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PATIENTS RECOVERY WITH HIV/AIDS IN BOTSWANA / AFRICA, WITH THE USE OF THE HOMEOPATHIC MEDICINE CANOVA

Summary of the master's dissertation presented to the Post-Graduation Program in Cellular and Molecular Biology, Sector of Biological Sciences, Federal University of Paraná.

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CURITIBA

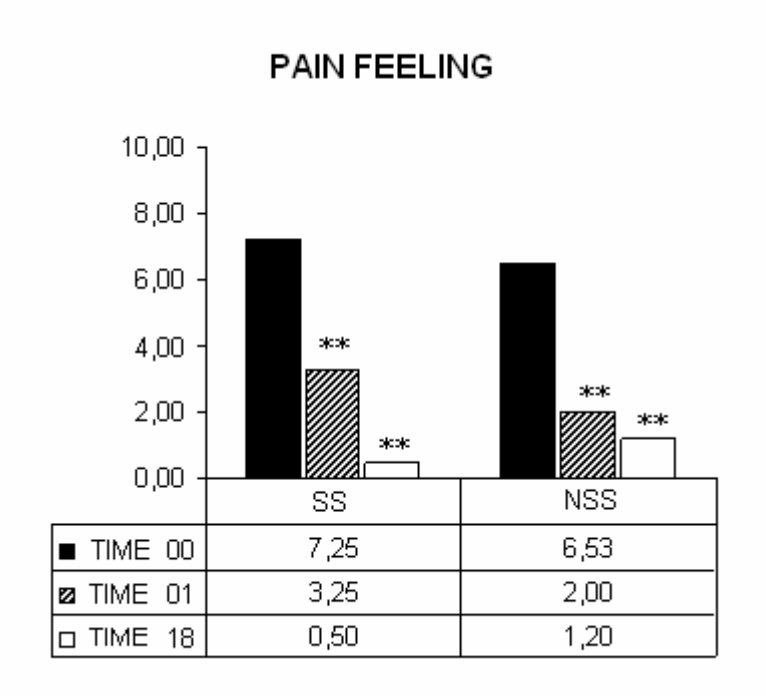
2006

ABSTRACT

Background: Canova is a homeopathic complex medicine used as an immune modulator. Botswana has the highest prevalence of Human Immunodeficiency Virus (HIV) infection and Acquired Immune Deficiency Syndrome (AIDS) in the world. **Objective:** Evaluate the longitudinal evolution in HIV/AIDS patients' quality of life, which only use *Canova*®. This work was intended to be a prospective study. **Methods:** Patients were assessed on site, prior to (T 00) and at the completion of one (T 01) and eighteen (T 18) months period of *Canova*® treatment, using a specific quality of life in HIV/AIDS questionnaire. Besides, leukocytes from peripheric blood were collected at T 00 and T 01 for scan electron microscopy (SEM) studies. **Results:** The data indicate that the treatment is highly effective in reducing symptomatology and improving quality of life in individuals with HIV by recovering parameters like general pain feeling, appetite, capability to do small efforts and absenteeism. Moreover, the studies conducted through SEM revealed a type of cell which is present only in T 01 samples. **Conclusions:** The results show a significant change in every evaluated parameter just after the first month of treatment. Furthermore, those changes were sustained after the eighteen months period. Patients achieved a better quality of life status with *Canova*®. Besides, the SEM studies suggest that the treatment induces the occurrence on circulation of a cell type which were not observed before.

