A study on surgical conditions among HIV-AIDS case at Vadodara teaching hospital

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ABSTRACT
BACKGROUND: Present study was conducted to get an insight into the HIV infected patients attending the surgical outpatient department and being admitted to the surgical wards for various surgical conditions as also to note the prevalence of surgical diseases in them and their progression. MATERIALS AND METHODS: A prospective observational study of 72 patients of Human Immunodeficiency Virus infected patients was conducted in the Department of General Surgery at the Sir Sayajirao General Hospital & Medical College, Baroda during a period of 11 months from February 2010 to December 2010. All the information was recorded in a Proforma for each patient including the patients personal particulars, education level, marital status, medical history, clinical features, diagnosis, investigations, treatment given and follow up. Data obtained from the study was analyzed with Microsoft excel software. RESULTS: A total of 72 patients were enrolled in this study from out of which 49 were male (68.05%) and 23 were female (31.94%). The peak prevalence of HIV was seen in age group between 31 – 40 years. Most of the patients presented in WHO Stage -3(54.16%) and a majority of the patients had CD4 count of <100 (33.33%). Majority of patients had intra-abdominal pathology (51.4%) and of the abdominal conditions mesenteric lymphadenitis was the most common pathology (43.2%). CONCLUSION: The management of the patient will have to be tailored towards each patient as an individual, bearing in mind the available diagnostic and therapeutic facilities.

Keywords: HIV, AIDS, Surgical diseases, Abdominal conditions

INTRODUCTION
Within the past decade, HIV (Human Immunodeficiency Virus) infections has assumed pandemic proportions. By 1992, 11 years after the HIV was first reported, it was estimated that 11 million people of all ages worldwide had become HIV infected. Many of these people have no signs or symptoms and are unaware that they are infected. The infection is lifelong and, once acquired, can be transmitted to others. Three modes of HIV transmission have been classified by World Health Organisation (WHO): sexual, parenteral (through direct inoculation of blood or blood products), and perinatal (from an infected woman to a foetus or infant, before, during or after birth). As a result, infants and sex partners of infected patients, and people who share needles are at risk.¹ AIDS is caused by Human Immunodeficiency Virus (HIV), which originated in non-human primates, in Sub-Saharan Africa and was transferred to humans during late 19th or early 20th century.² AIDS is diagnosed in people infected with HIV when they develop certain opportunistic infections or malignancies for the first time.³ Clinical course of HIV infection⁴ is as follows:
1. HIV infection
2. Seroconversion illness
3. Asymptomatic phase
4. Symptomatic phase
5. AIDS
6. Death.
Seroconversion illness lasts for 2 – 6 weeks and other phases will take at least 10 years on an average.⁴ HIV infection affects the differential diagnosis of surgical disease, nutritional status and life expectancy and also the postoperative outcomes in certain conditions. Some have suggested that HIV infection may also influence postoperative wound healing and
complication rates.\(^5\) Care of these patients is best provided by surgeons with experience and interest in this condition together with infectious diseases physicians. Even palliative surgery offers a respite from acute and often severe problems and improves the quality of life significantly.\(^6\) This study was conducted to get an insight into the HIV infected patients attending the surgical outpatient department and being admitted to the surgical wards for various surgical conditions as also to note the prevalence of surgical diseases in them and their progression.

**MATERIALS AND METHODS**
A prospective observational study of 72 patients of Human Immunodeficiency Virus infected patients was conducted in the Department of General Surgery at the Sir Sayajirao General Hospital & Medical College, Baroda during a period of 11 months from February 2010 to December 2010. In all the cases a detail history, physical examination and investigations were done. All patients attending the surgical outpatient departments (OPD) or admitted in the ward and having a HIV test positive were included. Clinical history was obtained from the patients or their guardian in case of children. All the information was recorded in a Proforma for each patient, including the patients personal particulars, education level, marital status, medical history, clinical features, diagnosis, investigations, treatment given and follow up.

