RECEPTOL

RECEPTOL PRODUCT BRIEF

The Receptol® oral spray consisting of Radha 108 Nanopeptides, stimulates body's own immune system as a broadspectrum immunomodulator & antiviral to fight against several diseases & prevents all communicable infections. It is a natural product manufactured by Nano-biotechnology patented proprietary processes from bovine colostrum (1st Milk after Birth).

Keywords: Colostrum, Receptol, Nanopeptide, Radha108, immune-modulator

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Our health is directly influenced by our immune system. A balanced and healthy immune system is centre to the body's ability to defend against infections. "It is our ability to create a healthy immune system that represents the greatest potential for gains in human health".

Today, however, many factors contribute to the general weakening of the body's defences. Antibiotics have begun to fail as the resistance of many infectious strains multiplies. Due to the failure of government control of health codes, deterioration of water quality, and frequent international travel diseases now spread more easily than ever before. Fortunately, recent research has uncovered a natural agent, which can increase our ability to fight disease and improve the quality of life for many people.

RECEPTOL® is the name given to this relatively new agent. It is found in colostrum and other sources and is a natural way of strengthening our immune systems against disease. The application of RECEPTOL® is in the medical field of Immuno-therapy which is a quiet revolution taking place in medicine. It is a form of treatment that uses the different aspects of your immune system, it cells and molecules and its various stratagems to tip the balance in your favor as your body battles to maintain health.

RECEPTOL® essentially is a complex cocktail of compounds derived from bovine lacteal sources. These compounds include Proline-Rich Polypeptides (PRPs), glycoprotein, growth factors, neurotransmitters, cytokines (IFN-alpha, IFN-beta) produced from PRPs, and enzymes. Other immune factors present include Trypsin Inhibitors, Glycoconjugates, Orotic Acid, Alpha 1-Antitripsin, Alpha 1-Fetoprotein, Alpha 2-Macroglobulin, Alpha 2- AP Glycoprotein, C3 &

C4, Orosomucoids, Lyozyme, Thiocyanate, Peroxidase, Xanthine Oxidase, Vitamins A, B12, E, and Sulfur. Each of these compounds has specific functions in the human body.

Anyone-healthy or diseased, with a few exceptions-is benefitted from regular RECEPTOL® supplementation. The use of RECEPTOL® has resulted in no reports of serious adverse reactions, even when clinically administered in doses in excess of normal for prolonged periods. Those with specific ailments also benefit.

Numerous studies have shown the effectiveness of RECEPTOL® in eliminating or alleviating symptoms of herpes, chronic fatigue syndrome, Epstein Barr, hepatitis, secondary infection due to AIDS, Candida, cancer and many other disorders. Studies have also shown continual use provides the greatest benefit, with maximum immune activity occurring 24 to 48 hours after initial dosing.

The need for RECEPTOL® as an adjunct to better health stems from the growing awareness that prevention is the best source of treatment. With the increasing risks of antibiotic resistance and significant health threats, such as SARS, the medical community increasingly turns to the inherent concept of vaccines prevention.

RECEPTOLs are a kin to vaccines. But, rather than expose the patient's immune system to the actual disease or a deactivated version of the same, RECEPTOLs expose the patient's immune system to the memory of a health threat-whether foreign or native-and the knowledge of how to best respond to protect itself.

What is Radha108:

Radha108 is a natural, immunity enhancing component derived from bovine colostrum. Radha108 is essentially a class of peptides called Nano-peptides with molecular weight of 3500–10000 and Proline Rich Polypedtides (PRPs). Other naturally derived compounds present in the product include: Vitamin A, E, B1, B2, B5, B6, B12, B13, C, Folic acid, Sulphur and Betacarotene.

Though some of the immunity enhancing properties of Proline-Rich Polypeptides were reported earlier, the molecular mechanism and its synergistic action with low molecular weight Nanopetides were not known until Dr. Pawan Saharan, Chief Scientific Officer and Founder Director, Chaitanya Healthcare, India identified a series of Nanopeptides, also referred to as Nano- Information-Peptides from Bovine Colostrum.

Further study and confirmation of its therapeutic efficacy in a wide range of diseases/disorders was made possible only after these therapeutically effective ‘Nanopeptides’ were isolated in the pure and concentrated form by using sophisticated nanotechnology and filtration techniques by Biomix Network Ltd.

