Spectrum of Malignancies In HIV in North India

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Internal Medicine, PGIMER, Chandigarh
History of Cancer in AIDS

- 1981: 8 young men in New York City with a Kaposi Sarcoma (KS) heralded the beginning of the HIV epidemic
- 1983: one of every 3 persons with HIV in the US had KS
- Incidence dropped 10-fold with in one year of widespread availability of HAART in US

**AIDS Defining Malignancies (ADM) & Non AIDS Defining Malignancies (NADM)**

- Incidence of **ADM has declined** and NADM are now an important cause of mortality in HIV-infected individuals.
- Incidence of **NADM is higher among HIV-infected** individuals than among the general population in the same geographic area.

Mocroft et al. AIDS. 2002;16:1663-71
Some studies have been published on malignancies in HIV population in India. Different pattern of AIDS related malignancies than that reported from west.

- Sachdeva et al. Leuk Lymphoma. 2011;52:1597-600
Hematological malignancies in human immunodeficiency virus-positive individuals in North India

RAVINDER KAUR SACHDEVA, AMAN SHARMA, AJAY WANCHU, PANKAJ MALHOTRA, & SUBHASH VARMA

Leukemia & Lymphoma, August 2011; 52(8): 1597–1600
Methodology

• The records were analyzed
  ➢ retrospectively from a period of December 2009 to December 2011 and
  ➢ prospective from a period of Jan 2012- April 2013.

➢ Details of ADM and NADM were recorded on a proforma
Demographic characteristics of HIV infected individuals diagnosed with malignancies

<table>
<thead>
<tr>
<th>Parameter (N=31)</th>
<th>Value</th>
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<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>Mean ± SD (Range) years</td>
<td>39 ± 12.3 (16-77) years</td>
<td><strong>Smoking</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Former &amp; Current</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td><strong>Alcohol</strong></td>
</tr>
<tr>
<td>Males</td>
<td>19</td>
<td></td>
<td>Former &amp; Current</td>
</tr>
<tr>
<td>Females</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mode of Transmission</strong></td>
<td></td>
<td></td>
<td><strong>Tobacco</strong></td>
</tr>
<tr>
<td>Heterosexual</td>
<td>28</td>
<td></td>
<td>Former &amp; Current</td>
</tr>
<tr>
<td>Perinatal</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood Transfusion</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mean duration of HIV seropositivity (months)</strong></td>
<td>35.8 ± 43.9 (range, 0-146)</td>
<td><strong>Malignancy staging</strong></td>
<td>III-IV (90.3%)</td>
</tr>
<tr>
<td><strong>HBV/HCV</strong></td>
<td>1/0</td>
<td><strong>Baseline CD4 Median (Range) cells/mm³</strong></td>
<td>240 (22-805)</td>
</tr>
</tbody>
</table>

*HBV-hepatitis B virus, HCV-hepatitis C virus
ADM/NADM

- ADM: 58%
- NADM: 42%
Number of HIV Infected Individuals

- Non Hodgkin lymphoma: 39%
- Hodgkins Lymphoma: 3%
- Chronic myelogenous leukemia: 3%
- Carcinoma cervix: 3%
- Ovarian carcinoma: 3%
- Ca Anal Canal (Squamous cell): 3%
- Ca Bronchus: 3%
- Ca Base of tongue (Squamous cell), Ca larynx (Squamous cell): 3%
- Ca urinary Bladder: 3%
- Renal Cell carcinoma (chromophobe type): 3%
- Parathyroid adenoma: 3%
- Pleomorphic sarcoma: 3%
- Sinonasal carcinoma (poorly differentiated): 3%

3/22/2014 HIV Congress, Mumbai
Site of Non Hodgkin lymphoma (NHL)

- Nodal: 9
- CNS: 1
- Cheek: 1
- Stomach: 1
B cell Lymphoma 75%
n=9

T cell Lymphoma 25%
n=3

NHL Lineage
Sub-types of lymphoma

- DLBCL: 6 cases
- Burkitt's Lymphoma: 1 case
- Small cell Lymphoma: 1 case
- CNS Lymphoma: 1 case
- ALCL: 3 cases

Subtypes of lymphoma

3/22/2014 HIV Congress, Mumbai
CD4 cell count of 31 HIV patients diagnosed with malignancy at baseline and at the time of diagnosis of malignancy (Wilcoxon signed ranked test, p=0.37).
CD4 cell count of individuals diagnosed with non AIDS defining malignancy at baseline and at the time of diagnosis of malignancy (Wilcoxon signed ranked test, p=0.612)
CD4 cell count of individuals diagnosed with AIDS defining malignancy at baseline and at the time of diagnosis of malignancy (Wilcoxon signed ranked test, p=0.833)
# Outcomes of malignancies

