were alive and well.

General examination revealed an ill-looking child, lethargic, febrile and pale. He was small for his age, irritable and moderately dehydrated. Detailed examination revealed an oedematous right cheek with a well demarcated ulcer, which emitted a foul smell (Figure 1).

Figure 1.

Tissue defect exposing dentition in cancrum oris



Laboratory investigations yielded results that were significant for low haemoglobin (Hb 7.0g/dl) and increased polymorphonuclear leukocytes (polymorphs 59%, lymphocytes 30%). The total protein was 59g/l and albumin 15g/l. The child tested positive for HIV using the ELISA technique.

Case 2: A three year-old boy was referred from another district hospital for the management of a gangrenous ulceration of the right cheek. The lesion was reported to have been preceded by vague toothache. The child's mother provided

a past history of recurrent diarrhoea, a cough and poor growth. The child was not fully immunised. He was the last born in a family of six of separated parents. The first-born child died at birth but the other two siblings were reported to be alive and well. The child's mother agreed to having been coughing and losing weight over a period of the preceding few months.

General examination revealed an acutely ill-looking child who was lethargic, pale and febrile. He was moderately dehydrated and small for his age. There was right facial oedema with a gangrenous, foul smelling, full thickness ulceration of the right cheek whose margins were well demarcated (Figure 2). He weighed 7.6 kg on admission. A diagnosis of cancrum oris related to acquired immunodeficiency or protein-energy malnutrition was made. Laboratory investigations yielded results that were significant for low haemoglobin (Hb 5.4 g/dl) and proteins (Total protein 40g/l, albumin 10 g/l). The ELISA test for HIV was positive.

Figure 2

Full thickness soft tissue destruction in cancrum oris



DISCUSSION

The definition of cancrum oris as given by Tourdes(1) and quoted by many authors(2,3,5) can hardly be improved upon. Though Noma is a disease recognised since ancient times, its public health importance is just being realised. The risk factors of cancrum oris are well defined and have been reviewed in the available literature. These include protein energy malnutrition (PEM), vitamin A deficiency, poor oral hygiene and a state of debilitation often as a result of malaria and childhood fevers(1,2,5,6). It is suggested that the interaction and/ or increased virulence of certain organisms in the periodontal and oral mucosa of a susceptible host is an essential prerequisite for the genesis of cancrum oris. The principal organisms are *fusobacterium necrophorum* and *prevotella melalanninogenice* (7,8).

Some researchers are of the view that acute necrotising ulcerative gingivitis (ANUG) is an antecedent lesion of cancrum oris(7-10). Whether cancrum oris arises *de novo* or is an extension of ANUG is debatable.

Available evidence from studies conducted among Nigerian children indicates an increase in the incidence of ANUG without a corresponding rise of cases of cancrum oris(8,9). A global increase in the incidence of ANUG associated with HIV/AIDS has also been reported with the frequency ranging from 4.4% to 16.0%(6,10). Not all these cases of ANUG, however, develop into cancrum oris. A study conducted on the clinical features and management of cancrum oris among eight HIV/AIDS patients(6) did not report any evolution of ANUG to cancrum oris. The authors of this paper are of the opinion that the complex interaction of poverty with pre-existing malnutrition or protein loss due to recurrent and chronic diarrhoea associated with HIV infection may be the predisposing factors to cancrum oris in these two cases.

The two cases which presented only eight months apart, exhibited many features of cancrum oris and revealed many management challenges that this category of patients present to a clinician. Although wound healing was satisfactory after admission and parenteral antibiotic therapy, the risk of inter-current infection would make administration of general anaesthesia and reconstructive surgery hazardous for such patients. The case might be different, however, if the patients were on antiretroviral therapy when reconstructive surgery may be considered. Considering the unabated rise in the incidence of HIV/AIDS in many developing countries, many more children may be affected and this poses a big challenge to the medical profession. There exists a daunting task for health workers and especially oral health professionals to spearhead advocacy for measures that will reduce the incidence of HIV infection and appropriate management protocols for those presenting with complications of HIV/AIDS.

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CORRECTION

In an article published in the July 2002 issue pages 355-359 by Y.T. Asrat, A.M. Omwega and J.W.G. Muita entitled "Prevalence of vitamin A deficiency among pre-school and school-aged children in Arssi zone, Ethiopia," we inadvertently omitted some of the references. This error is highly regretted, and below are all the twenty two references to that article.

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