Original Research Article

HIV/AIDS recovery rates in patients, treated with *Medicinal synthetic Aluminum-magnesium silicate* {$Al_4(SiO_4)_3 + 3Mg_2SiO_4 \rightarrow 2Al_2Mg_3(SiO_4)_3$}.

Abstract.

Aim: Clinical trial of antiretroviral efficacy of ***Medicinal synthetic Aluminum-magnesium silicate*** (**MSAMS**).

Methodology : HIV/AIDS patients were classified as, male-patients and female-patients. Each was treated, daily, with **MSAMS** (50mg/kg) and immunace extra-protection® (1 tablet). They were tested before treatment and every month, for viral loads and CD4-lymphocytes counts. When their viral loads became undetectable their plasma were tested for HIV-antigens and HIV-antibodies**.**

Results: CD4-lymphocytes counts of male patients (483.67±93.01) did not vary (P=0.88) from females` counts (502.43±82.73) but after 8 months, males` CD4s proliferated (3696.67±508.54) more (P=0.0040) than females` (2282.86±116.40). The proliferation (lymphocytosis) continued so that by Month-10, females` counts (2992.80±106.54) approximated (P=0.127) males` Month-8 counts. The 3 male-patients tested HIV-negative after 8.00±0.00 months while the 7 women became HIV-negative after 9.71±0.18 months (P=0.00).

Conclusion: MSA**MS**-*Nanoparticles* terminate HIV-infections by mopping the virus from organs/tissues and so, elicit lymphocytosis (cure for AIDS). Synergy between the antiretroviral effect and lymphocytosis then completes the cure for HIV/AIDS**.** `

Key words: MSAMS-*Nanoparticles*, Lymphocytosis; Termination of HIV-infections, Cure for AIDS; Patients` sexes.

1.INTRODUCTION.

HIV/AIDS has become a major health challenge, in most countries of the world including Nigeria [1]. High number of new cases are reported , every year, from Asia, South America and Africa [2]- [3]. Manifestations of the disease include symptoms, HIV antibodies in blood, shortage of CD4-lymphocytes in blood (lymphopenia) and presence of copies of the viral RNA in blood (viral load).

What made HIV/AIDS incurable is small size (110 nm) of its causative agent, *Human immune deficiency virus* (HIV). That size enables it cross physiological barriers to "hide" in the brain, bone marrow and testes, where existing antiretroviral medicines (bigger molecules) cannot reach [4]. Since HIV destroys lymphocytes (cells responsible for clearing infections from organs that are in-access-able to medicines), nothing was known that could terminate its infections.

Aluminum-magnesium silicate (AMS) molecular platelets (*Nanoparticles*) are smaller (0.96 nm thick) than HIV [5]. So, the *Nanoparticles* cross physiological barriers, to get to all organs/tissues . Their edges are positively charged and their surfaces negatively charged [5] while HIV is positively charged [6] and abnormal (infected/cancer) cells, negatively charged [7]. Therefore, the AMS-*Nanoparticles* mop out HIV from all organs/tissues with their surfaces and adsorb onto infected cells with their edges. They destroy the infected cells, by the mechanism AMS disintegrates drug-capsules [5], so that "hidden infections" are unmasked and mopped out. When 100% of population of invading HIV is mopped out, its infection terminates.

AMS $\{Al_2Mg_3(SiO_4)_3\}$ is not found as mineral deposits in Nigeria but there are large deposits of Aluminum silicate $\{Al_4(SiO_4)_3\}$ and Magnesium silicate $\{Mg_2SiO_4\}$ in the country. These other two minerals are already being used as medicines, for treatment of animal and human diseases [8]. Therefore, for a purer form of AMS, the two medicinal minerals (Aluminum silicate and Magnesium silicate) were reacted [9]: $\{Al_4(SiO_4)_3 + 3Mg_2SiO_4 \rightarrow 2Al_2Mg_3(SiO4)_3\}$. Dextrose monohydrate was formulated with the *medicinal synthetic Aluminum-magnesium silicate* (**MSAMS, Antivirt®**), to carry its molecules, by active transport [10] across mucous membranes of the gastro-intestinal tract, into blood which carries them to all organs/tissues. The **MSAMS** has inhibited HIV, *in vitro* [11]. It has also cured animals challenged with *Paramyxoviridae*, *Parvoviridae* and *Birnarviridae* viruses [12]-[14].