**Inclusion criteria**
- Patients who had tested positive for HIV after giving consent. All patients were previously tested by enzyme-linked immunosorbant assay (ELISA) for HIV antibody.
- HIV positive patients attending surgical OPD or being admitted to surgical wards with clinical features of surgical diseases.

**Exclusion criteria:** Patients without surgical diseases were not enrolled in this study.

**ART was started in HIV infected patients depending upon stage and CD4 counts:**
- In stage 1 if CD4 count was <200.
- In stage 2 if CD4 count was <200.
- In stage 3 if CD4 count was <300.
- In stage 4 irrespective of CD4 count.

**Follow up was done as follows:**
- In case of patients in whom antiretroviral therapy (ART) was started:
  - Visit 1: 15 days after starting ART
  - Visit 2: 1\(^{st}\) month
  - Visit 3: 2\(^{nd}\) month
  - Visit 4: 3\(^{rd}\) month
  - Visit 5: 6\(^{th}\) month
- In Non-ART patients: every 6 months.

Follow up was also done as and when required for the patient depending on the type of treatment they had received.

**RESULTS**
A total of 72 patients were enrolled in this study from out of which 49 were male (68.05%) and 23 were female (31.94%). The age of the affected patients ranged from 8 years to 77 years with a mean of 39.11 and SD +/-10.55 years. The peak prevalence of HIV was seen in age group between 31 – 40 years (52.77%) followed by 41 – 50 years (25%), 21 -30 years (13.88%), 51 - 60 years (9.72%) and 2.7% in <20 years and >60 years.

Most of the patients presented in WHO Stage -3 (54.16%) followed by WHO Stage - 2 (22.22%), WHO Stage-1 (12.5%) and WHO Stage- 4 (11.1%). A majority of the patients had CD4 count of <100 (33.33%) and very few of them had CD4 count >300. Out of 72 patients enrolled in this study 22 patients were on Anti-tuberculosis treatment (AKT) for having pulmonary tuberculosis and 8 patients were on AKT for tubercular lymphadenitis.

**Table: 1 Distribution of different surgical diseases (N=72)**

<table>
<thead>
<tr>
<th>Surgical disease</th>
<th>Total No. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdominal conditions</td>
<td>37 (51.4)</td>
</tr>
<tr>
<td>Empyema thoracis</td>
<td>8 (11.1)</td>
</tr>
<tr>
<td>Subcutaneous abscess</td>
<td>11 (15.3)</td>
</tr>
<tr>
<td>Tuberculous lymphadenitis</td>
<td>10 (13.9)</td>
</tr>
<tr>
<td>Hemorrhoids</td>
<td>1 (1.3)</td>
</tr>
<tr>
<td>Benign prostatic hypertrophy</td>
<td>2 (2.7)</td>
</tr>
<tr>
<td>Peripheral vascular disease</td>
<td>2 (2.7)</td>
</tr>
<tr>
<td>Inguinal hernia</td>
<td>1 (1.3)</td>
</tr>
</tbody>
</table>

16 patients had completed their course of AKT at the end of this study. Out
of 72 patients in this study 38 were on Antiretroviral therapy (ART).

**Table: 2** Distribution of abdominal conditions (N=37)

<table>
<thead>
<tr>
<th>Abdominal conditions</th>
<th>Total No. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mesenteric lymphadenitis</td>
<td>16 (43.2)</td>
</tr>
<tr>
<td>Splenic abscess</td>
<td>8 (21.6)</td>
</tr>
<tr>
<td>Acute pancreatitis</td>
<td>2 (5.4)</td>
</tr>
<tr>
<td>Renal calculi</td>
<td>5 (6.9)</td>
</tr>
<tr>
<td>Duodenal ulcer</td>
<td>1 (2.7)</td>
</tr>
<tr>
<td>Liver abscess</td>
<td>1 (2.7)</td>
</tr>
<tr>
<td>Ulcerative colitis</td>
<td>2 (5.4)</td>
</tr>
<tr>
<td>Ileal perforation</td>
<td>1 (2.7)</td>
</tr>
<tr>
<td>Appendicitis</td>
<td>1 (2.7)</td>
</tr>
</tbody>
</table>

