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5-Month Herbal Therapy and Complete Sero-Reversion with Recovery in an Adult HIV/AIDS Patient

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Abstract

There are many documented roles of herbal remedies in HIV infection but full recovery with sero-reconversion is the least expected. This case report is to highlight the incidental findings of sero-reconversion in an HIV patient following administration of herbal concoction for 150 days. The male HIV patient presented with features of AIDS characterised by oral thrush, chronic fever, nausea, and diarrhoea with weight loss. HIV was diagnosed with several repeated ELISA (Genscreen) and confirmed by western blot (Newlab blot 1&2) in 2005. The inability of the patient to procure antiviral agents and the fact that HIV infection is a terminal illness prompted the patient to request for discharge against medical advice. He consulted herbal therapist for HIV remedy that was commenced immediately for 3 months. All the clinical features of HIV infection/AIDS disappeared within a month of commencement of herbal therapy. The laboratory test for presence of antibody to HIV became negative at the fourth month and the patient continued the herbal medication for another month and stopped based on herbal therapist prescription. The several repeated HIV antibody tests remained sero-negative with undetectable viral (HIV-RNA) load despite non medication till 2012. This is a very rare incident especially with herbal therapy thus; further investigation is required to assess the concoction for retroviral efficacy.

Keywords: Concoction; Sero-reconversion; HIV Patient; Herbal therapy

Introduction

Herbal remedies contain active ingredients which are parts of plants or plant materials, or combinations used to treat a multitude of ailments throughout the world. It was estimated that most Africans use herbal remedies [1]. The severity of illnesses, availability and low cost prompted many to seek for alternative therapies outside orthodox medicines. This explains why some HIV infected patients seek for herbal therapies due to its un-curable nature.

It was estimated in 2010 that 63% of the HIV infected people in the world live in sub-Saharan Africa [2]. Since the discovery of acquired immunodeficiency syndrome (AIDS) linked with HIV as the causative agent in early 1980s, Nigeria still battles with the scourge of this dreadful infection [3,4]. It was estimated that there are over 3 million HIV infected people in Nigeria thus the second country in the world with largest population of people infected with HIV infection [2].

The use of herbal remedies for terminal illness is very common and the fact that HIV infection had no cure prompted many to seek for traditional medicines and spiritual solutions. People infected with HIV infection in Nigeria started looking for supper-natural solutions since 1987 when the first case was reported [5]. Although free highly active antiretroviral therapy (HAART) is the widely available, many HIV patients in Nigeria are desperately looking for quicker solution to the existing problems of long duration therapy by patronising herbal therapist. Campaigns by media houses and discouragement by medical practitioners had not stopped the herbal therapists from flourishing in HIV infection treatment business.

Many herbal remedies have been documented to be useful in HIV infection. Like highly active antiretroviral therapy, many herbal remedies that have been found to inhibit one or more steps in HIV replication [6,7]. A carbohydrate derivative, pentosan poly-sulphate had been documented to inhibits HIV tat regulatory protein (p14) that strongly activates transcription of proviral DNA [8]. *Ancistrocladus korupensis* from tropical liana plant inhibit reverse transcriptase and HIV induced cell fusion [9]. Canolides (coumarins) from tropical forest tree (*Calophyllum lanigerum)* was considered as non-nucleoside reverse transcriptase inhibitor in potency [10,11]. Some Chinese medicines have been reported to cause sero-reversion in HIV patients [12].

Many herbal remedies have been documented to be effective against HIV infection in Nigeria [13]. Some of these documented herbal remedies act on the opportunistic infections caused by micro-organisms [14]. While *Baissea axillaries Hua*, a popular herbal remedy in Nigeria used to treat many diseases was effective in diarrhoea, neem leaves that is widely available increased CD4 significantly in HIV patients [14,15].

Case Report

SA, 25 year old man was a long distance transporter that presented at the private medical centre in January 2005 with fever (10/12), diarrhoea (8/12), nausea (7/12) weight loss (6/12), difficulty in swallowing (4/12) and generalised body weakness of 2 months duration. He confirmed having multiple unprotected sexes with

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women and prostitutes especially when on distant journey? spanning through the Northern, Eastern and Western parts of Nigeria. He had blood transfusion (commercial donor) at the beginning of the illness in a private hospital. The examination revealed conscious but very weak patient with marked weight loss (evidenced by prominent zygomatoid process, clavicular bones and body mass index of 17.8), skin rashes, moderate pallor, and oral thrush on the buccal cavity that was widely spread on tongue and extending to the throat. There was no significant palpable peripheral lymphadenopathy. The laboratory investigation revealed positive reaction to HIV 1 antigens (ELISA) which was confirmed with western blot as positive (P24 and gp 41 antigens). Chest X-ray, electrolytes, renal function tests, liver function tests and full blood count were not significantly impaired. However, CD4 count showed 178cells/mm^3 and viral load could not be done because PCR was not available for routine HIV diagnosis in Nigeria.