As HIV infections progress, patients` CD4-lymphocytes` populations (CD4 counts) decrease. Also, when CD4 counts are increasing, viral loads decrease [3]. Recovery from HIV/AIDS, already reported , resulted from synergy between antiretroviral effects of the MSAMS and lymphocytosis (CD4 counts >1500) that occurred in treated patients [15] -[16]. While antiretroviral effects of the **MSAMS** may not vary, since same dose is used, treatment-duration before lymphocytosis and levels of the immune response may vary between patients. It is also possible for treatment-durations before lymphocytosis and/or levels of immune responses to vary between sexes. So, this experiment has been designed to compare: immune responses and durations of treatment before patients test HIV-negative, in male and female HIV/AIDS patients, treated with the **Antivirt®** and immune stimulants.

2. MATERIALS AND METHODS.

The ***Medicinal synthetic Aluminum-magnesium silicate*** **(MSAMS, Antivirt®)** was patented by the Nigerian government [9], as broad-spectrum antiviral medicine. For the clinical trial, a formulation of **MSAMS** and Ampicillin trihydrate (**Antivirt®** A) and a formulation of the MSAMS alone (Antivirt® B) were made.

Ten HIV/AIDS patients who volunteered for the trial, in writing, were classified according to their sexes . Three of the volunteers were men and seven were women. Each patient was placed on oral medication, with **Antivirt®** A for one month, at dose rates of 50 mg of the **MSAMS/**kg body weight and 7.5 mg of **MSAMS**-stabilized Ampicillin trihydrate/kg body weight, daily. Thereafter, they were on Antivirt® B, at dose of 50 mg/kg, daily, till they tested HIV-negative,. To enhance their immune responses they were also treated with Vitabiotics' immunace extra protection® (1 tablet, daily), throughout period of the treatment.

Their blood samples were tested for copies of HIV-RNA/ml (viral loads) and for CD4-lymphocytes counts, before the treatment and every month. Means of the viral loads and CD4 counts for each group were calculated, every month. When a patient's viral load became undetectable, he/she was tested by HIV-confirmatory tests (antigen and antibody) and treatment-duration before he/she tested HIV-negative was recorded.

Treatment-durations before individual patients tested HIV-negative were plotted on a graph, against their pre-treatment CD4-lymphocytes counts. From equation of line of best fit of the graph, CD4-lymphocytes count that would give zero treatment-duration (no need for treatment) was calculated. Means of treatment-durations for males and females , their pre-treatment CD4-lymphocytes counts and their CD4-lymphocytes counts just before they recovered (Months 8, 9 &10) were compared for statistical differences, by the Students T-test.

3. RESULTS AND DISCUSION.

3.1. Results.

Pre-treatment CD4 count of male patients (483.67±93.01) did not vary (P=0.88) from 502.43±82.73 of the female patients but the count (3696.67±508.54) attained by the males at Month-8 was higher (P=0.004) than 2282.86±116.40 of the females. After additional two months treatment (Month-10) CD4 count of the female-patients (2992.80±106.54) approximated (P=0.127) males` month-8 count . Lymphocytosis (3696.67/ml) occurred in the males in Month-8 and all 3 of them became HIV-negative. Among the females, lymphocytosis (2548.43 /ml) occurred in Month-9 and 2 of them tested HIV-negative. By Month-10, when higher lymphocytosis occurred in the females (2992.80/ml), all of them became HIV-negative. CD4 count (from equation of treatment-durations on pre-treatment CD4-counts) when HIV/AIDS patients treated with the **Antivirt®** would test HIV-negative (zero treatment duration) was 3613. 33 . Treatment-duration (8.00±0.00 months) before recovery in the males was shorter (P=0. 00) than 9.71±0.18 months` it took before all the females tested HIV-negative.

Table 1: Durations(months) of **Antivirt®** treatment before male and female HIV/AIDS patients tested HIV-negative

Males	Females
8	9
8	9
8	10
	10
	10
	10
	10
Means: 8.00±0.00	9.71±0.18

Table 2: Pre-treatment CD4-lymphocytes counts of male and female HIV/AIDS patients and the counts at months of their recovery .

