Case Report

Multiple osteolytic lesions in a 14-year-old boy with HIV disease

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Abstract

A 14 year old boy, said to have had multiple transfusions during infancy, was brought to the hospital for complaints of pain over right thigh for one week duration. MRI reveals multiple osteolytic lesions with enhancing hyperintense bone marrow lesions over iliac bones, right acetabulum and lumbar vertebral bodies and enlarged para-aortic, iliac and inguinal lymph nodes. CT of the whole body revealed osteolytic lesions on skull, mandible, right scapula, head of both humeri, L1 and L4 vertebrae, 5th and 10th ribs, both acetabulum and ala of sacrum along with enlargement of cervical, axillary and mesenteric, iliac and inguinal nodes. HIV ELISA was positive. Viral load was 141,700 copies/ml. CD4 count was 226 cells/mm^3. Multiple biopsy from the lesions and bone marrow revealed no evidence of tuberculosis and malignancy. Now the boy is on ART (ZDV + 3TC + EFV) since August 2013. His CD4 count improved and viral load became undetectable and he gained weight within 5 months of ART. Due to the rarity of its presentation, this case report is being reported.

Key words: Bacillary angiomatosis, HIV, osteolysis

INTRODUCTION

HIV has a wide range of presentations. Osteolysis of bones is not a common presentation in HIV Due to its rarity, this case is being reported.

CASE REPORT

A 14 year-old boy, who has history of multiple transfusions during neo-natal period, was referred to my outpatient department from a corporate hospital with all investigation reports for the management of HIV in August 2013.

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The boy reported to the hospital with complaints of pain over right thigh since1-week in July 2013. After seeing multiple osteolytic lesions in the bones during investigations, he was referred to a higher center by the local orthopedic surgeon.

On examination, the boy was well nourished and appeared healthy. Multiple enlarged lymph nodes and scars of Herpes Zoster over right costal area and scars of Chicken pox over abdomen, chest and back were found. He gave a history of steroid inhalation since his childhood (for more than 12 years) as he was an asthmatic since childhood. However, during examination, the respiratory system had no abnormal findings.

Radiological investigations

Computed tomography of the whole body revealed osteolytic lesions on skull, mandible, right scapula, head of both humeri, L1 and L4 Vertebrae, 5th and 10th ribs, both acetabulum and ala of sacrum and

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enlargement of cervical, axillary, mesenteric, iliac and inguinal nodes (Figures 1 and 2). Magnetic resonance imaging of pelvis revealed multiple osteolytic lesions over both acetabulum and a larger one over the ala of Sacrum. Enhancing hyperintense bone marrow lesions of iliac bones, right acetabulum and lumbar vertebral bodies were noticed along with enlarged para-aortic, iliac and inguinal lymph nodes [Figure 3].

Blood investigations

HIV ELISA was positive. HIV Viral load was 141,700 copies/ml. His CD4 count was 226 cells/mm. TB PCR was negative. Both parents were nonreactive for HIV and appeared healthy.

Other investigations

Biopsy of lymph nodes revealed reactive lymphadenitis, and there was no evidence of lymphoma or any other malignancy. Trephine biopsy of bone marrow and biopsy from sacral ala also revealed no evidence of malignancy.

The boy was put on antiretroviral therapy (ART) (ZDV + 3TC + EFV) since August 2013 and he is doing well. Osteolytic changes improved with ART [Figure 4]. On March 2014, his viral load was reduced to undetectable level and his CD4 Count was 518 cells/cubic mm. He also gained 4 kg in 5 months.

DISCUSSION

Tripathi *et al*. reported osteolysis in a case of HIV disease with tuberculosis.[1] Bacillary angiomatosis, a bacterial opportunistic infection in HIV disease, can occur in individuals with CD4 count <50. Baron *et al*.[2] reported osteolytic changes in HIV disease in six of their patients with bacillary angiomatosis. Another case of osteolysis in HIV infection with bacillary angiomatosis was reported by Braekeveld *et al*.[3] Our patient had no evidence of tuberculosis as per biopsy and blood reports and his CD4 count at the time presentation was 226 cells and there was no other evidence of bacillary angiomatosis.