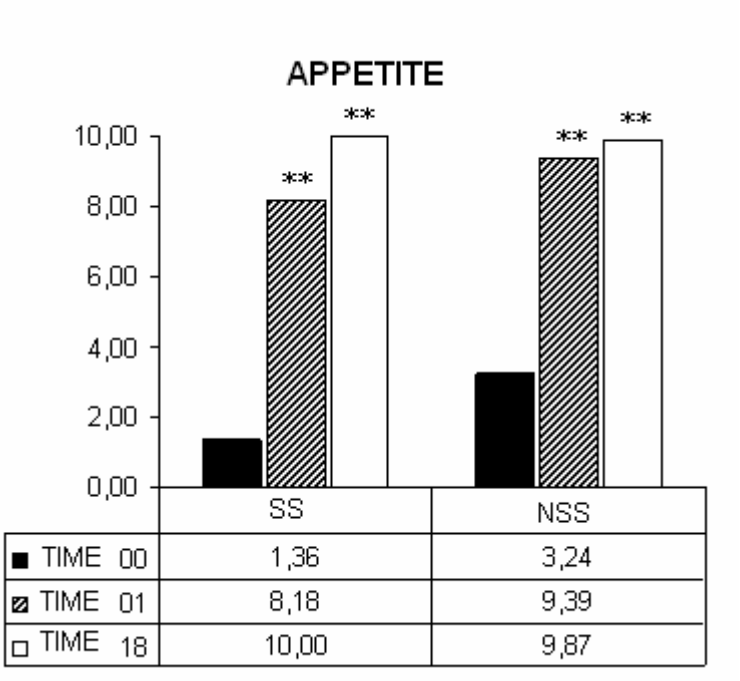
	T 00			T 01			T 18		
	SS	NSS	Total	SS	NSS	Total	SS	NSS	Total
Male	5	9	14	5	9	14	3	4	7
Female	7	23	30	7	23	30	3	18	21
Total	12	32	44	12	32	44	6	22	28

Table 01: Patients distribution by gender, group and period of treatment.
T 00: time immediately before the beginning of the treatment;
T 01: time after 1 month of treatment;
T 18: time after 18 months of treatment.
SS: group of patients severely sick
NSS: group of patients not severely sick.

