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Case Report

Borderline tuberculoid hansens with type 1 reaction in a HIV patient: an IRIS phenomenon over an unusual site

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ABSTRACT

Immune reconstitution inflammatory syndrome (IRIS) is an acute symptomatic expression of a latent infection during the recovery of the immune system and it occurs as a response to antiretroviral therapy. Opportunistic infections can act as a trigger for IRIS. Hansens disease is an infection caused by *Mycobacterium leprae*. There are very few case reports reporting the development of borderline tuberculoid hansens with type 1 reaction as IRIS. We here report a unique case of IRIS in a HIV patient who presented with borderline tuberculoid leprosy with type 1 lepra reaction presenting over unusual site following highly active antiretroviral therapy administration.

Keywords: HIV, Borderline tuberculoid hansens, Type 1 reaction, IRIS

INTRODUCTION

Leprosy is an ancient and most feared disease which has a strong social stigma and continues to be a public health problem in many resource poor countries. There is a geographical overlapping in the incidence of leprosy and HIV which will lead to an increase in dually infected individuals, particularly in resource poor countries.

Immune reconstitution inflammatory syndrome (IRIS) is a paradoxical deterioration in the clinical status of a HIV infected patient on highly active antiretroviral therapy (HAART) due to recuperating immune system. IRIS can occur due to both infectious as well as non-infectious causes and mostly occurs with low CD4 count. Leprosy presenting as IRIS in HIV patients after initiation of antiretroviral therapy has been reported previously.[1] In contrast to previous reports, we report a case of HIV on HAART who presented with borderline tuberculoid leprosy with type 1 lepra reaction presenting as IRIS over unusual site.

CASE REPORT

A 35 year old male patient came with complaints of multiple red, swollen, painful patches over right elbow, back of hand, abdomen and penis of 1 month duration. He was diagnosed to be HIV positive 4 years back and was started on HAART one year back as his CD4 count was 182 cells/cu. mm.

On cutaneous examination, multiple, erythematous, edematous, tender well defined plaques of 1-7 cm size, few plaques showing scaling over the extensor aspect of right elbow, dorsum of right hand, right flank and penis with multiple satellite lesions were observed [Figures 1-4].

Loss of fine touch sensation and temperature differentiation over the plaques and patches were present. Right and left ulnar and left popliteal nerves were thickened. Right ulnar nerve was tender to palpate.

Scrapings for KOH from glans penis were negative. Venereal disease research laboratory was negative. CD4 count was 218 cells/cu.mm, slit skin smear was negative.

On histopathological examination, multiple Langhans giant cells in the mid dermis along with lymphocytic inflitrate in upper and mid dermis was seen which was suggestive of tuberculoid granuloma [Figures 5 and 6].

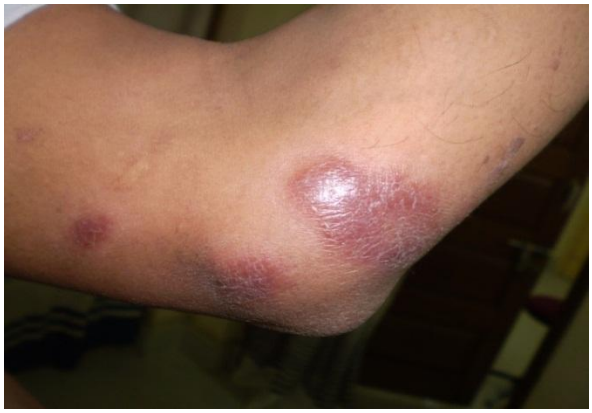

Figure 1: Erythematous, elevated, painful dry plaque on right elbow.

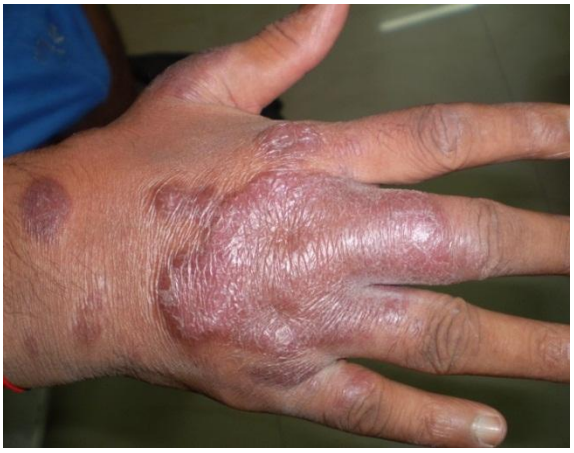

Figure 2: Erythematous, tender plaque on dorsum of right hand. Satellite lesions are also seen.

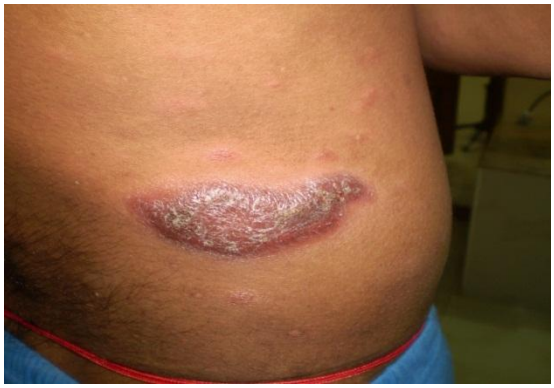

Figure 3: Erythematous, elevated plaque on right lumbar area.

