



NIVASHA®

Antiseptic Colloidal Solution For Wound

Nano Alvand Arad Co.



**SAVE
OUR PLANET**
by **NANO TECHNOLOGY**





NIVASHA[®]

Antiseptic Colloidal Solution For Wound

Nano Alvand Arad Co.

Nivasha⁽¹⁾

Nano Biotechnology

Nano Alvand Arad Co.

Antiseptic colloidal solution for wound

Applications:

Nivasha Spray is used as an antiinfection and restoring agent for wounds with relative up to full thickness such as accident lesions, bedsores, diabetic sores, type of acute burns(with degree 1-3), acnes, sweat burns, dermal/subdermal mycoses(fungi specific to women, groin, armpit, subabdomen) and infectious lesions). It removes urination pain/smarting(in the elderly, disabled, full hospitalization, sucklings), and insects bites pain and irritation. It removes and prevents postepilation inflammation (of the body and face), and quickly dries herpes upon 6 sprayings.

Pharmacological effects: Nivasha Spray:

1. Prevents lesions infection. It even cures lesion site gram positive & gram negative infections.
2. Increases the lesion fluid viscosity, thus preventing bacterial growth on the lesion.
3. Includes silver particles at the nanometric level, thus accelerating the process of lesion treatment and formation of the new tissue.
4. Removes the lesion site infection, thus cleaning the lesion.

Advantages of Nivasha Spray:

1. It has no domestic or foreign counterpart.
2. It is extraordinarily applicable for treating skin damages and signs of acne, impact, blow, surgery, skin local discoloration due to burns, contact with agents detrimental to the skin, different skin diseases and lesion local dressing and postplastic operations(for beauty).
3. Another advantage of this spray is to accelerate the lesion local blood circulation which per se increases the rate of granulated tissue generation , thus promoting the rate of lesion healing.

As the local circulation increases, the lesion site immunity system will be strengthened, thus preventing infection(especially in diabetic foot sores). All the items stated here cause the rate of lesion healing to increase(even up to %100 in some cases), healing duration to decrease(hospitalization period decrease) and , as a result, treatment costs to lower. Most lesion and burn ointments cause irritation, smarting and pain in the lesion region at application. When Nivasha Spray is applied however, such complications will diminish.



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Nivasha Spray

It is used to heal deep and surface lesions.

For deep lesions, it should be applied supervised by a physician.

Advantages and mechanism of action of nanosilver

As a processed product of nanosilver technology, nanosilver enjoys antimicrobial properties, preventing the reproduction and growth of microorganisms. The brief performance of the effect mechanism of nanosilver can be described as follows:

1. Silver(Ag) will produce active oxygen which destroys microorganism cellular membranes.
2. It destroys microorganisms by denaturing the cellular membrane and converting the SH sulfur to SAG bonds in microorganism protein membranes.
3. It increases the silver positive load affinity in nanodimensions, causing the microorganisms jointing.
4. It generates no sensitivity or allergy.
5. The production of active oxygen by nanosilver at the body lesion surface causes lesion healing in relevant region.

Warnings

In case of sensitivity and irritation due to the spray application, please stop the consumption.

Dosage and mode of application:

2-3 times a day, spray enough amounts of Nivasha onto the acne, lesion or infected skin.

Maintenance:

Keep the spray below 30°C out of the reach of children. It should not freeze.



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Acne

What causes acne?

There are thousands of fat under the skin producing glands called sebaceous glands, and they are found all over the body. But most of them are located on the face, chest and back.

Usually, the fat passes through the pores of the skin cells die, bacteria and blocked pores and acne with a lot of fat will produce.

Blocked vents can cause the fat to accumulate in the pores and bacteria that cause acne to grow.

These bacteria often cause inflammation - red hot - and sometimes wound infections are.

Gender: Male

Age: 22 years

Cause: Fatty Liver

Treatment duration: 30 days





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Burn

Contamination of burn wounds in the warm-positive bacteria, including methicillin-resistant *Staphylococcus aureus* Astafylv Cook and warm-negative bacteria such *baumannii* – *acinetobacter* – *calcoaceticus* - *Pseudomonas* - *Klysya*. In addition, the wound usually are infected with fungal pathogens for the treatment of nano -silver solution 4000PPM with a concentration of 15PPM is used.