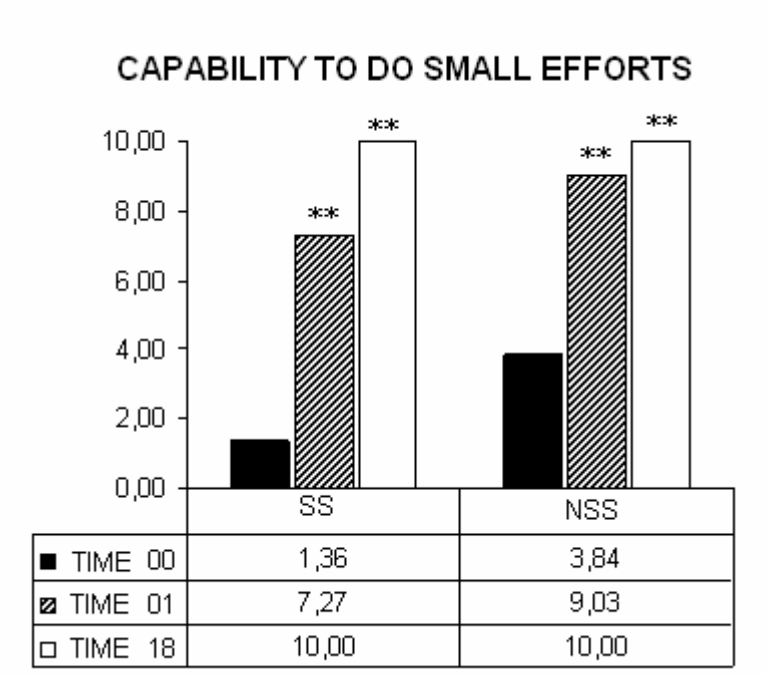


	SS	NSS
TIME 00	7,25	6,53
TIME 01	3,25	2,00
TIME 18	0,50	1,20

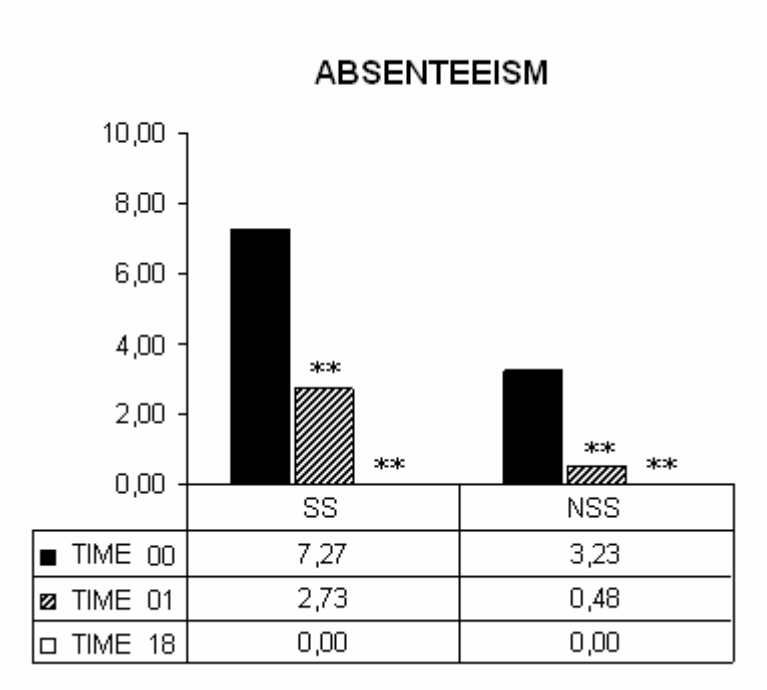
Graphic 1: With the table, shows the level of pain related by the patients immediately before (T 00), after one (T 01) and eighteen (T 18) months of treatment with Canova. SS = group of patients severely sick; NSS = group of patients not severely sick. ANOVA followed by the Tukey test to verify the difference between the averages that were done. ** = $p < 0,01$.



Graphic 2: With the table, shows the level of appetite related by the patients immediately before (T 00), after one (T 01) and eighteen (T 18) months of treatment with Canova. SS = group of patients severely sick; NSS = group of patients not severely sick. ANOVA followed by the Tukey test to verify the difference between the averages that were done. ** = $p < 0,01$.

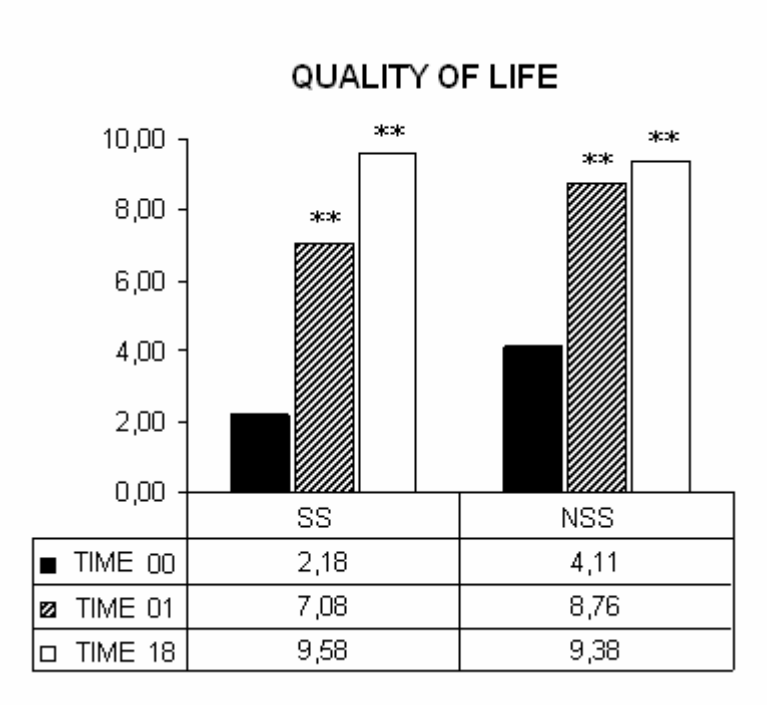


Graphic 3: With the table, shows the capability to do small efforts related by the patients immediately before (T 00), after one (T 01) and eighteen (T 18) months of treatment with Canova. SS = group of patients severely sick; NSS = group of patients not severely sick. ANOVA followed by the Tukey test to verify the difference between the averages that were done. ** = $p < 0,01$.



