A Study of Gastrointestinal Manifestations in HIV/AIDS Patients


Abstract
This study was conducted at the ART clinic of Seti Zonal Hospital Dhangadi. This ART center is the center for clinical based targeted intervention program for the control of STI/AIDS and management of opportunistic infections.

The objective of the study was to record the prevalence of common GI manifestations according to the age group and CD4 count.

Common GI manifestations were diarrhea in 534 cases, pain abdomen with loss of appetite 503 cases, oral thrush 81 cases & esophageal candidacies 51 cases.

Key Words
Diarrhea, esophageal candidacies, oral thrush, opportunistic infection.

Introduction
GI manifestations are the common manifestations among HIV infected patients.1,2 According to recommended WHO clinical staging; oral thrush (oropharyngeal ulceration, candidacies) are found in second stage; oral candidacies, chronic diarrhea (diarrhea more than one month), oral hairy leukoplaikia in third stage and esophageal candidacies, chronic diarrhea with cryptosporidiosis and isosporiosis, HIV wasting syndrome (>10% of weight loss with either > 30 days of diarrhea or > 30 days of unexplained fever and weakness) in fourth stage.3,4

In span of less than three decades, HIV/AIDS has emerged as the single most challenge to public health, human rights and development of this new millennium.5 By the end of 2007, it was established that 33.2 million people (30.6 -- 36.1 million) across the world were living with HIV and 70,000 of these people were living in Nepal.6,7

Nepal is experiencing transition in HIV epidemic.8 Various predisposing factors are prevalent for the rapid spread of HIV in Nepal. Migration is one of the many social factors that have contributed to the AIDS epidemic.9,10,11,12,13 According to data by an international organization, migrants who crossed national borders increased from 101 million in 1985 to 175 million in 2000, while a similar number of people may exist as internal migrants within national borders5,6.

HIV virus is retro virus which uses its RNA and host’s DNA to make viral DNA.1,2 It has a long incubation period.1,2 It causes severe damage to and eventually destroys the immune system by utilizing the DNA of CD4 lymphocytes to replicate itself. In the process, the virus destroys the CD4 lymphocytes. After several years, the person’s immune system will be very weak, he/she is vulnerable to diseases that he/she could normally fight off. These diseases (diarrhea, oral thrush, oral candidacies,
Cryptosporidiosis, tuberculosis, pneumonia, Kaposi’s sarcoma etc.) are called opportunistic infections because they take advantage of the weakened immune system to cause disease.\textsuperscript{1,2} In our study more HIV positive patients were seen to be suffering from diarrhea; oral thrush and oral candidacies were recorded in people with low CD4 count (<200).

Materials and Methods

Retrospective data of HIV reactive patients who directly visited or were referred to ART clinic Seti Zonal Hospital, Dhangadi Nepal for counseling and treatment of HIV infection from Magh 2063 to end of 2064 was used in the study. Data’s of a total of 1032 patients entered within the time frame described were included. Age, sex, address, mode of transmission, literacy, and socioeconomic status were recorded.

Three rapid tests: Determine, Unigold & Capillus were used to confirm the HIV infection in the study group. Complete clinical examination was done before institution of ART; that included physical examination, WHO clinical staging, performance scale, CBC, VDRL, LFT, RFT, R/E of urine, CXR P/A view, sputum for AFB for 3 days and CD4 counts measurement.

Certain diseases are manifested in CD4 count below 50, in 51-100, in 101-200 and in CD4 between 201-500, and above 500.\textsuperscript{13} The study’s CD4 count groups are in keeping in line with this, however we have split the 201-500 count group into 201-350 and 351-500 since treatment is started at CD4 count below 350.

In cases with diarrheal manifestations the stool samples were sent for microscopic examination. Suspected cases of HIV (not laboratory proved) and STI cases, which came for treatment, were excluded from the study.

Limitation - Due to lack of laboratory facility of stool culture, limited resources and efficient microscopist, the investigations were minimum.

Results

In the study, GI manifestations were seen according to age group and CD4 counts.