Month-0		Month-8		Month-9	Month-10
M	F	M	F	F	F
300	789	4680	2210	2720	3122
550	628	3430	2122	2430	2813
601	270	2980	2043	2216	2960
.	750		2810	3020	3329
	450		2046	2304	2740
	340		2629	2827	
	290		2120	2322	
Means : 483.67 ±93.01[a]	502.43±82.73[a]	3696.67±508.54[b]	2282.86±116.40[c]	2548.43±116.00[d]	2992.80±106.54[b]

Table 3**:** Increases in CD4-lymphocytes counts and reductions in viral loads of male and female HIV/AIDS patients, on **Antivirt®-**treatment**.**

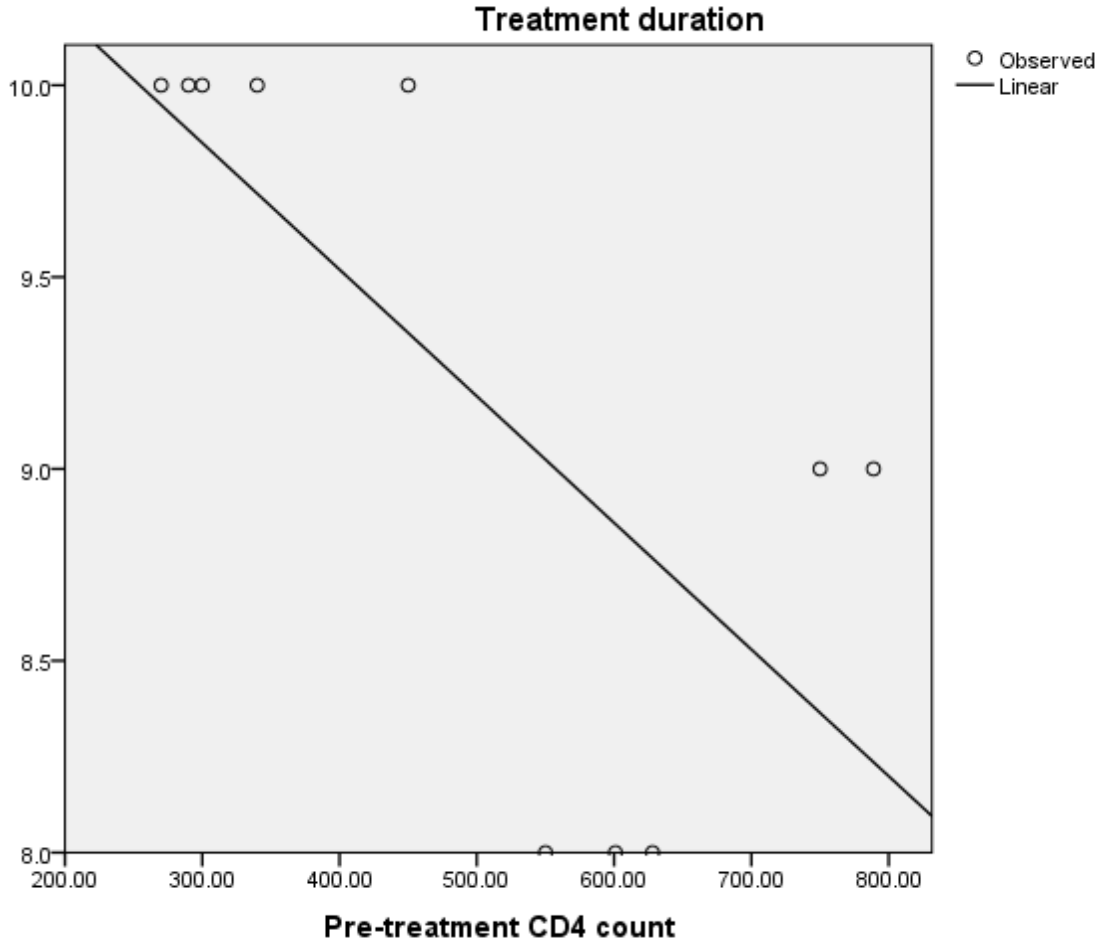
Months	Men		Women	
	CD4	VL	CD4	VL
0	484	1269	502	2056
1	220	2386	283	3057
2	518	991	503	1811
3	702	449	688	892
4	824	250	847	388
5	1009	117	1006	225
6	1587	50	1515	114
7	2012	16	1887	47
8	3697	0	2283	25
9			2548	9
10			2992	0

Table 4: Pre-treatment CD4-Lymphocytes counts of HIV/AIDS patients and durations(months) of treatment with **Antivirt®** before they tested HIV-negative.

Samples	CD4(X)	Treatment-durations(Y).
M_1	628	8
M_2	550	8
M_3	601	8
F_1	789	9
F_2	300	10

F_3	270	10
F_4	750	9
F_5	450	10
F_6	340	10
F_7	290	10

Y+Ys



Y = 10.84 -0.003X

Figure 1: Relationship between pre-treatment CD4-lymphocytes counts of HIV/AIDS patients and durations (months) of the **Antivirt®** -treatment before they became HIV-negative.

