

HIV/AIDS wasting syndrome in Manipur - A case report

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Abstract

A 30-years old married man with HIV/AIDS wasting syndrome is being reported. The patient had history of injecting heroin with rampant sharing with his drug partners, weight loss, night sweats, productive cough, severe muscle wasting, chronic diarrhoea >30 days and fever > 30 days. This syndrome indicates the long-standing complication of HIV infection. Blood, sputum, CSF, faeces and urine routine and culture examination findings to rule out opportunistic infections were repeatedly negative. No malignant cells were found. HIV testing was positive. The CD 4 positive T-lymphocyte count was measured before and after six months of treatment. In the present case report, evaluation of the symptoms yielded no specific pathogen and had no evidence of opportunistic infections. He is being placed under observation with highly active antiretroviral therapy (HAART) along with nutritional support. He is improving clinically and immunologically by raising in the patient's CD₄ count. Early antiretroviral therapy along with meticulous nutritional support is ideal to improve the quality of life of AIDS patients.

Keywords: Wasting Syndrome, HIV, AIDS, Manipur

In 1987, wasting was designated as AIDS defining condition by the "Centers for Disease Control (CDC)". HIV wasting syndrome consists of serologic evidence of HIV infection and findings of profound involuntary weight loss >10% of baseline body weight plus either unexplained chronic diarrhoea (at least two loose stools per day for > 30 days) or chronic weakness and unexplained prolonged fever (intermittent or constant for > 30 days) in the absence of a defined cause other than HIV infection¹. According to the World Health Organisation (WHO) in July 1990, this syndrome corresponded to clinical stage 4; late (severe) disease (equivalent to AIDS).

Manipur is a small state at the extreme border of north-east India with a population of 23, 88,634 lakh bordering with Myanmar, the world's largest producer and exporter (40%) of heroin². Heroin is imported from the notorious "Golden Triangle" which is geographically composed of Northern Thailand, Northern and Eastern Myanmar and Western Laos. Manipur has been an alternative major route for illegal international drug trafficking for Myanmar heroin since the early eighties. As on 31st July 2005, the total number of HIV positive in Manipur is 20,524, out of which AIDS cases is 3,490. The seropositivity rate is 16.1%³. Manipur with hardly 0.2% of India's population is contributing nearly 8% of India's total HIV positive cases and as

such Manipur is included in the list of high prevalency states of India.

AIDS patients frequently suffer from anorexia, nausea and vomiting, all of which contribute to weight loss by decreasing calorie intake. In some cases, these symptoms are secondary to a specific infection. However, in this case report, evaluation of the symptoms yields no specific pathogen and it is assumed to be due to a primary enteropathogenic effect of HIV. Hence, seeing the scattered reports from India, this case is being reported here.

Case Report

A 30- years old married man admitted to our hospital in November 2004 with a 6 months history of fever, night sweats, productive cough, nausea, anorexia, diarrhoea, breathlessness, and weight loss. He had a history of using heroin in 1997 and injected with rampant sharing with his drug partners. Clinical examination revealed gross muscle wasting, his weight had dropped to 40 kg (Figure 1) with cachectic, pale, and toxæmic look.

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Fig. 1: A 30 years old male (IDU) suffering from HIV.AIDS Wasting Syndrome



There was enlargement of cervical lymph nodes, xerosis of skin and dark spots with severe pruritus. Oral temperature was 39.5°C, respiratory rate was 30 breaths/ min, B.P. was 110/65 mmHg, and the pulse rate was 87 beats / min. Chest X-ray was normal. Examination of blood showed a haemoglobin concentration: 6.8 g/dl ; ESR: 50 mm/ 1st hr ; total leucocyte count : 4.89m/mm³ (lymphocytes: 67.7% ; monocytes : 22.5% and granulocytes:9.8%; lymphocytes:3.3m/mm³; monocytes: 1.1m/mm³ and granulocytes:0.5m/mm³); total RBC Count: 2.81m/mm³ ; MCV : 86.3fl; MCH: 24.2 pg; MCHC: 28.0g/dl; platelet count :182 m/mm³ with hypochromic normocytic anaemia. The serum albumin level was 1.6g/dl. The serum sodium and potassium were 105mmol/L and 1.5mmol/L respectively. The blood concentration urea was 50 mg/dl with serum creatinine 1.7 mg/dl. Blood, sputum, CSF, faeces and urine routine and culture examinations were performed to rule out opportunistic infections and found repeatedly negative. Biopsy report showed non-specific lymphadenitis and no malignant cells was found.

