A Twelve-year-old Nigerian Girl with HTLV-1 Infective Dermatitis

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ABSTRACT

HTLV-1 infective dermatitis (IDH) is a chronic and rare skin disease mainly described in children from Jamaica and Brazil, which are endemic regions. It is characterised by recurrent and chronic dermatitis with scaly, erythematous, and crusted skin lesions, predominantly involving the seborrhoeic areas and generalised papular rashes. There may also be chronic nasal discharge and crusting of the anterior nares with non-virulent Staphylococcus aureus or beta-hemolytic streptococcus infection due to the immunosuppression induced by HTLV-1 infection.

Lymphadenopathy, anaemia, pruritus, and increased occurrence of infections like scabies are also features of this dermatoses. HTLV-1 infective dermatitis may predispose patients to develop other conditions such as adult T-cell leukaemia/lymphoma.

The diagnosis of HTLV-1 infective dermatitis is challenging to both clinicians and dermatopathologists.

Keywords: HTLV-1 infective dermatitis, Children, Kano, Nigeria.

Fille Nigériane de Douze Ans Atteinte de Dermatite Infectieuse à HTLV-1

ABSTRAIT

La dermatite infectieuse à HTLV-1 (IDH) est une maladie cutanée chronique et rare principalement décrite chez les enfants de la Jamaïque et du Brésil, qui sont des régions endémiques. Elle se caractérise par une dermatite récurrente et chronique avec des lésions cutanées squameuses, érythémateuses et croûteuses, impliquant principalement les zones séborrhéiques et des éruptions papuleuses généralisées. Il peut également y avoir un écoulement nasal chronique et une croûte des narines antérieures avec une infection à Staphylococcus aureus non virulent ou à streptocoque bêta-hémolytique en raison de l'immunosuppression induite par l'infection à HTLV-1.

La lymphadénopathie, l'anémie, le prurit et la survenue accrue d'infections comme la gale sont également des caractéristiques de ces dermatoses . La dermatite infectieuse à HTLV-1 peut prédisposer les patients à développer d'autres affections telles que la leucémie/lymphome à cellules T de l'adulte.

Le diagnostic de dermatite infectieuse à HTLV-1 est un défi à la fois pour les cliniciens et les dermatopathologistes.

Mots -clés: Dermatite infectieuse HTLV-1, Enfant, Kano, Nigeria.

Introduction

Human T cell lymphotropic virus 1 (HTLV-1) was the first human retrovirus to be identified and is a causative agent of many diseases in humans, including infective dermatitis.[1]

The Human T cell lymphotropic virus type1 (HTLV-1)- associated infective dermatitis (IDH) is said to be the only well-characterised manifestation of HTLV-1 infection in childhood. HTLV-1 infective dermatitis commonly occurs in children more than 2years old, and it is a chronic and frequently relapsing dermatitis. The first case was reported among Caribbean children.[2] However, it was known to be a form of chronic eczema in Jamaica 14 years earlier.[3] Some cases of IDH have been reported from Africa.[4] Most cases are reported from Jamaica, Senegal, and South Africa.[4-5] Worldwide estimated prevalence of the disease is poorly known. IDH is a rare disease in most parts of the world. Infective dermatitis following HTLV-1 only occurs following neonatal infection, unlike other morbidities like Adult T-cell leukaemia (ATL) and HTLV-1 associated myelopathy (HAM). Adult T-cell leukaemia (ATL) and HTLV-1 associated myelopathy (HAM) are also caused by infection

with the HTLV-1 virus, and they can be sexually or iatrogenically transmitted.[6] HTLV-1 infective dermatitis is associated with the risk of developing ATL and HAM/TSP.[6]

Prevalence is higher in females, and severity decreases with age and rarely continues after puberty. The public health impact is underestimated due to poor diagnosis and poor reporting. It usually presents with severe, infected erythematous, scaly and crusted lesions on the ears, face, scalp, neck and shoulders, groin, nasal and paranasal regions, axillae, or disseminated fine follicular papules. It can present with mild to moderate pruritus with or without chronic secretions and crusting on the nostrils. IDH is generally associated with Staphylococcus aureus and beta-haemolytic Streptococcus infection.[5,7]

We report the first case of a 12-year-old female with HTLV-1 infective dermatitis successfully treated with antibiotics.

