Kaposi’s Sarcoma with Thrombocytopenia in a Heterosexual Asian Indian Male
VV Shenoy*, Shashank R Joshi*** D Duberkar**, KN Kadam**, RT Shedge+, DN Lanjewar+

Abstract
A 45-year-old heterosexual male patient with retroviral disease since 12 years presented with hyperpigmented lesions, misdiagnosed initially as purpura due to an associated thrombocytopenia, but was biopsy proven to be Kaposi’s sarcoma (KS). Bone marrow examination revealed excess megakaryocytes. Low CD4 count and absence of platelet specific IgG reduced the likelihood of immune thrombocytopenia (ITP). However after 6 weeks of antiretroviral therapy the patient’s lesions have reduced and platelet counts are improving, possibly suggesting a sequestration thrombocytopenia in the abnormal tumor vessels of KS. ©

INTRODUCTION
Kaposi’s Sarcoma (KS) was first described in elderly Mediterranean men by Moritz Kaposi, is now sub classified into 4 variants: 1) Classic KS, 2) Endemic African variant 3) Epidemic HIV associated KS and 4) Transplant associated KS.1 Surprisingly the incidence of Kaposi’s sarcoma in Asian Indians is low. HIV associated KS has been traditionally seen in homosexuals, attributed to human herpes virus 8 infection (HHV-8) though occasional case reports of heterosexual occurrence are noted.2 We report a case of KS in a heterosexual Asian Indian male with multicentric cutaneous disease who presented with thrombocytopenic purpura and discuss its possible causes and its response to combined antiretroviral chemotherapy (cART). Various causes of HIV-related thrombocytopenia are elucidated.

CASE REPORT
A 45-year-old Asian Indian car driver, heterosexual male, with retroviral disease since last 12 years, presented with painless swelling and nodular hyperpigmented lesions over left leg since 4 months (Fig. 1a). He did not have fever or diabetes mellitus. He had also noticed multiple hyperpigmented patches over his other leg and arms since a similar duration (Fig. 1b). Investigations then, had revealed thrombocytopenia and they were labeled as purpura as the patient also had evidence of petechiae following insect bites. There was no history of opportunistic infections in the past except for occasional episodes of diarrhoea. He gave past history of multiple heterosexual exposures. He had never been monitored or treated for retroviral disease. He was afebrile with normal vital parameters, and unremarkable systemic examination. There were multiple, hyperpigmented maculopapular lesions over both arms and right leg interspersed with purpura at sites of insect bites. The patient also had purpuric lesions over his back and chest. There was no lymphadenopathy. Locally there was a non-pitting, non-fluctuant, hard indurated swelling with hyperpigmented plaques over his left leg without any warmth, tenderness, discharge or limitation of movement. It was not friable or bleeding to touch, to suggest bacillary angiomatosis. With a possibility of cutaneous malignancy or metastasis and rare possibility of KS, investigations were done (Table 1). Skin biopsy of swelling revealed mild focal acanthosis of epidermis and swollen dermis containing numerous slit like capillaries with fragmented basal lamina and loosely placed spindle cells in fascicles with extravasations of RBCs typical of KS (Fig. 2).

Apart from the multicentric cutaneous lesions, there were no respiratory, gastrointestinal symptoms or other evidence of systemic involvement by Kaposi’s sarcoma. Investigations for persistent thrombocytopenia without pancytopenia, including coagulation tests and D dimer were normal. There was no intake of any culprit drugs. We carried out bone marrow studies to rule out marrow infiltration and also associated mycobacterial or fungal infection, though normal hemoglobin and WBC count made this an unlikely possibility. Bone marrow biopsy showed normocellular marrow with increased megakaryocytic precursors and no evidence of
Table 1: Investigations

<table>
<thead>
<tr>
<th>Investigation</th>
<th>At Admission</th>
<th>After 6 weeks of cART</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin (gm/dl)</td>
<td>11</td>
<td>12.2</td>
</tr>
<tr>
<td>Complete Blood Count (per mm$^3$)</td>
<td>8400</td>
<td>7600</td>
</tr>
<tr>
<td>Differential leukocyte count (per mm$^3$) N/L/E/M</td>
<td>72/28/0/0</td>
<td>65/30/01/04</td>
</tr>
<tr>
<td>Absolute Platelet count (per mm$^3$)</td>
<td>20,000</td>
<td>1,06,000</td>
</tr>
<tr>
<td>AST/ ALT (IU/L)</td>
<td>24/30</td>
<td>30/40</td>
</tr>
<tr>
<td>Prothrombin time (test/control sec)</td>
<td>13/12</td>
<td>—</td>
</tr>
<tr>
<td>D - dimer test</td>
<td>Negative</td>
<td>—</td>
</tr>
<tr>
<td>CD4 count (cells/cu mm)</td>
<td>64</td>
<td>—</td>
</tr>
<tr>
<td>Anti Platelet specific IgG</td>
<td>Negative</td>
<td>—</td>
</tr>
<tr>
<td>Chest X-ray</td>
<td>Normal</td>
<td>—</td>
</tr>
</tbody>
</table>