HIV Ab tests were done in the Department of Microbiology, Regional Institute of Medical Sciences (RIMS), Manipur and was found to be positive by 3 ELISA (Genedia)/RAPID (S.D.Bioline) / SIMPLE (Comb AIDS) of different principles. Other systemic examinations were within normal limits. The CD4 positive T-lymphocyte count was 121 cells / cu. mm, CD8 count was 570 cells/cu. mm and CD4/CD8 ratio was 0.21 by Fluorescent Activated Cell Sorter (FACS) count system (Becton Dickinson). Treatment

with HAART regimen comprising of lamivudine 150mg, nevirapine 200mg and stavudine 30mg, twice daily was started as per National Aids Control Organisation (NACO) of India guideline along with nutritional support consisting of a high calorie, high protein diet with a multivitamin support. Six months later, his CD4-positive count was 237 cells / cu. mm, CD8 count was 613 cells/cu. mm and CD4/CD8 ratio was 0.38. The patient responded well within the first five weeks of treatment, and gained 3 kg along with nutritional support.

Discussion

HIV/AIDS wasting syndrome, a devastating consequence of long-standing HIV infection is characterised by a lean body mass including muscle and organ tissue coupled with increase fat production. Loss of lean body mass can lead to muscle weakness, organ failure and sometimes death. In severe infections such as sepsis, there is excessive loss of lean tissues relative to total weight loss⁴. The mechanism of HIV- related weight loss is not completely understood. AIDS wasting is not characterised by a single pathophysiological process but appears to be multifactorial. It is caused by inadequate calorie intake, malabsorption of nutrients, hormone deficiency, several malignancies, some of the side effects of drugs like thalidomide therapy, opportunistic infection and abnormality in protein and lipid metabolism which may possibly represent due to inappropriate utilization of substrates. Acute wasting tends to be associated with secondary infections whereas chronic wasting is associated with gastrointestinal diseases and malabsorption⁵.

Furthermore, local symptoms such as dysphagia due to oesophageal candidiasis may directly influence food intake, oral pain that prevents eating, improper function of digestive system and the body's inability to absorb nutrients were some of the precipitating wasting factors⁶. Colonoscopy and stool analysis can detect these conditions. Diarrhoea and associated weight loss, is a leading cause of morbidity in persons with HIV, occurring in 80% of those with HIV. Diarrhoea and weight loss adversely affect immune function by increasing vulnerability to opportunistic infections⁷. In the majority of such patients, enteric pathogens should be identified and treated successfully. Sometimes investigation does not reveal any specific cause of diarrhoea in HIV-infected patients, and the syndrome is attributed to the enteropathogenic effects of HIV. In this case report, evaluation of the symptoms yields no specific pathogen and it is assumed to be due to a primary effect of HIV. Another contributing factor of this syndrome is increased levels of TNF- α which may be at least partly responsible for the severe weight loss or wasting syndrome seen in many HIV infected individuals.

The first step of treatment in HIV wasting syndrome is to provide appropriate antiretroviral therapy along with nutritional support to check viral load including meticulous prophylaxis and treatment of opportunistic infections. The goals of nutritional support are preservation of lean body mass and provision of adequate protein, high calories and other nutrients in a formulation that minimizes side effects, especially malabsorption. In the patient with a functioning gut, oral delivery of nutrients maintains the structural and functional integrity of the gastrointestinal mucosa, minimizes costs, and decreases the risk of infections. If oral intake is inadequate, transnasal /parenteral feedings may be required. In patients with disorders of the oral cavity and oesophagus, modification in the acidity, temperature, texture, consistency and seasoning of food may improve tolerance. Despite these measures, should wasting persist, various therapies may be initiated like testosterone cypionate (100-200 mg intramuscularly every 2-4 weeks) recombinant human growth hormone (serostim) and anabolic steroids like oxandrolone(15-20mg orally in two to four divided doses) and magesrol acetate(80mg four times a day) has also been found to increase lean body mass with variable success. The patient responded well to HAART regimen along with nutritional support. Pretreatment CD4 positive T-

lymphocyte count was 121 cells / cu. mm, CD8 count was 570 cells/cu. mm, and CD4/CD8 ratio was 0.21. Six months later, his CD4 positive count was 237 cells / cu. mm, CD8 count was 613 cells/cu. mm, and CD4/CD8 ratio was 0.38 which showed improving clinically and immunologically by raising in the patient's CD₄ count. He is being placed under observation with antiretroviral therapy along with nutritional support.

Conclusion

Involuntary weight loss occurs in virtually all patients with AIDS. Most patients exhibit protein – calorie malnutrition with profound body cell mass depletion. There are numerous potential causes of weight loss in patients with HIV infection. However, the mechanism of HIV-related weight loss is not completely understood. Weight loss and malnutrition continue to be important issues that clinicians face when treating patients with HIV infection. AIDS wasting is a leading contributor of HIV – related deaths. Therefore, early treatment with antiretroviral therapy with a complete nutritional assessment should be carried out in any patient who has lost > 10 percent of usual weight to improve the quality of life of AIDS patients.

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