One of the exciting finding was the excellent efficacy and safety of these Nanopeptides (Radha108) in the treatment of HIV/AIDS. Clinical trials conducted in a major hospital in Mumbai have clearly shown that:

A. Receptol was immensely beneficial in:

a) Mitigating the symptoms like fever, diarrhea, nausea associated with AIDS
b) Increasing weight of the patients
c) Reducing the viral load
d) Increasing the CD4 count
e) Minimizing/eliminating associated opportunistic (viral, bacterial & fungal) infections

The observations on Receptol include:
B. The positive effects could be observed within a span of 12 weeks
C. No significant adverse effects observed even on prolonged usage..
D. Can be used even as a monotherapy

Radha108: Mechanism of Action:
MODE OF ACTION

- The informational proteins (RADHA108) in RECEPTOL® are active in mitigating cell fusion
- RADHA108 series docks on glycoprotein receptor on the cell surface and thus closing doors and windows for viral entry into the immune cells.
- RADHA108 series get absorbed in the blood stream through buccal mucosa and crosses the Blood Brain Barrier (BBB).
- The levels of Interleukins & Cytokines are increased substantially.
- Supports regulation of thymus via producing functionally active NK cells
- RADHA108 augments cell-mediated immunity & activates T-cell precursors to produce helper & suppresser T-cells increasing CD4/8 counts.
- RADHA108 promotes growth & differentiation of stem cells in response to any disease

Fusion of HIV particles with human white blood cells, particularly CD4 cells occurs with the aid of glycoprotein epitopes on the viral wall. The informational proteins in Radha108 are active in mitigating cell fusion. Radha108 docks on HIV glycoprotein gp120 mimicking receptor on the cell surface and thus closing doors and windows for virus/antigen entry into the immune cells.

Receptol, a pure natural product having informational nano peptides and Proline Rich Polypeptides (PRP), is an effective and safe in increasing weight, general well being of patients, decrease in viral load and increase in CD4 cell count.

RECEPTOL® proteins directly support the Natural Killer (NK) cells of the immune system. Natural Killer Cells provide the front line of defense specially equipped to locate and kill disease cells. NK cells attach to the surfaces of foreign substances or their outer cell wall, and inject a chemical "grenade" (granule) into the interior. Once inside, the granules explode and destroy the foreign invader within five minutes. The NK cell itself remains intact and moves on to destroy the next immune attacker. Many doctors and clinics are finding RECEPTOL® helpful in promoting NK function and activity as well as supporting a healthy immune system for all patients. The immune system plays a great role in the quality of our health. Strong, active and optimally functioning NK cells promote optimal health and deter foreign substances from affecting immune function.

- Radha108 (PRP) promotes differentiation of B cells, differentiation and maturation of macrophages and monocytes.
- Activates natural killer (NK) cells, cytotoxic cells of the innate immune system
- Mitigates cell fusion and docks on HIV glycoprotein like Gp120, 180, 160 and 41 mimicking receptor on the cell surface closing entry of viruses.
- Stimulates production of cytokines IL-1 to IL-11, TNF-α, INF–γ.
- Stimulates the maturation of immature thymocytes into either helper or suppressor T cells
- Radha108 also functions as a molecular signaling device which works through receptors on target cell surfaces.
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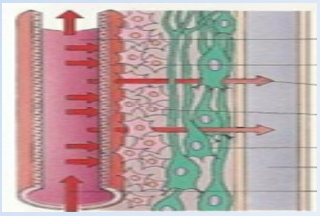
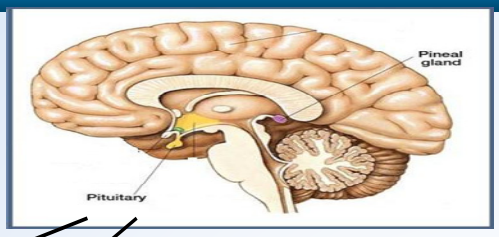
Pharmacodynamics (Mode of action) of PRP (Radha 108)

PRPs get absorbed in the blood through buccal mucosa and crosses BBB





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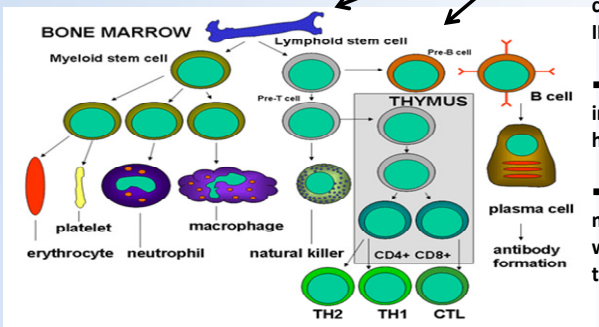