<table>
<thead>
<tr>
<th>Malignancy</th>
<th>PLHIV</th>
<th>Treatment offered for malignancy</th>
<th>Duration of HIV sero-positivity at the time of malignancy diagnosis (Years)</th>
<th>Survival/death/ LFU*</th>
<th>Duration of Follow up in ART centre after malignancy diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Non Hodgkin lymphoma</td>
<td>12</td>
<td>chemotherapy</td>
<td>3.2</td>
<td>3/9/0</td>
<td>The surviving three individuals have completed chemotherapy, of these two are on first line ART# and third one receiving salvage therapy</td>
</tr>
<tr>
<td>2 Hodgkins Lymphoma</td>
<td>2</td>
<td>chemotherapy</td>
<td>3</td>
<td>2/0/0</td>
<td>Completed chemotherapy, currently on first line ART</td>
</tr>
<tr>
<td>3 CML</td>
<td>1</td>
<td>chemotherapy</td>
<td>0.4</td>
<td>1/0/0</td>
<td>Receiving Imatinib, stable on first line ART</td>
</tr>
<tr>
<td>4 Ca cervix</td>
<td>6</td>
<td>chemotherapy</td>
<td>2.5</td>
<td>2/2/2</td>
<td>Radiotherapy completed continuing on first line ART 3 years</td>
</tr>
<tr>
<td>5 Ovarian ca</td>
<td>1</td>
<td>chemotherapy</td>
<td>5.6</td>
<td>1/-/-</td>
<td>Treatment completed/ Surviving 4 years (currently on second line ART)</td>
</tr>
<tr>
<td>6 Ca Anal CanaL</td>
<td>1</td>
<td>Radiotherapy</td>
<td>9</td>
<td></td>
<td></td>
</tr>
</tbody>
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LFU*: Lost to follow-up, TURBT**: Transurethral resection of Bladder tumour, ART: #Antiretroviral treatment
## Outcomes of malignancies

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<tr>
<td>7 Ca Bronchus</td>
<td>1</td>
<td>Planned</td>
<td>0.6</td>
<td>Surviving</td>
<td>7 months (currently on first line ART)</td>
</tr>
<tr>
<td>8 Ca Base of tongue</td>
<td>1</td>
<td>Radiotherapy</td>
<td>6.7</td>
<td>Died after six months</td>
<td>-</td>
</tr>
<tr>
<td>9 Ca larynx</td>
<td>1</td>
<td>Radiotherapy</td>
<td>6</td>
<td>Died after six months</td>
<td>-</td>
</tr>
<tr>
<td>10 Ca urinary Bladder</td>
<td>1</td>
<td>TURBT**/Radical Cystectomy/Radiotherapy</td>
<td>2.9</td>
<td>Died after 20 months of diagnosis</td>
<td>-</td>
</tr>
<tr>
<td>11 RCC (chromophobe type)</td>
<td>1</td>
<td>Surgery</td>
<td>Diagnosed simultaneously</td>
<td>surviving</td>
<td>3 years (currently on first line ART)</td>
</tr>
<tr>
<td>12 Parathyroid adenoma</td>
<td>1</td>
<td>Surgery</td>
<td>6 years</td>
<td>surviving</td>
<td>6 years (currently on first line ART)</td>
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<td>Pleomorphic sarcoma</td>
<td>1</td>
<td>-</td>
<td>Diagnosed simultaneously</td>
<td>Died within a week of diagnosis</td>
<td>-</td>
</tr>
<tr>
<td>Sinonasal carcinoma (poorly differentiate d)</td>
<td>1</td>
<td>Endoscopic resection of tumour followed by Radiotherapy</td>
<td>2</td>
<td>Continuing Radiotherapy and first line ART</td>
<td>4 months (continuing radiotherapy and currently on first line drugs)</td>
</tr>
</tbody>
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LFU*: Lost to follow-up, TURBT**: Transurethral resection of Bladder tumour, ART: #Antiretroviral treatment
Conclusions:

• The frequency of malignancies in HIV infected individuals in our center is 1 %.
• AIDS defining malignancies outnumbered non-AIDS defining malignancies.
• Non Hodgkin lymphoma remains the most common malignancy.
Thank you