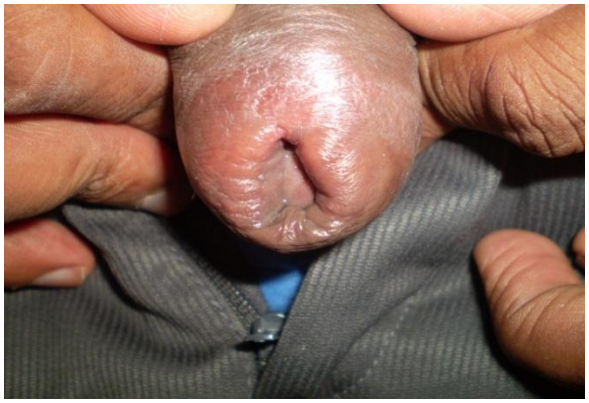

Figure 4: Thickened plaque over the penis.

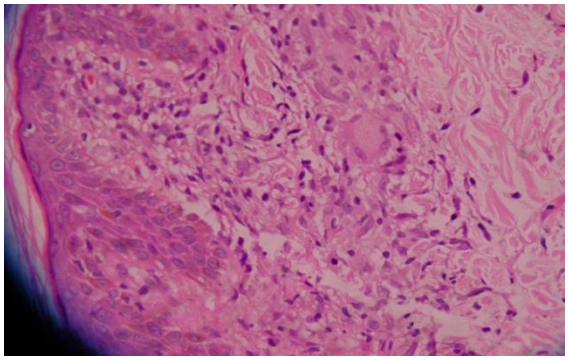

Figure 5: Histopathology section showing lymphocytic infiltrate along with multiple langhans giant cells in the dermis.

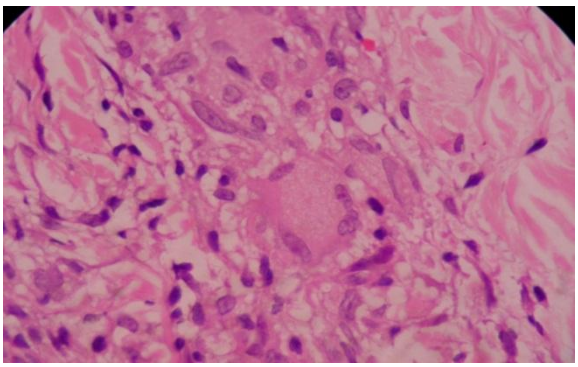

Figure 6: Granulomas surrounded by lymphocytes and langhans giant cells.

The hypoasthetic, erythematous and odematous plaque occurring over penis was rather unusual in our case. With the clinical and histopathological findings, a diagnosis of borderline tuberculoid leprosy with type 1 reaction presenting as IRIS in HIV patient was made. Patient was started on anti-inflammatory drugs, oral corticosteroids and Mycobacterium- multidrug therapy.

DISCUSSION

IRIS is due to the impaired immune response after the start of ART. The characteristic feature of the IRIS is

paradoxical worsening of an existing infection or disease process or appearance of a new infection/disease process soon after initiation of therapy. The immunopathogenesis of IRIS is not clearly identified but few studies show that it is due to the overt inflammatory response in patients receiveing ART due to imbalance of effector and regulator T cells. Biomarkers like body mass index, hemoglobin level, total leukocyte count, albumin level, high-density lipoprotein level, erythrocyte sedimentation rate value, C-reactive protein level and absolute eosinophil level less than 351 cells/mm^3 showed significant ($p<0.05$) difference among HAART naïve and on HAART patients with IRIS.[2]

Few other biomarkers, which have been found to have a role in IRIS are interferon-γ, tumour necrosis factor-α and interleukin- 2, 6 and 7. Also mycobacterial infections, fungi and herpes viruses can be associated with IRIS.[3] To be diagnosed as IRIS, few minimum criteria need to be fulfilled. Temporal association between initiation of antiretroviral therapy and subsequent development of symptoms has to be established. The clinical course should neither be consistent with the usual course of a previously diagnosed opportunistic infection or a new infectious process; nor should the symptoms and signs be explained by drug toxicity.[3]

In our case, there is only a minimal increase in CD4+ count after starting HAART and viral load was not done due to unaffordability. It has been found that even a minimal decrease in viral load in the absence of a significant rise in CD4+ cell count itself can precipitate IRIS.[4] The first case of Hansen's disease presenting as IRIS was reported in 2003 by Lawn et al.[5] In the study by Pereira et al, a significant percentage of co-infected patients were classified as the borderline tuberculoid leprosy.[6]

A review of the Indian scenario revealed only six cases of Hansen's disease presenting as IRIS. All were of the borderline tuberculoid type and were associated with type 1 lepra reaction.[7-11] Thus our case can be added to the Indian scenario.

CONCLUSION

Although leprosy is fading out in other countries, it is still a major problem in countries like India and thus coexistence of HIV and leprosy should be always kept in mind and diagnosis is not to be missed.

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