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Phase III Radha108 clinical trials:

A three months Phase III trial of Radha108 in patients with HIV seropositive status was conducted. After positive results of safety and efficacy Phase I and Phase II trials of Radha108 in the US & Africa, Ministry of Health and Family Welfare, Government of India under the Pharmaceuticals Research and Development Support Fund, funded Phase III trial of its efficacy in HIV/AIDS patients coordinated by National AIDS Control Organization (NACO)/ Indian Council of Medical Research (ICMR)/ Director General Health services (DGHS)/ Drugs Controller General of India (DCGI) in consultation with Dr. Pawan Saharan, Chairman, Biomix Network Limited, India at Lokmanya Tilak Municipal Medical College, Sion, Mumbai during October, 2005 and October, 2006.

An open label accelerated prospective Phase III efficacy study for Radha108 was conducted for 101 HIV sero-positive patients between the ages of 18 and 60 in India 50 patients were enrolled in Radha108 Trial, October 2005 and successively 51 patients were enrolled in Radha108 Trial, October 2006. All the patients were evaluated for a medical history, physical examinations, blood and urine tests including CD4 cell count and HIV viral load as per protocol.

Patients were taught self-administration of Radha108 liquid in pump spray form 6 times a day at 4 hour intervals. Each administration consisted of 4 sprays directly on the buccal mucosa (inner cheek) and was to circulate in the mouth for 60 seconds before swallowing. Each pump of the spray delivered 0.75ml of Radha108 liquid.

Participants were evaluated in the clinic once a week through the first 4 weeks of therapy and then once every 2 week for the remaining 8 weeks of the study. They were evaluated for clinical and physical symptoms via symptom assessment form. Physical examinations, side effects of treatment and compliance to the drug on follow up visit, blood tests to measure CD4 cell counts, HIV viral load, hemoglobin, white blood cell count, liver function test and renal function test were done at baseline and at end of study.

CD4 and CCDS cell count were analyzed via Flow Cytometry and viral load via Polymerase Chain Reaction at National Accreditation Board for Testing and Calibration Laboratory (NABL) and the College of American Pathologists Accredited Metropolis Health Services (I) Pvt. Ltd. Laboratory, Mumbai at the beginning and at the end of 12 weeks of Phase III of Radha108 Trial, October 2005 and at the end of 12 weeks, patients were evaluated at Indian Institute of Hematology (IIH), an ICMR Institute, KEM Hospital, Mumbai for Radha108 Trial, October 2006.

Primary efficacy end points of study were the effect of this therapy on the markers of HIV disease including clinical symptoms and physical findings, weight gain/loss along with the general well being of the patients and HIV viral load and CD4 cell count which showed consistently positive results in both the trials.

Results of phase III Radha108 Trial - October 2005

There was excellent compliance for Radha108 liquid in pump spray form. The investigational product Radha108 was well tolerated and there were no serious adverse events.

Weight gain: Consistent weight gain was observed in all patients on follow up visits, which was one of the primary end points (Table 1). The average weight gain after 12 weeks of treatment was 4.73kg per patients which is statistically highly significant ($p<0.001$).

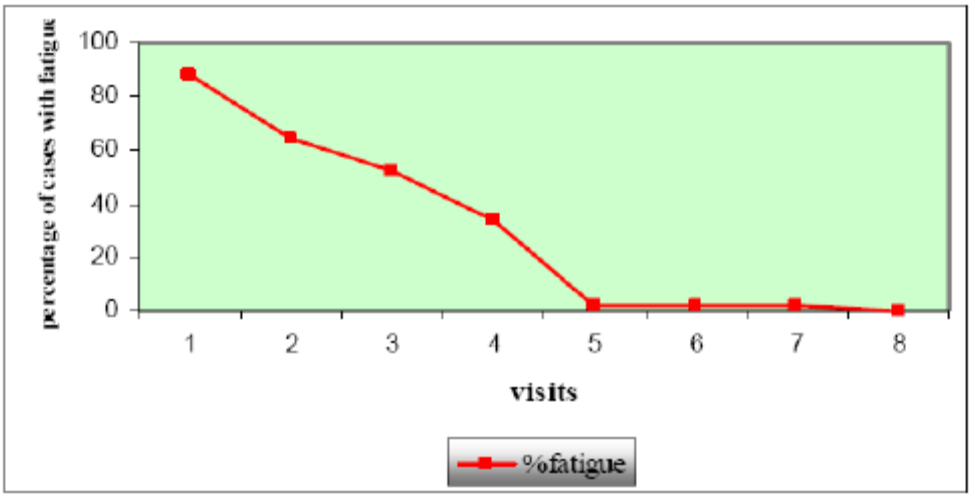
Table 1 : changes in mean weight after treatment