	SS	NSS
TIME 00	7,27	3,23
TIME 01	2,73	0,48
TIME 18	0,00	0,00

Graphic 4: With the table, shows the level of absenteeism related by the patients immediately before (T 00), after one (T 01) and eighteen (T 18) months of treatment with Canova. SS = group of patients severely sick; NSS = group of patients not severely sick. ANOVA followed by the Tukey test to verify the difference between the averages that were done. ** = $p < 0,01$.



	SS	NSS
TIME 00	2,18	4,11
TIME 01	7,08	8,76
TIME 18	9,58	9,38

Graphic 5: With the table, shows the level of quality of life by the patients immediately before (T 00), after one (T 01) and eighteen (T 18) months of treatment with Canova. SS = group of patients severely sick; NSS = group of patients not severely sick. ANOVA followed by the Tukey test to verify the difference between the averages that were done. ** = $p < 0,01$.

DISCUSSION

Both the clinical responses, as well as the results related to the quality of life obtained in this study are according with previous results obtained in other studies with Canova. It is known that this homeopathic immunomodulator acts in the macrophages (SASAKI et al, 2001; SATO et al, 2005; SELIGMANN et al, 2003; PIEMONTE; BUCHI, 2002), activating them in less then 48 hours (PIEMONTE; BUCHI, 2002). These macrophages present an increase in their endocytosis capacity (LOPES et al, *in press*), besides having their production of TNFα reduced (PIEMONTE; BUCHI, 2002). This reduction is due to a conversion of the metabolic via of this cytokine (OLIVEIRA et al, *in press*), which results in an increase of the Nitric Oxide (NO) (OLIVEIRA et al, *in press*; PEREIRA et al, 2005). All of these actions, combined, may justify the clinical observation that patients carrying oral candidiasis presented a reduction of the fungal infection as soon as their first return, that is, usually one week after the beginning of the treatment.

The cachexia consists in a state of elevated self-consumption of the organism, characterized by the severe weight loss and high numbers of muscle catabolism. Its relation to the TNFα is so important that, in the past, this cytokine was called cachexin. In literature there are many examples of the connection between the high plasmatic levels of TNFα and cachexia (ZHAO; ZENG, 1997; ARGILES; WILLIAMSOM, 1989; MAHONY; TISDALE, 1988; OLIFF, 1988; FLORES et al, 1989), even in diseases such as cardiac insufficiency (ZHAO; ZENG, 1997). TNF-α is one of the several substances produced by the macrophages, especially when these are activated. High plasmatic levels of this cytokine have been observed in patients with neoplastic, infectious or collagen diseases, and in many the severe weight loss is one of the characteristics (ZHAO; ZENG, 1997; ARGILES; WILLIAMSOM, 1989; MAHONY; TISDALE, 1988; OLIFF, 1988; FLORES et al, 1989).

People who carry an infectious disease, as the infection by HIV and AIDS

will have, in some moment, their metabolism turned to the consumption of the muscle tissue, as a result of the chronically high plasmatic level of TNFα. This is due to the fact that the macrophages, in this case, produce the cytokine in order to fight the infection. Although, in the infection caused by HIV, the natural response of the immune system is not effective to eradicate the virus (LU et al, 2004).

As a consequence, this strategy will not be successful and will chronically submit the individual to an exposition to TNFα in high levels. At last, this is the resulting cytokine and the metabolic process that are responsible for the anorexia and severe weight loss in these patients.