Table 2 shows that of the abdominal conditions mesenteric lymphadenitis was the most common pathology (43.2%) followed by splenic abscess (21.6%). 11 patients presented with abscesses over breast, chest, neck, hand, foot, thigh and scrotum. Patients presented with pain and swelling over the involved site. 21 (29.2%) out of total 72 cases required surgeries and 9 patients required minor procedures like patient of liver abscess required aspiration and patients of empyema required intercostal drain insertion. Other patients were managed conservatively and all were followed up accordingly. On follow up required investigations were done and patients response to the treatment was assessed. There was a single mortality in this study in a patient who had ileal perforation. This is probably because we did not have patients with complicated intraabdominal pathology in our series.

**DISCUSSION**

Surgical treatment of HIV-infected patients is necessary for problems both related and unrelated to HIV infection. For a surgeon the treatment of surgical problems directly related to HIV, the morbidity and mortality of surgery in HIV-infected patients, the risk of occupational transmission of HIV to the surgical team, and strategies for prevention of perioperative HIV transmission form an important part of the learning process. Health professionals who are privileged to be members of a surgical team have a professional responsibility to provide the highest possible quality of care for HIV positive patients.

Due to different investigative pattern in different studies it is difficult to compare the demographic pattern of the HIV infected patients attending the surgical department. From the two near comparable studies, it is evident that the number of male patients is higher as compared to females. It is difficult to comment on this skewed pattern. The only reason that can be attributed to this pattern is that due to fear of social stigma female patients tend to avoid attending hospital.

In the present study there was one case of acute appendicitis that underwent open appendectomy with an uneventful outcome. Reports of appendicitis cases among HIV positive patients indicate that 30% are caused by complications of this condition. The clinical presentation of the patient who has HIV/AIDS with appendicitis is characteristic right lower quadrant pain, usually associated with a low to normal white blood cell count. The postoperative morbidity is similar in patients who are HIV sero-positive and those who are HIV sero-negative. The exact etiology of bowel perforation in our study could not be ascertained as Widal test was negative and biopsy was nonspecific. This was the only case of mortality in our series: the patient died on the third postoperative day. In patients with acute bowel perforation a high suspicion for underlying opportunistic infections is warranted. Acute bowel perforation also elevates the gravity of the prognosis because it signifies an advanced stage of HIV infection.

Though amoebic liver abscess is an uncommon disease in HIV-infected patients in the west, it is more common in Asia and Africa. One patient of liver abscess in this study was managed by aspiration, antibiotics and amoebicidal agents. Both calculus and acalculus cholecystitis are known disease entities and are managed by laparoscopic cholecystectomy. Splenomegalay is frequent and may be due to opportunistic infections, Mycobacterium Tuberculosis, Pneumocystitis carinii, splenic abscess or lymphoma. Here were 8 patients of splenic abscess in the present study. None of the patients required surgical
management. The HIV positive patient is at an increased risk for abscesses, fistulas, fissure, human papilloma virus infection, and squamous carcinoma of the anus. 7-8, 10-11 In the present study there was one patient with hemorrhoids who was managed conservatively. Cervical lymphadenopathy is very common in HIV infected patients. 10 There were 10 patients with TB cervical lymphadenitis and 16 patients of TB mesenteric lymphadenitis in this study who were treated by Anti tuberculous therapy.

In summary, it is evident that HIV/AIDS presents unusual and challenging surgical problems. Also maximum number of patients had low CD4 count suggesting that it is one of the triggering factor for HIV infected patients to develop various surgical pathologies. The management of the patient will have to be tailored towards each patient as an individual, bearing in mind the available diagnostic and therapeutic facilities.

REFERENCES