duration in weeks	mean weight (N = 50)
basal	50.48 ± 10.97
2	50.77 ± 11.26
3	51.38 ± 10.94
4	52.33 ± 10.73
6	53.89 ± 11.17
8	54.59 ± 10.89
10	55.44 ± 11.07
12	55.21 ± 9.42

Clinical parameters: All the clinical symptoms disappeared during the 12 weeks of treatment. These reductions are statistically significant ($p<0.05$).

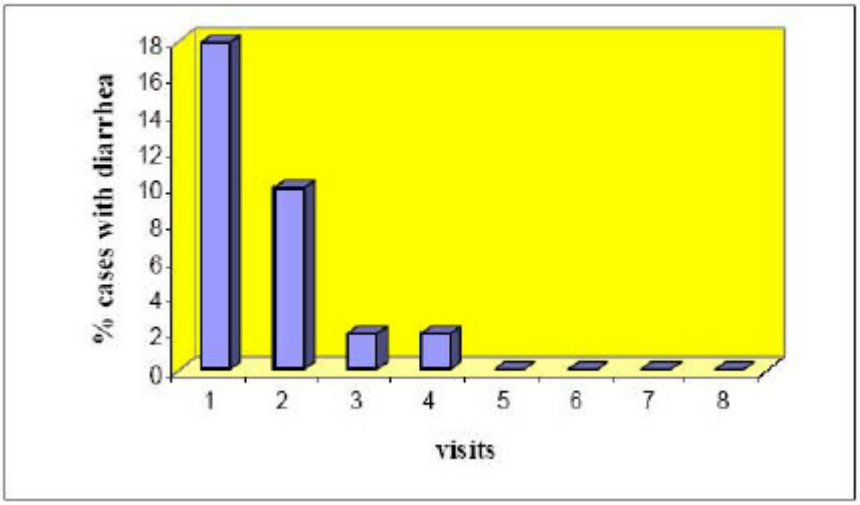
Fatigue/ Malaise: 88% of the total study cases had symptoms of fatigue at basal. After treatment at the end of 2nd week proportion of symptoms of fatigue had a significant fall from basal. After 6th week onwards only one or two patients had fatigue (Figure 1).

Figure 1 : percentage of cases with fatigue / malaise after the treatment



Diarrhea: 18% of total study cases had diarrhea at basal and after treatment from 5th week onwards all the patients had relief from diarrhea (Figure 2).

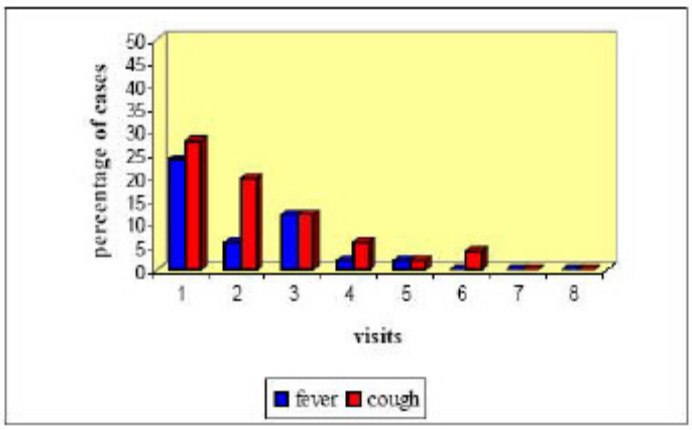
Figure 2 : percentage of cases with diarrhea after the treatment



Fever: Fever was reported by 24% of total study cases at basal and from 7th week onwards not a single patient had fever with significant fall which started 4th week onwards.

