



Effect of Jobelyn[®], a Nigerian Herbal Extract, on the Cellular Immunity of Persons Living with HIV/AIDS

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ABSTRACT

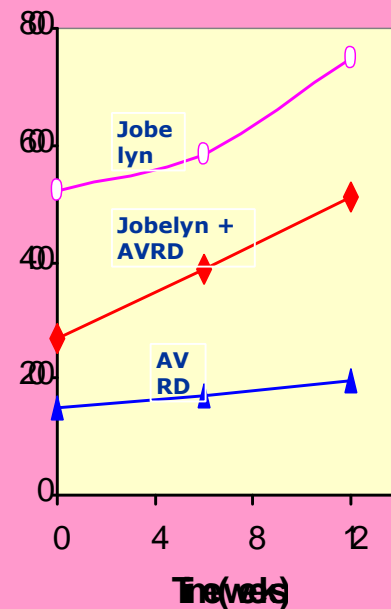
HIV/AIDS patients (n=64) regularly attending clinic at Military Hospital, Lagos were used for this study. One group were made up of patients with CD4 count >300/ μ l and each was placed on one Jobelyn capsule twice daily for 12 weeks. A second group were made up of patients with CD4 count <300/ μ l and each was placed on one Jobelyn capsule twice daily plus Nevirapine (200 mg bd), Lamivudine (150 mg bd) and Stavudine (40 mg bd) for 12 weeks. A third group were made up of patients with CD4 count <300/ μ l and each was placed on Nevirapine (200 mg bd), Lamivudine (150 mg bd) and Stavudine (40 mg bd) for 12 weeks. All patients' CD4 counts at 0, 6 and 12 weeks were determined. There was significant increase in the elevation of CD4 count of patients placed on Jobelyn + triple antiretroviral drugs (AVRD) when compared with those placed on AVRD alone. Jobelyn alone significantly increased the CD4 counts of patients with initial CD4 counts >300/ μ l. There was general improvement in the well-being of the patients. It is concluded that Jobelyn increases cellular immunity in HIV positive individuals and could be a good alternative and/or supplement to antiretroviral drugs in the management of HIV/AIDS patients

Objective

To evaluate the efficiency of a commercial herbal preparation, Jobelyn[®], in enhancing cellular immunity in HIV infected patients

Patients and Experimental Protocol

- ▶ Male (n=36) and female (n=28) HIV/AIDS patients (age: 30.0 \pm 10.3 yr; range: 18-67 yr) who regularly attended clinic at Military Hospital, Lagos between May and September 2003 were recruited for this study.
- ▶ The patients were confirmed to be HIV 1 and 2 positive using western blot technique.
- ▶ Patients were divided into 3 groups: **Group A:** Had CD4 count >300/ μ l and each was placed on one Jobelyn capsule twice daily for 12 weeks. **Group B:** Had CD4 count <300/ μ l and each was placed on one Jobelyn capsule twice daily plus Nevirapine (200 mg bd), Lamivudine (150 mg bd) and Stavudine (40 mg bd) for 12 weeks. **Group C:** Had CD4 count <300/ μ l and each was placed on Nevirapine (200 mg bd), Lamivudine (150 mg bd) and Stavudine (40 mg bd) for 12 weeks.
- ▶ Patients' CD4 counts at 0, 6 and 12 weeks were determined using the Coulter counting method.



CD4 counts of HIV/AIDS Patients following administration of Jobelyn alone (n=7), Jobelyn plus triple antiretroviral drugs, AVRD (n=40) or AVRD (n=17)

Introduction

- ▶ Management of HIV infection particularly in developing countries presents multiple challenges, including problems of adherence to therapy and access to care.
- ▶ These are compounded by the rising number of infected people worldwide particularly in developing countries.
- ▶ Herbal medicines are recognized worldwide as effective remedies in health care¹.
- ▶ About 80% of people in developing world depend on traditional medicines for primary health care.
- ▶ Jobelyn[®] is a herbal preparation made from extracts of *Sorghum bicolor* and listed in Nigeria for use as an immune booster, blood normalizer and energizer.
- ▶ Jobelyn[®] induces rapid and marked improvement in anaemia and significantly reduces parasite load in *Trypanosoma brucei* infected experimental animals^{2,3}.
- ▶ Safety of Jobelyn[®] has been demonstrated

Findings

- ▶ There was significant increase in the elevation of CD4 count of patients (n=40) placed on Jobelyn + triple antiretroviral drugs (AVRD) when compared with those placed on AVRD alone (n=17).
- ▶ Jobelyn alone significantly increased the CD4 counts of patients (n=7) with initial CD4 counts >300/ μ l.
- ▶ Patients placed on Jobelyn + AVRD showed up to 91.4% mean rise after the administration of the drugs, those placed on Jobelyn alone had an increase of 43% while those placed on AVRD alone had up to 30.5% increase in CD4 count.
- ▶ Varying degrees of reduction in the CD4 T lymphocyte count was recorded in 6 (12.5%) of the patients who were confirmed to have concurrent infections including tuberculosis and severe pneumonia.
- ▶ When treatment of the concurrent infections commenced, the 6 patients showed a remarkable increase in their CD4 T lymphocyte count by the 12th week.