Because of the non-availability of free anti-viral agent in 2005 at the nearest teaching hospital, the patient opted for herbal remedy thus discharged himself from hospital against medical advice. The patient was encouraged to visit hospital on weekly basis for supportive medical assistance (opportunistic infections) but shown up after a month on herbal therapy requesting for repeat HIV screening. HIV (EIA) was done and positive although, all the presented clinical features associated with HIV infection had disappeared. The investigation revealed that he had commenced a 4-month herbal concoction therapy (10ml oral paste diluted with warm water three times daily). The repeated CD4 count after a month therapy revealed 160 cells/ mm^3 despite full recovery of the patient from all the presenting symptoms and signs of HIV/AIDS. The subsequent 2nd and 3rd month HIV screening were positive with 190 and 300 cells/ mm^3 respectively. The fourth month (134th day on herbal therapy) CD4 count was 420 cells/ mm^3 but ELISA (Genscreen) HIV screening was negative. Western blot (Newlab blot 1& 2) was repeated a month thereafter and the sero-negativity was confirmed. The sero-reversion led to review of the initial patient's diagnosis with the blood sample safely stored in teaching hospital laboratory. Several repeat diagnostic reviews (clinical and HIV testing) at different laboratories with different kits (Genscreen, Determine, Stakpack, Unigold, Newlab blot 1&2, etc) of the patient confirmed HIV/AIDS at WHO grade staging 3 (minimum). However, viral load could not be done on the stored sample. The patient was followed up quarterly with repeat CD4 count, HIV screening and confirmation for 18 months then, yearly till 2012. The patient had normal CD4 count and sero-negativity throughout the follow up. The viral (HIV-RNA) load was commenced in 2009 and had been persistently undetectable (≤ 50 copies/ ml) in the body fluids (blood and semen) (Table 1).

PERIOD	CD4 count (cells/ mm^3	Viral (HIV-RNA) load (copies/ml)	HIV tests (EIA & Western blot)
0th (pre-treatment)	170	-(not done)	Positive
1st month	160	-	
2nd month	190	-	
3rd month	300	-	
4th month	420	-	negative
8th month	770	-	negative
12th month (a year)	750	-	negative
16th month	840	-	negative
20th month	820	-	negative
24th month (2nd year)	880	-	negative
36th month (3rd year)	790	-	negative
48th month (2009)	800	≤50	negative
60th month(2010)	830	≤50	negative
72nd month (2011)	830	≤50	negative
84th month (2012)	850	≤50	negative

Table 1: Monthly CD4 count, viral load and HIV tests of the patient.

Comments

The sero-positivity of HIV patient is based on the antibody produced to HIV antigen [16]. It is assumed that when HIV antibody is detected in an individual, it is very rare to become undectable or sero-negative irrespective of the extent of treatment. Therefore, any case of sero-reversion attracts multiple reviews on diagnosis. All the diagnostic criteria, history and examination were reviewed and found to be accurate for the diagnosis of HIV infection at WHO stage 4 for the above reported case. What is responsible for full recovery and sero-reversion of HIV infection within 5 months of herbal therapy remained a million's question. The above case and associated question would have been answered if the patient was sero-reverted spontaneously before commencing herbal therapy [17].

Since the discovery of HIV infection in 1980's, the common fact is that HIV/AIDS is not curable but could be managed leading patient to long life therapy. Despite the fact that human immunodeficiency virus disappeared in blood circulation (aviraemia) after 3-4 months of intensive therapy with highly active anti-retroviral therapy (HAART), sero-reconversion had been a very rare case. The few documented cases of sero-reconversion in HIV patient on highly antiretroviral therapy (HAART) were at early stage and acute phase of infection [18,19]. Spontaneous sero-reversion did not occur in this patient unlike earlier study [20]. Contrary to the expectation, the above patient who was at terminal phase of HIV infection recovered and became sero-reverted which was not associated with death [21]. The sustained EIA and western blot sero-negativity in this patient had been a major concern because partial sero-reversion had been documented [19,22]. The sustained 6 years period of sero-reversion of this HIV patient is in contrary to temporary sero-negativity in earlier documented case [23]. The explanation for sustained complete sero-reversion in the above case could only be attributed to herbal therapy unlike immunosuppressive agent, mycophenolate mofetil [18].

Complete sero-reversion had been documented in infants with early commencement of anti-retroviral therapy and in adults that took vaccines [5,24,25]. The sustained sero-reversion for 6 years after the discontinuation of therapy by the HIV patient pointed to the potentials of the herbal remedy. This supports the earlier findings on sero-reversion of 8 HIV patients taking Chinese herbal medicines [12]. Contrary to the expectation that polymerase chain reaction would be able to detect the presence of HIV in the patient's blood, seminal fluids and lymphoid tissue after sero-reversion as documented in other patients, none of the several repeated samples showed the presence of this dreadful virus [26,27].

This case report may be an indication to the many possible potential therapies in the management of HIV infection and research is on-going to unravel the mystery of the herbal remedy taken by this patient that led to sero-reversion.

Declaration

We declared that there was no conflict of interest in this case presentation.

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