Cough: 28% of the total study cases had a significant fall from 3rd week onwards and all improved 10th week onwards (Figure 3).

Figure 3 : percentage of cases with fever / cough after therapy.

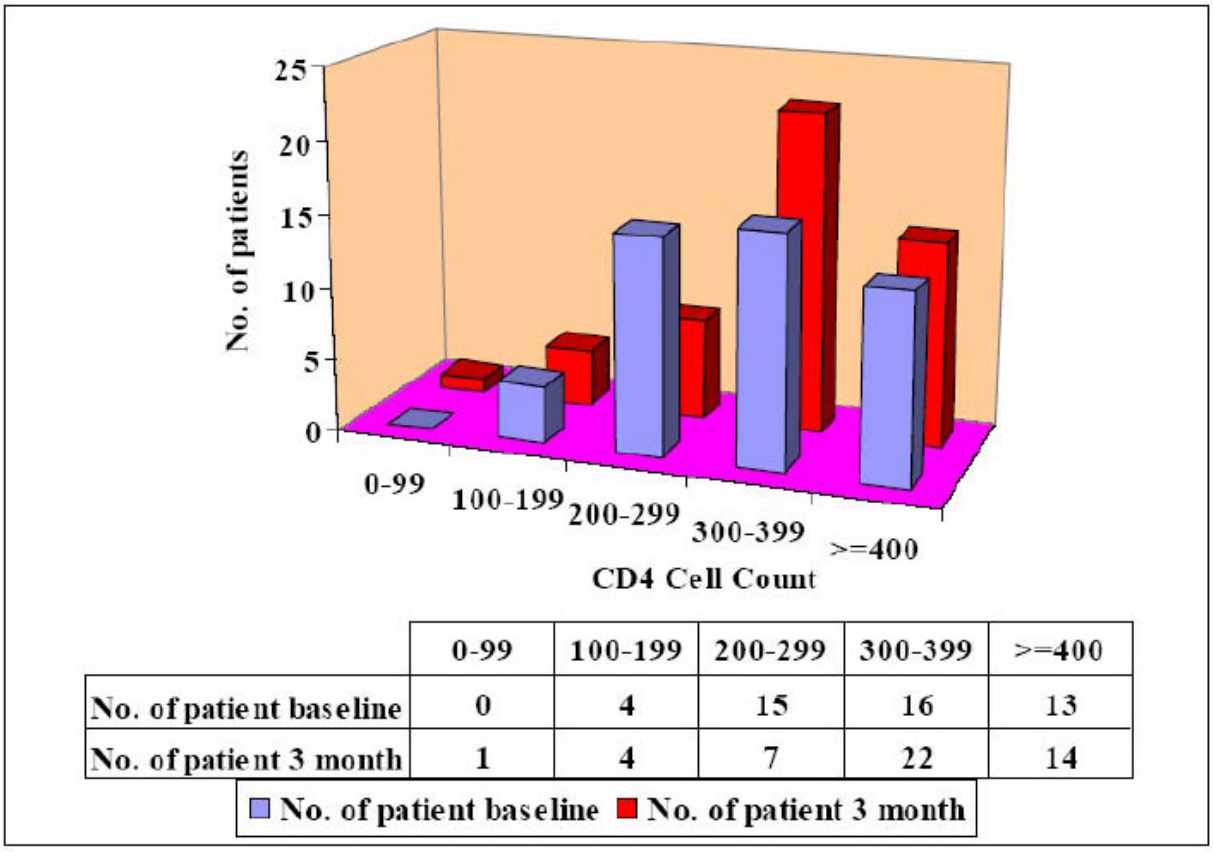


Skin rash and Herpes zoster: 14% and 12% of total study cases had skin rash and herpes zoster at basal respectively and from 4th week onwards not even a single patient had suffered from skin rash.

Similarly, nausea, vomiting and disturbed sleep were improved significantly during therapy with Radha108.

Absolute CD4 cell count and HIV viral load: CD4 cell count was available for 48 patients with pre and post treatment values. There was increase in CD4 count on the average by 51 (median CD4 cell counts from 312 to 363). This is of borderline statistical significance ($p<0.06$). 30 out of 48 (62.5%) patients showed rise in CD4 count and 18 patients (37.5%) showed decrease in CD4 cell count. CD4 cell count range with number of patient at baseline and at the end of study is shown in Figure 4.

Figure 4 : No. of patients at baseline and at end of treatment with CD4 cell count range.