Table 2 Aetiology of thrombocytopenia in HIV infected Indians

- a. Nutrition related
  - Vit B12 and folate deficiency
- b. Bone marrow
  - Drug induced
  - Infection in bone marrow
    - mycobacterial
    - fungal
  - Direct suppression of megakaryocytes by HIV
- c. Peripheral destruction
  - Drugs causing ITP
  - Disseminated intravascular coagulation
  - Thrombotic thrombocytopenic purpura
  - Lymphoma associated ITP
  - HIV associated ITP (early HIV infection)
  - Abnormal sequestration in peripheral tissues

opportunistic pathogens, suggesting increased peripheral destruction of platelets. As the CD4 count was low and platelet specific IgG was negative, immune thrombocytopenia (ITP), however was less likely.

The patient was started on cART(Lamuvudine 150 mg b.i.d, Stavudine 40 mg b.i.d. in a fixed dose combination and Neverapine 100 mg o.d. initially and later b.i.d. as per standard protocol). Specific therapy for Kaposi’s sarcoma was deferred in the absence of life-threatening disease, associated with advanced immunosuppression. The patient has responded well within 6 weeks and platelet counts have increased to more than 1 lakh/cu mm. The lesion resolved with cART (Fig. 3).

Figs. 1a,b : Nodular multicentric lesions of Kaposi’s sarcoma over the legs.

Fig. 2 : Histopathological appearance of KS – spindle cell (Thin arrow) and vascular channels with RBC extravasation (thick arrow).

Fig. 3 : Lesions reduced in size after cART.
DISCUSSION

This patient was referred to us for severe thrombocytopenia with purpuric lesions all over and had received multiple antibiotics for cellulitis of the left leg. Causes of thrombocytopenia in a patient with retroviral disease can be myriad (Table 2). The papulonodular lesions on his leg had some semblance to KS. However KS is far more common in homosexuals with little evidence for transmission via heterosexual intercourse it is also rare in India.3 Lymphoma was unlikely with a normal WBC differential count and no lymphadenopathy. Cutaneous malignancies like squamous cell carcinoma, or malignant melanoma, are known to be aggressive and multicentric in the presence of HIV infection.4 However the biopsy revealed all histological features of KS, notably the spindle cells (Fig. 2), with capillaries showing fragmented basal lamina, lack of pericytes and RBC extravasation.5

Kaposi’s sarcoma has been associated with hematological manifestations; however bone marrow involvement is rare. The increased megakaryocytic precursors ruled out reduced marrow production as a cause of thrombocytopenia. Autoimmune thrombocytopenia (ITP) has been reported in a patient with KS.6 However absence of platelet bound IgG and advanced retroviral disease are not supportive, as ITP occurs earlier in the natural history of HIV infection. Another possibility was of excessive sequestration and destruction of platelets within the abnormal vessels of KS; a similar observation being made in the absence of consumptive coagulopathy (DIC) or microangiopathic hemolysis.7

This patient has been on cART for 6 weeks and already the platelet counts have improved dramatically as also lesions of KS, which have flattened out and reduced in number (Fig. 3). This supports the latter mechanism of sequestration thrombocytopenia over classical ITP.

To conclude, this patient had heterosexually acquired retroviral disease with Kaposi’s sarcoma and thrombocytopenia most probably due to sequestration in the abnormal vasculature of Kaposi’s sarcoma.

Acknowledgements

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REFERENCES


Announcement

Office bearers of API Bhavnagar Branch for the year 2005-2006
Chairman : Deepak Gupta
Hon. Secretary : Rajesh V Balar
Treasurer : NH Maniyar
Executive Members : NH Lathia, RP Bhuva

Announcement

A National Conference of Pancreatology will be held at The Grand, New Delhi on 6-7 August 2005 under the aegis of India Pancreas Club.
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