Figure 1: Before antiretroviral therapy computed tomography scan

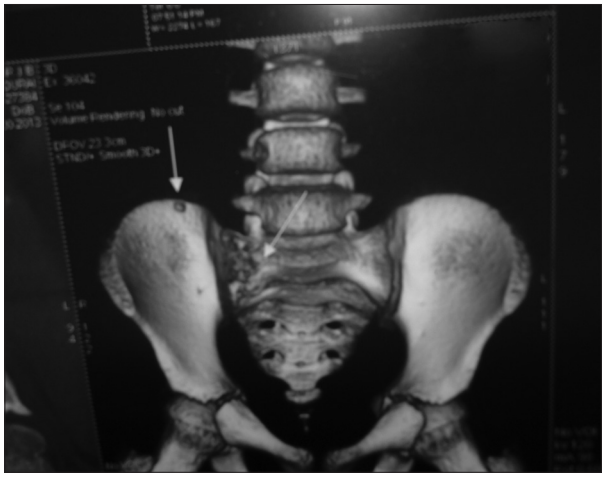

Figure 2: Before antiretroviral therapy computed tomography scan 2

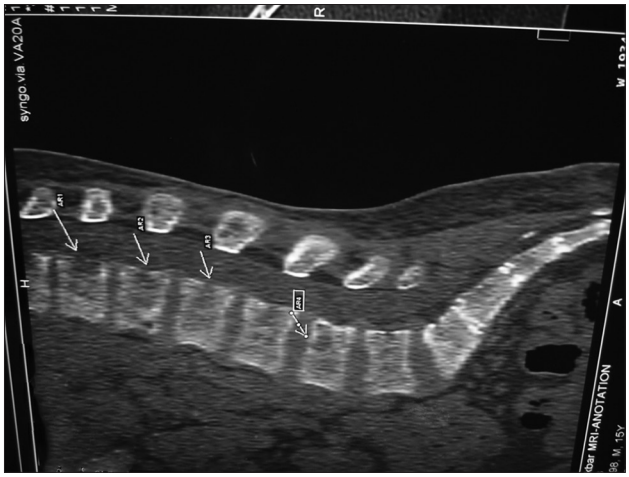

Figure 3: Before antiretroviral therapy magnetic resonance imaging 1

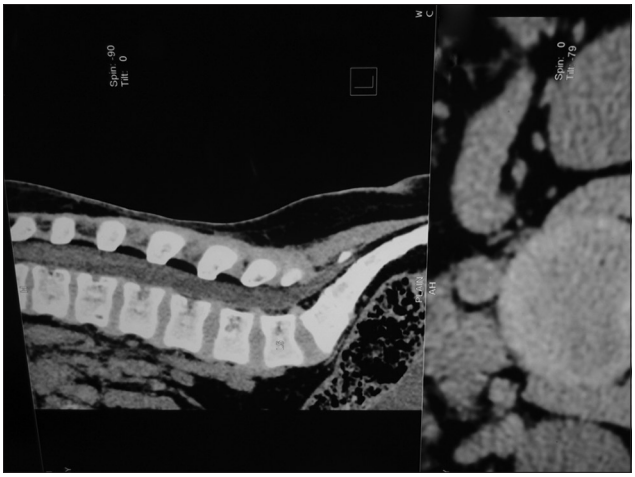

Figure 4: After antiretroviral therapy computed tomography 2

Steroids for long time (as inhalation) are known to cause osteoporosis, which may be a reason for the unusual and extensive osteolytic lesions. HIV is a great imitator and we should have a suspicious eye to detect such unusual and unexpected manifestations in a HIV disease.

REFERENCES

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HUMAN PAPILLOMA VIRUS MINUTIAE - 2

Immunity to HPV

A person with a pre-existing immunocompromised state has a 17-fold increased risk of developing HPV-associated diseases.

T cell immune response is important after the host has been infected, whereas humoral immunity prevents the spread of infection to new sites and reduces the chances of reinfection. 'One way cross reactivity' has been demonstrated between cutaneous and ano-genital warts. Cutaneous warts are auto-inoculable on the genital mucosa whereas genital warts are not able to produce lesion on glabrous skin. Increase in CMI is effective in both elimination and recurrence of warts.

HPV & Malignancy

HPV types 16,18,31,33,35,39,45,51,52,54,56,66 & 68 are frequently associated with several types of cancers like cervical, vulvar, vaginal, penile, anal and oropharyngeal.

HPV and Cervical carcinoma

High-risk HPV types 16 and 18 are found in 50% and 15% of all cervical carcinomas respectively. Only 1-5% of women infected with HPV will develop malignancies.

HPV associated Oral and Oro-pharyngeal SCC

HPV-16 DNA is the most prevalent HPV genotype in HPV-cytopositive oral and oropharyngeal SCC. It is detected in about 75% of cases of HPV-cytopositive oral SCC and in about 90% of cases of HPV-cytopositive oropharyngeal SCC.

HPV-cytopositive oropharyngeal SCC has better prognosis than cytonegative SCCs. Risk factors include orogenital sex, tobacco smoking, alcohol consumption & increasing age in women. HPV infection of the upper airway is associated with benign lesions like focal epithelial hyperplasia, inverted papilloma, recurrent respiratory papillomatosis (juvenile & adult onset). Common genomes are HPV 6 and 11.

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