	0-99	100-199	200-299	300-399	>=400
No. of patient baseline	0	4	15	16	13
No. of patient 3 month	1	4	7	22	14

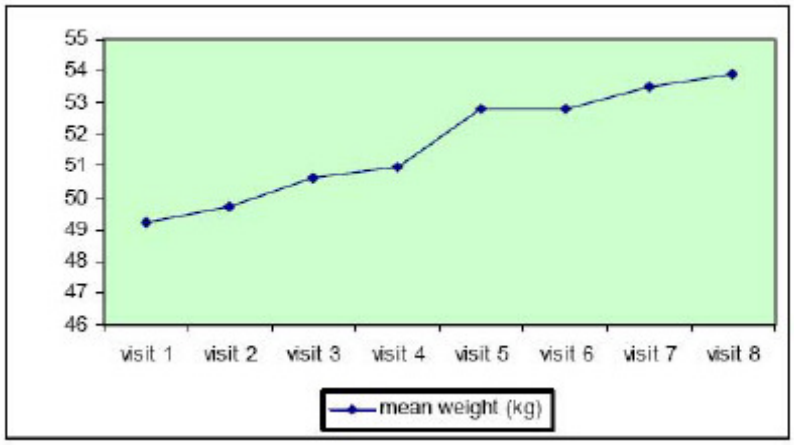
The mean HIV log viral load has statistically significantly dropped from 4.63 to 4.18 after 12 weeks of treatment ($p=0.03$). Similar trend is also seen in the pre treatment and post treatment median viral loads (from 92458 vs. 25332, $p<0.001$).

Result of phase III Radha108 trial – October 2006:

Replica of positive result of Phase III Radha108 trial October 2005 was observed during Phase III Radha108 trial October 2006. During the study 51 patients were enrolled without any dropouts.

Weight gain: Weight monitored on every visit showed significant gain in all 51 HIV patients with mean weight gain of 4.68 # 1.9 kg after 12 weeks of Radha108 therapy ($p<0.001$).(Figure 5).

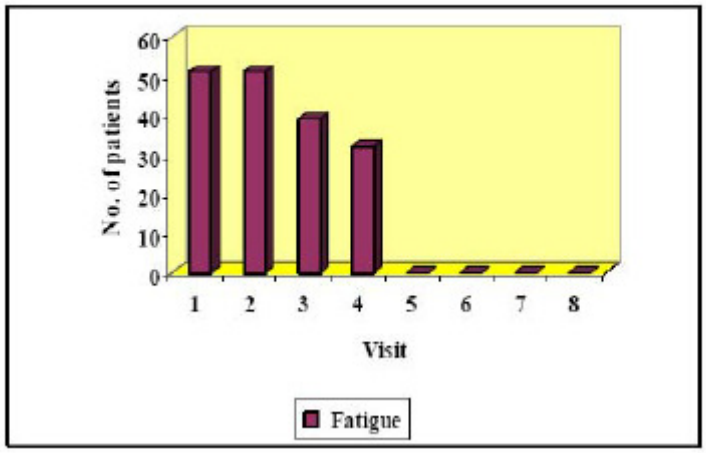
Figure 5 : mean weight in kg during receptol therapy



Clinical Parameters: All the clinical symptoms had disappeared during the 12 weeks of treatment. These reductions are statistically significant ($p<0.005$).

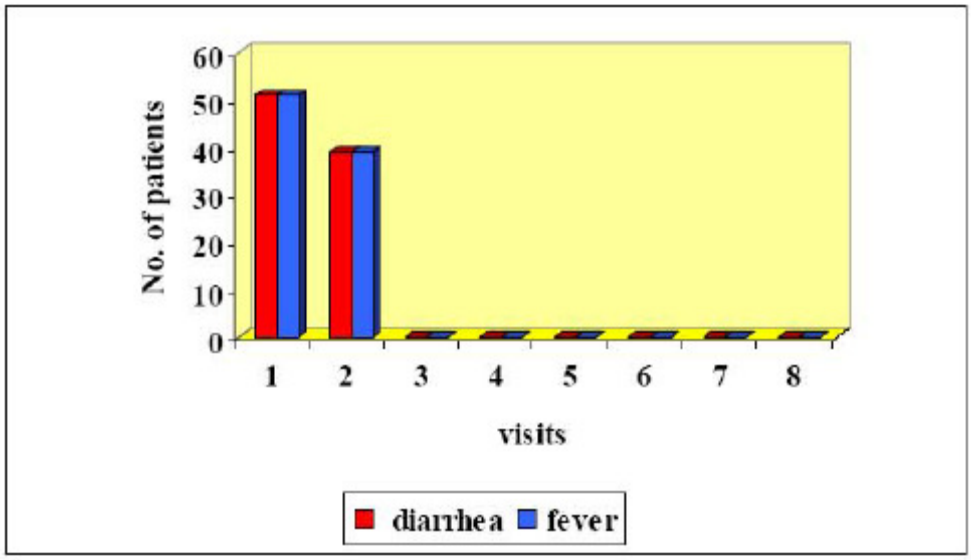
Fatigue/Malaise: 100% of the total study cases had symptoms of fatigue at basal. After treatment at the end of 2nd week proportion of symptoms of fatigue had a significant fall from basal. After 6th week onwards all patients had relief from fatigue (Figure 6).