Conclusion

- ▶ Jobelyn increases cellular immunity in HIV positive individuals either alone or in combination with antiretroviral drugs.
- ▶ The product could be a good alternative and/or supplement to antiretroviral drugs in the management of HIV/AIDS patients.

References

- ▶ Fact Sheet N134, WHO, Geneva, 1996.
- ▶ Erah *et al.* Afr J Biotech 2003; 2(9): 309-11.
- ▶ Okochi *et al.* Afr J Biotech 2003; 2(9): 312-6.



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EFFECT OF JOBELYN, A NIGERIAN HERBAL EXTRACT ON THE CELLULAR IMMUNITY OF PERSONS LIVING WITH HUMAN IMMUNE DEFICIENCY VIRUS AND AIDS

Iko Ayuba

Background: Antiretroviral management of HIV infection particularly in developing countries presents multiple challenges, including problems of adherence to therapy and access to care. This is compounded by the rising number of infected people in the world's most populous nations including Nigeria. Therefore, we evaluated the efficiency of a commercial herbal preparation, Jobelyn, in enhancing cellular immunity in HIV infected patients.

Method: Forty eight patients (27 males and 21 females) who regularly attended clinic at Military Hospital, Lagos between May and September, 2003 were used for this study. They were confirmed to be HIV 1 and 2 positive using western blot technique. Their CD4 counts were determined using the Coulter counting method at 0, 6 and 12 weeks. All subjects had initial basal packed cell volume, creatinine, bilirubin, alkaline phosphatase, alanine transferase and aspartic acid transferase estimations. Each patient was placed on one Jobelyn capsule twice daily for the 12 weeks. Patients with CD4 counts lower than 350/ μ l had, in addition, triple antiretroviral cocktail of Nevirapine, Lamivudine and Stavudine.

Results: The mean CD4 count for the patients were 330.19, 439.75 and 572.65 at 0, 6 and 12 weeks, respectively. There was remarkable increase in CD4 T lymphocyte count in 42 (87.5%) of the patients. There was varying degrees of reduction in the CD4 T lymphocyte count in 6 (12.5%) of the patients who were confirmed to have concurrent infections including tuberculosis and severe pneumonia. These 6 subjects showed a remarkable increase in their CD4 T lymphocyte count by the 12th week when the treatments of the concurrent infections commenced. Generally, patients having CD4 counts of 30 - 300/ μ l showing a 200-300% rise while those with CD4 counts >300/ μ l had a marginal rise of 20-30% in their CD 4 count. There was improvement in the general well-being of all the subjects as well as increase in appetite and weight. The maculo-papular skin rash of 3 of the patients who had Herpes zoster's remitted.

Conclusion: The commercial herbal preparation, Jobelyn, increases cellular immunity in HIV positive individuals either alone or in combination with antiretroviral drugs. The product could be a good alternative and/or supplement to antiretroviral drugs in the management of HIV/AIDS patients.

This could be an ALTERNATIVE to antiretroviral

ABSTRACT

A total of 64 HIV/AIDS patients regularly attending clinic at a Military Hospital in Lagos, Nigeria, participated in this study. All the subjects were anti-retroviral drug naïve at the beginning of the study. They were divided into three broad treatment groups: Those with CD4+ lymphocyte counts of $>300/\mu\text{l}$ at baseline were treated with one Jobelyn capsule twice daily for 12 weeks. Those with initial CD4 counts $\leq 300/\mu\text{l}$ were randomized into two treatment groups, B and C. Subjects in group B were placed on one capsule of Jobelyn twice daily, in addition to standard triple anti-retroviral therapy with Nevirapine 200 mg once daily in the first 14 days followed by 200 mg 12 hrly, plus Lamivudine (3 TC) 150 mg 12 hrly, plus Stavudine (d4T) 40 mg 12 hrly for 12 weeks. Subjects in group C were treated with the same doses of Nevirapine, 3TC and d4T, but with no Jobelyn, for 12 weeks. All subjects were followed up monthly, and CD4 counts were determined at 6 and 12 weeks of treatment. A significant increase in CD4 counts from baseline values was observed among subjects treated with Jobelyn + triple ARVD when compared with those treated with ARVD alone. Jobelyn alone significantly increased the CD4 counts among subjects with initial CD4 counts $>300/\mu\text{l}$. There was general improvement in well-being of all subjects. It is concluded that Jobelyn significantly improves cellular immunity in HIV positive individuals, either alone or in combination with ARVD. It could be a useful intervention in the initial management of HIV patients who are not yet eligible for antiretroviral therapy

Erah PO, Ayuba GI: Effect of Jobelyn[®], a Nigerian Herbal Extract on the Cellular Immunity of Persons Living with HIV/AIDS. Book of abstracts of the 5th Annual National Scientific Conference of the National Association of Academic Pharmacists held in Jos 28-31 July 2004, pp 6-7.



JOBELYN
Herbal Preparation

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