Case Report

A twelve-year-old girl with a ten-year history of moderately pruritic and exudative, crusted lesion was attended to at our clinic. The lesions were located on the scalp, neck, eyelid, axillae, external ear, and retro-auricular region. She also had recurrent watery nasal discharge and crusting of the anterior nares. In addition, she had generalised papular rashes.

She is a product of term gestation which was uneventful. She was delivered via spontaneous vaginal delivery and the second of 2 children of both parents. Her elder brother has similar but less severe symptoms. Both parents are seronegative for Human immunodeficiency virus infection. The child has never been transfused with blood.

Examination revealed an apparently healthy girl with a flaky scalp, erythematous papules on the limbs, trunk and eyelids and scabs on the nostrils. Examination of other systems was not contributory. The patient had visited many health facilities and had been given systemic and topical anti-fungal and topical steroids on several occasions without improvement. The complete blood count was normal, but the erythrocyte sedimentation rate was 80mm/hour(raised). Skin biopsy was done, and histology showed hyperkeratosis with foci of spongiosis corneal micro-abscesses with lymphocyte infiltrates at perivascular and perifollicular areas. HTLV-1 antibody test was positive; HIV screening was non-reactive. The swab culture taken from the exuding scalp lesion yielded staphylococcal species. She was placed on oral sulfamethoxazole-trimethoprim for three months, topical corticosteroids, oral antihistamines, and emollients with significant improvement after three weeks on treatment and no relapse after six months. A diagnosis of IDH was made based on history, clinical findings and response to antibiotic treatment.

Discussion

A particular pattern of eczema endemic in Jamaica was described by Sweet as infective dermatitis.[8] He observed that the lesions usually start like impetigo near the nose and ears and gradually expand to the scalp, face and neck with associated widespread papules. It tended to recur despite easy response to topical tetracycline-hydrocortisone treatment.[8] Other authors[9–10] confirmed the above clinical features among patients with this infective dermatitis. Staphylococcus aureus and Beta-haemolytic streptococcus were the commonest pathogens isolated from the lesions, and the HTLV-1 antibody test was found to be positive among cases. A criterion for the diagnosis of HTLV-1 infective dermatitis was proposed by La Grenade et al.[5] and later modified by De Oliver.[11] It has four major criteria:

— The presence of erythematous, scaly, exudative, and crusted lesions on the scalp, retro auricular and auricular areas, the neck, axillae, groin, paranasal and perioral skin, thorax, abdomen and other sites
— Crusting of nostrils
— The presence of a chronic relapsing dermatitis with good response to appropriate antibiotics but prompt recurrence on discontinuation of therapy
— Diagnosis of HTLV-1 infection (via serological or molecular biological testing)

The four major criteria are needed for diagnosis. Our

Figure 1: Child at presentation

Figure 2: Child after six months of antibiotic treatment

patient had all the four major criteria for diagnosis of IDH with some minor criteria like positive cultures, elevated ESR and lymphadenopathy. This case is a clear presentation of HTLV -1 infective dermatitis in childhood. Differential diagnoses of IDH include atopic eczema, which usually starts at an earlier age among children with a family history of atopy with more severe pruritus).

Seborrheic dermatitis is another possible differential diagnosis usually seen in infants or at puberty and adulthood. It is characterised by greasy scaling of the scalp, nasolabial folds, and other body folds, but without nasal crusting, discharge, or conjunctivitis.

The diagnosis of IDH is essential so as to watch out for associated morbidities. Even though most patients with IDH remain asymptomatic, some can develop ATL or HAM/TSP, both of which can be very debilitating conditions.

Conclusion

IDH is a rare disease in Nigeria. Complications that follow HTLV-1 infection can be devastating to families and communities. Improved diagnostic facilities for HTLV-1 infection, a high index of suspicion, prompt treatment, preventing transmission through blood donor screening, prenatal screening and reducing breastfeeding duration to less than 6months (when benefit outweighs risk) in infected mothers from endemic areas will be effective in lowering transmission.

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