Figure 6 : No. of patients with fatigue / malaise after therapy



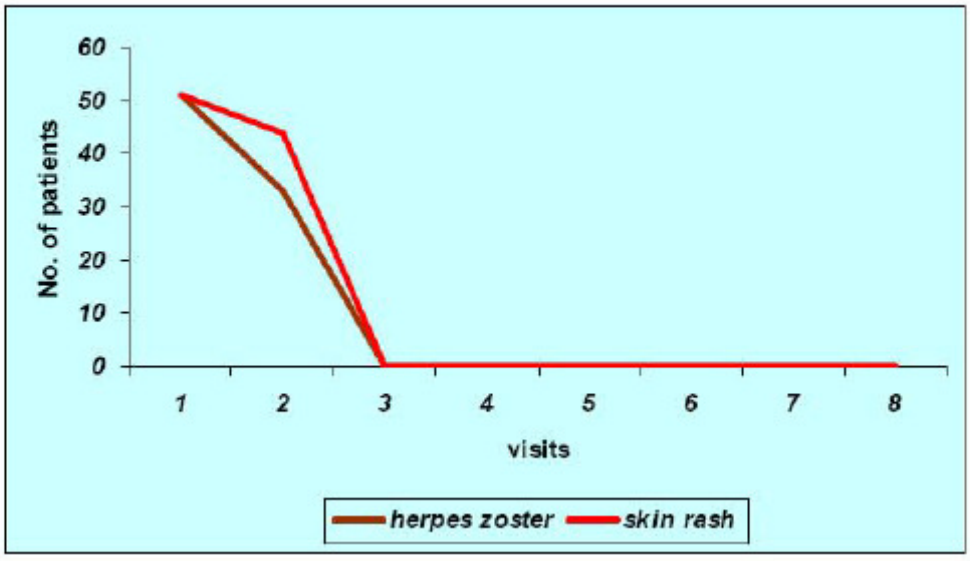
Fever and diarrhea: 100% of the total study cases had fever and diarrhea at basal and after treatment from 3rd week onwards all the patients had relief from diarrhea and fever (Figure 7).

Figure 7 : No. of patients with fever / diarrhea with receptol therapy.



Skin rash and Herpes Zoster: All the patients had HIV associated skin rash and herpes zoster at basal and became asymptomatic after 3rd week onwards with treatment (Figure 8).

Figure 8 : No. of patients having HIV associated skin rash and herpes zoster after therapy