Severe catabolism usually leads the patients to experience states of much pain, that may be explain by the muscle degradation and the loss of thin body mass. The groups of muscles who are supplying protein and amino acids for the consumption of the organism present diminished quantities of actin and myosin units. As a consequence, an activity that used to the perceived as a low intensity one starts being experienced as moderate, or even vigorous. This challenge to the musculature makes some of the muscle units to rip, causing pain. This process of muscular challenge is well known by people who attend regularly gyms and body-building centers, places where well-nourished organisms make use of physical activities in order to strengthen and increase the musculature in a process that, even being anabolic, is painful.

In spite of this, it is not only the muscular catabolism that can justify the pain felt by the patients. The TNFα levels themselves, which originate this catabolism, have their role. Nowadays, many works in several areas, especially rheumatology and orthopedics have shown, more and more, the relation between this cytokine and pain (DAVIS JR., 2004; MULLEMAN et al, *in press*; KAST, *in press*). This substance has been pointed as the main responsible for the sciatalgy in patients with spinal disc herniation, being even more important than the size of the hernia itself (MULLEMAN et al, *in press*). This nexus was also proven by the decrease of the pain condition after the employment of substances which block the cytokine, as the anti-TNFα chimeric

monoclonal antibody, the infliximab (DAVIS JR., 2004; MULLEMAN et al, *in press*; KAST, *in press*).

However the employment of such substances has huge side effects originated by the immunosuppression they cause when they block the TNFα, after all, this cytokine is a powerful substance for the organism protection. In these conditions, you go from one extreme to the other, because there is an elevated quantity of the cytokine that, yet, does not work, because it is blocked. The side effects originated from this therapeutic strategy are easily understood.

If, instead of having a healthy and well-adjusted organism controlling and regulating the molecule production in necessary and enough quantities, there is a system that secrets these substances in an extraordinary high quantity in order to restrain the aggression, the tactic of using a blocker, as refined as it may be, will always be an imperfect way to simulate the control of the organism, since it is limited to try to reduce the action of a substance that was already produced. It would be better to have a therapeutic agent who promotes the self-adjustment of the organism, re-establishing it to a normal state of function, and allow it to self-regulate, in all the subtleness that it implies.

This is brought to this discussion, mainly because Canova has this effect. When deviates the metabolic via of production of TNFα to the production of NO in the macrophage, the medicament opens a possibility of attack to the infection that is completely new and, to say the truth, not yet completely understood. The NO is a molecule with more fighting power if compared to the TNFα and that, nevertheless, seems to have fewer side effects. Besides, it reduces the levels of TNFα in the circulation, removing the organism from the vicious circle it was in. That is, without mentioning the possibility of other substances, not yet identified, being produced and working as a signaling, unchaining another strategy to fight the virus, by the organism.

There is, also, the matter of opportunistic diseases, which occur with diminished frequency after the patient starts using Canova. Previous results showing

the increase in the endocytic index (LOPES et al, *in press*) as well as the reduction, *in vivo* and *in vitro*, of the infection caused by *Leishmania amazonensis* in mice macrophages treated with the medicament (PEREIRA et al, 2005), combined with the alteration in the cytokine production, makes us think that the immune system can react more adequately to these affections due to the response being unchained by previously activated macrophages.

One can not forget that the double-blind work, placebo controlled, made by SASAKI and cooperators (2001), showed a decrease in the viral load and opportunistic diseases in patients with HIV/AIDS that made use of the Canova medicine. Neither one can leave aside the fact that, in the samples submitted to MEV, it was observed a new cellular type only in the treated patients. These cells, with leukocytary phenotype, have the aspect of an activated effector cell, mainly due to its size, compared to the others around it. It is also important to notice that it is not a cell where new viruses are budding. As in the work with Sarcoma 180, SATO and cooperators (2005) made evident a significant increase in the number of NK cells, from 0,023 to 0,130 (10^3/mL), in the peripheral blood of mice treated with Canova, presuming that there is a strong possibility of this cell to be a NK one.

These observations incite and reinforce the formulation of the hypothesis that the organism puts in action another strategy to fight the infection, mobilizing also other sites, like the bone marrow. It is possible and tempting to think of the possibility that effector cells and not susceptible to the virus infection are put into action due to the simple fact of macrophage activation, especially if one remembers that a great part of the stroma of the bone marrow is constituted of macrophages. And that these macrophages produce great part of the growing factors and the differentiation of hematopoietic cells.