3.2. Discussion.

That viral loads of both male-patients and the females increased after treatment for one month, gave impression that their infection-loads increased, instead of reducing. Also, in that month, CD4 counts of the two groups reduced, instead of improving. AMS-*Nanoparticles* may have destroyed [17] infected CD4-lymphocytes and so, made "hidden" HIV-infections detectable.

The 88.02% viral load increment in male patients, against only 48.69% in females suggests that more infections were intracellular in males than in females. This difference in percentage of "arrested infections" may reflect in manifestations of HIV/AIDS in the two sexes. Women are likely to manifest more symptoms than men, with same HIV-loads.

Normal immune response to viral infections is lymphocytosis [18] but with HIV, patients suffer lymphopeania, instead. This abnormal response is what made HIV/AIDS incurable. Other viruses also get to organs/tissues that medicines do not reach but when patients are treated, immunity clears such infections. HIV causes immunodeficiency. So, treatment with medicines that do not have effects on all organs/tissues can not terminate its infections.

Restoration of normal immune responses is additional mechanism by which the regimen of MSAMS-*Nanoparticles* and immune stimulants cures HIV/AIDS . With lymphocytes, as highly proliferated as seen in this clinical trial, there would be no hiding place for HIV. That immediately lymphocytosis (recovery from AIDS) occurred, the patients tested HIV-negative is evidence that synergy between antiviral effects of the *Nanoparticles* and immunity is responsible for the infections-termination. Since confirmed HIV/AIDS patients became negative (antigens and antibodies), the treatment may have cleared HIV-infections from all organs/tissues, including brain, bone marrow and testes. If there were still "hidden HIV-infections", the antibody would have persisted.

Pre-treatment CD4 counts of male and female patients did not vary. So, significantly higher CD4 counts (3696.67±508.54) in males, than 2282.86±116.40 of the females, recorded after 8-months` treatment, suggests that men`s immune systems responded faster than those of women. Infections-encapsulation is a form of immune response. That 88.02% of HIV infections was intracellular in males while only 48.69% was so "arrested" in females also suggests better immune responses in males than in females. However, that CD4 count of the females approximated that of males after additional treatment-duration suggests that the superior immune responses of males may be limited to rapid response, only.

In Month-4 of the treatment, CD4 count of the females (847/ml) was slightly higher than males` (824/ml) and it was only in that month that viral load-reduction rate of the females (56.50%) was better than that of males (44.32%) . This suggests that differences in recovery-rates between individual patients or between the sexes may depend on their immune response-rates. So, any management strategy which elicits lymphocytosis earlier than the strategy used in this trial-treatment, may reduce the treatment-duration . Also, more attention should be paid to enhancing immune responses in female patients.

For patients to be on the Antivirt® medication for ten months without noticeable side effects, the regimen is safe. This may be because AMS is an inactive substance (chemically). Its antiviral mechanism, (adsorption onto viruses and infected cells) is a physical effect. So, all that is needed to cure HIV/AIDS is to continue the medication till lymphocytosis occurs . To confirm that cure for HIV/AIDS has occurred , patients must test HIV-negative (antibody).

Since relationship exists between pre-treatment CD4 counts and Antivirt®-treatment durations (figure 1), the equation (Y=10.84 - 0.003X) can be used to calculate expected treatment-durations for HIV/AIDS patients. Also, existing techniques can not detect copies of RNA, fewer than 3/ml [19]. So, it is not possible to use viral loads, alone, to confirm HIV-status of patients. Combinations of: CD4 counts and viral loads; CD4 counts and presence of antibody; viral loads and presence of antibody, are being used [20] . So, ,patients whose CD4 counts improve to ≥3439.56 could go for antibody tests to confirm, they have become HIV-negative.

4. CONCLUSION.

HIV/AIDS patients, treated with **Antivirt®** and immune stimulants become negative and have CD4 counts ≥ 1500. So, the regimen cures the disease . Men react, more rapidly, to immune stimulation, than women and so have shorter HIV/AIDS treatment-durations. Rates of HIV load-reductions in treated patients depend on degree of lymphocytosis, elicited by treatments.

CONSENT:

Each patient consented for the clinical trial in writing.

ETHICAL APPROVAL:

Not applicable.

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