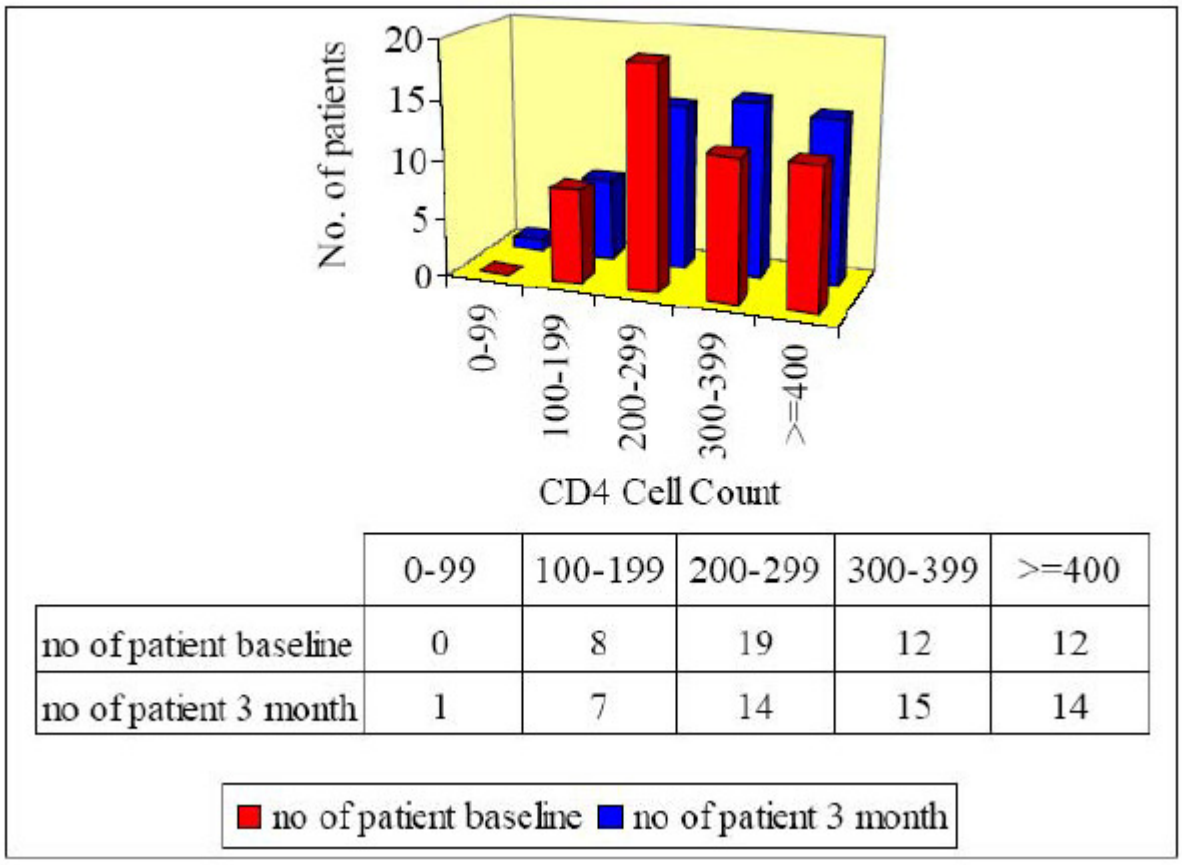


Similar improvements were seen in nausea, vomiting, cough and disturbed sleep and all patients became asymptomatic from 3rd week onwards.

Absolute CD4 cell count:

CD4 cell count was available for all 51 patients with pre and post treatment values. There was increase in CD4 cell counts from 276 to 305). This value is statistically significant ($p<0.05$). CD4 cell count range with number of patients at baseline and at the end of study is shown in Figure 9.

Figure 9 : No. of patients and CD4 cell count range



	0-99	100-199	200-299	300-399	>=400
no of patient baseline	0	8	19	12	12
no of patient 3 month	1	7	14	15	14

HIV vital load:

After Radha108 12 weeks treatment at the end of study mean viral load showed a significant fall ($p<0.01$) from the baseline conducted at Institute of Immuno Hematology (IIH) and ICMR Institute KEM Hospital Mumbai.

Side Effects:

All patients tolerated Radha108 well with no side effects. Milk allergies are caused by the large milk proteins primarily casein and to a lesser extent the immunoglobulins. These proteins are completely removed from the Radha108. As Radha108 is a food substance derived from colostrum, it is entirely safe for human consumption.

Conclusion

These results show that Radha108 is an effective and safe drug in increasing weight and general well being of patients, decrease in viral load and increase in CD4 cell count. Thus, Radha108, a pure natural drug having informational nanopeptides and PRPs as active pharmaceutical ingredient holds good promise for the treatment of HIV patient across all age groups.

“Radha108 preparations have been used to effectively treat a wide range of diseases this include bacterial, mycobacterial, fungal, parasitic, and viral and cancer.”

Radha108 is also useful as immunomodulator therapy in recurrent fungal, viral, bacterial infections, allergic and autoimmune disorders like asthama, SLE, rheumatoid arthritis etc, chronic fatigue syndrome, chronic dermatologic disorders, hepatocellular carcinoma, Alzheimer disease, Parkinson’s disease and other neurological disorder.

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