In the end of 2004, a group in Recife showed, through a very simple thinking, and therefore extremely elegant, the fundamental importance of cells that present antigens which fight HIV-1 and consequently the sustained reduce of the viral

load. The model employed consisted in supplying the dendritic cells, derived from peripheral monocytes of the patient, parts of the autologous inactivated virus, in such a way that this, not being able to infect the cell, was processed in a precise immunogenic information, that culminated in an effective immune response against HIV (LU et al, 2004).

The results of this study also showed that, after 30 days treating with Canova, patients who were feeling considerable pain reduced this perception to levels that might be considered “regular”. More than this, this reduction was still present in the 18 months evaluation, T 18. So it can be considered that the pain relief was due to the macrophage activation that, in this case, had their production of TNF-α reduced in less than 48 hours (PIEMONTE; BUCHI, 2002), decreasing, then, the circulating levels of cytokine to which the patient was exposed. Upon this occurrence, the increase of appetite would be a logical consequence. In fact, one of the first symptoms related by the patient after the beginning of the treatment was the return of the appetite. The majority made reference to this fact already in the first appointment of weekly review upon the beginning of using the medication.

The decreased of TNF-α combined with a better nutritional state of the organism due to the return of appetite ends up converting the metabolism from a catabolic state to an anabolic state. This change leads to a lower break of myofibrils, which decreases the muscular challenge and the pain. It also explains why the ability to perform low-intensity activities increased.

Individuals who feel less pain, that eat better, once they had the return of appetite, being able to perform activities of more intensity can, therefore, return to work and re-start earning money, not only for self-support, but also for the family. As a consequence, absenteeism decreased. At last, altogether these changes produce an improvement in the quality of life. This is why patients, in both groups, reached a better quality of life state (figure 05).

Besides, the fact that this quality of life achieved in the first month remained

during all the treatment with Canova, even one year and a half later can not be ignored. This fact raises, com vehemently, the hypothesis that the results obtained already in the first month did not occur because of a random placebo effect, or anything else, but it happened because of the treatment.

However, an important consideration must be made. As emphasized previously, the viability to perform an evaluation after 18 months was uncertain and, meanwhile, the antiretroviral therapy program (ARV) became available in Gabane. Consequently, the patients who had a formal indication to receive the ARV medication were oriented to look for the program. Nevertheless, if the patient desired, he could use them keeping the homeopathic therapeutics with the Canova medication. By the time of the T 18 evaluation, 42,86% of the patients were using Canova along with ARVS, while 57,14% remained using only the homeopathic treatment. The fact that more than half the patients, after one year and a half, chose to remain only the homeopathic treatment is extremely relevant.

Once this study was conceived to be the an observational prospective study, the hypothesis to make a control group subjected to a placebo treatment did not seem to be adequate, once there is already a double-blind study, placebo controlled, showing that the Canova treatment reduces opportunistic diseases, viral load and side effects of the conventional therapy for HIV/AIDS (SASAKI et al, 2001). We knew that the absence of control would result in hypothesis raised that would only be transformed into evidence with the realization of controlled studies. However, it seemed unethical to us to privar people in such need from a potentially effective treatment. This is very clear to us.

CONCLUSIONS

We can conclude that the quality of life of patients treated only with Canova increased in a meaningful way, already by the end of the first month using the medicament. The patients, all of them bearers of HIV/AIDS, presented positive clinical changes, reflexes of alterations in each one of the evaluated aspects. These changes affect not only patients themselves, but also their families and the communities where they live. Besides, the treatment came up with some cell types not seen before in the blood flow of the patients.

Finally, we clearly know that, unfortunately, the Canova treatment is not the cure for HIV/AIDS, but at least it helps a lot to improve the quality of life of infected ones and, it may be said, also the affected ones, by this terrible virus.

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