<table>
<thead>
<tr>
<th>Gastrointestinal manifestation in Seti Zonal Hospital according to Age Group</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age Group (years)</strong></td>
</tr>
<tr>
<td>(total no. of patients)</td>
</tr>
<tr>
<td>1. Diarrhea</td>
</tr>
<tr>
<td>2. Oral thrush</td>
</tr>
<tr>
<td>3. esophageal candidacies</td>
</tr>
<tr>
<td>4. Pain abdomen with loss of appetite</td>
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</tbody>
</table>
The table shows that among 1032 study cases most of them suffered from diarrhea (51.74%). The second presentation was pain abdomen with loss of appetite (48.74%), oral thrush at 7.84% and esophageal candidacies 5.52%. The most affected age group was 31-50 years, among them manifestation of diarrhea 75.09%, esophageal candidacies 71.92%, oral thrush 62.98% and pain abdomen with loss of appetite 54.27%.

Most of the manifestations were combined manifestations; for example, diarrhea with pain abdomen and loss of appetite, oral thrush and intermittent diarrhea, & esophageal candidacies and diarrhea.

The study, although not depicted in form of bar or pie diagram also showed that these manifestations were combined with other presentations like weight loss, fever, fatigue and chest infection etc.

<table>
<thead>
<tr>
<th>NO. of CD4</th>
<th>&lt;50</th>
<th>51 to 100</th>
<th>101 to 200</th>
<th>201 to 350</th>
<th>351 to 500</th>
<th>&gt;500</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>common OIs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>46</td>
<td>44</td>
<td>187</td>
<td>180</td>
<td>36</td>
<td>41</td>
<td>534</td>
</tr>
<tr>
<td>Oral thrush</td>
<td>18</td>
<td>16</td>
<td>21</td>
<td>15</td>
<td>8</td>
<td>3</td>
<td>81</td>
</tr>
<tr>
<td>esophageal candidasis</td>
<td>13</td>
<td>15</td>
<td>17</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>51</td>
</tr>
<tr>
<td>Pain abdomen with loss of appetite</td>
<td>29</td>
<td>22</td>
<td>92</td>
<td>136</td>
<td>94</td>
<td>13</td>
<td>503</td>
</tr>
</tbody>
</table>
This table shows that gastrointestinal manifestations mostly appeared in the CD4 count between 101-200 and 201-350. Diarrhoea was found in 35.01% people with CD4 101-200 and in 33.70% with CD4 201-350, oral thrush was found in 25.92% with CD4 101-200 and in 18.51% with CD4 201-350, esophageal candidacies was found in 33.33% with CD4 101-200 and in 11.76% with CD4 201-350.

**Discussion**

The study revealed that the younger age group was most affected by the HIV infection because this is the most sexually active while the other aspect is that this is also the most creative, productive and responsible age group, meaning there is the dire need for programs aimed at intervening this trend and protecting this productive age group from such a deadly infection. In this study, amongst the gastrointestinal manifestations, diarrhea was most common i.e in 51.74%.

In the age group of 31-50 years, diarrhea was record high at 75.09%, esophageal candidacies 71.92%, oral thrush 62.96% and pain abdomen with loss of appetite 54.27%.

It was seen that the CD4 count plays vital role on OIs manifestation. Low number of CD4 correlates with serious OIs (PCP, MAC, Lymphoma, esophageal candidacies etc). This study revealed that the gastrointestinal manifestations of diarrhea, pain abdomen, oral thrush and esophageal candidacies were found mostly in people with CD4 count in between 101-200 and 201-350.

**Conclusion**

Despite gastrointestinal manifestations like diarrhea, oral thrush and pain abdomen being common and earlier presentations in HIV infected persons; however the patients in our study group were seen to be coming late for health checkup in ART clinic Dhangadhi. This reflects the need to educate HIV infected people about the different manifestations of the disease and the need to visit hospital at the earliest.

The ART center is the only one that is established in the far west region, but still there is limited physical and human resources to deliver quality service.

Although the lab lacks in many necessary facilities, the most inspiring and heartening fact is that there is CD4 machine which is indispensable for ARV therapy and monitoring of the immune system of the patients.
This study shows laboratory services should be expanded and enhanced with introduction of new and advanced techniques in the ART clinic.

Health education campaigns regarding diarrheal diseases should be executed.

References

   http://www.who.int/hiv/puv/guidelines/clinicalstaging.pdf