Electrical burns
year old man 40
Day two injection

Treatment



after 4 day



after 12 day



after 17 day

after 22 day





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Diabetes and Burn

Studies on skin and Leishmaniasis Research Center in Isfahan, bacteria <strains of 'S' entrica serovar Paratyphi A + Pseudomonas aeruginosa Enterococcus spp.(26 Enterococcus faecalis and 06 E.faecium)> were isolated from diabetic foot ulcers. Nanosilver solution concentration was used to treat 15PPM. Nano Silver 15 PPM Newsha spray with systemic antibiotic therapy and daily dressing clinic methods of wound treatment (Specialized Hospital family).

She is 72 years old – Dylbtyk

Traditional treatment of burns + Wound infection in diabetic
Treatment

Treatment



Blister

sessions dressing 5



sessions dressing 10



sessions dressing 21





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Diabetes

Studies on skin and Leishmaniasis Research Center in Isfahan, bacteria <strains of 'S' entrica serovar Paratyphi A · Pseudomonas aeruginosa Enterococcus spp.(26 Enterococcus faecalis and 06 E.faecium)> were isolated from diabetic foot ulcers. Nanosilver solution concentration was used to treat 15PPM.

65 year old man
Day two injection



Treatment



after 6 day



after 14 day



after 21 day



after 24 day



after 29 day



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Diabetes

Studies on skin and Leishmaniasis Research Center in Isfahan, bacteria <strains of 'S' entrica serovar Paratyphi A · Pseudomonas aeruginosa Enterococcus spp.(26 Enterococcus faecalis and 06 E.faecium)> were isolated from diabetic foot ulcers. Nanosilver solution concentration was used to treat 15PPM.





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Diabetes

Studies on skin and Leishmaniasis Research Center in Isfahan, bacteria <strains of 'S' entrica serovar Paratyphi A + Pseudomonas aeruginosa Enterococcus spp.(26 Enterococcus faecalis and 06 E.faecium)> were isolated from diabetic foot ulcers. for the treatment of nano-silver solution 4000PPM with a concentration of 25PPM is used. (Male, 45 years old)
Spray once a day

First Day of Spring



Seven days later



A month later



45 days later



Two months later,



72 days later





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decubitus

decubitus is known as the most . Lesions caused by many factors such as: pressure, friction, humidity, shearing forces, temperature, age and medications, to any part of the body, especially portions of bone, cartilage-like outer bone, elbow, knee and ankle. Although most cases of curable and preventable. patients decrepit, elderly, wheelchair, bedsores are often fatal - even under medical care, one of the leading causes of death in developed countries has been reported. Nivasha Nano Silver was used for the treatment .(91-year-old patient suffering from bed sores due to immobilization in nearby areas Sankrvn and trochanter was infectious. The recommended washing with serum (N/S) and the use of nano-silver spray(15PPM) and antibiotics therapy after 2 weeks of topical wound infection was resolved.)

Clinic modern methods of wound treatment (Specialized Hospital Family)



After 1 month of using spray and wash Newsha constant microbial pressure wound dressings for the patient to be taken once daily.



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Decubitus

Decubitus, pressure ulcers, as more is known.

Lesions caused by many factors such as friction pressure - humidity - shear force - temperature - age and medication, to any part of the body, especially bone segments - such as bone, cartilage outer elbows - knees and ankles. Although in most cases, treatable and preventable in most cases weak - Seniors and wheelchair (especially where spinal injury is involved) is often fatal Decubitus (even Dht medical terms) and cause of death have been reported in developed countries. Nano Silver 4000 PPM for the treatment of solution concentration used was 50PPM .

Gender: Male

Age: 48 years

Cause: The spinal cord

Treatment duration: Less than a month

2011/6/25



2011/7/3



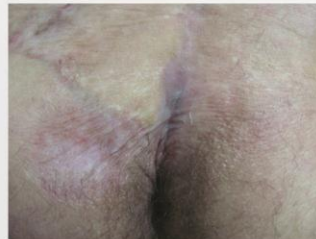
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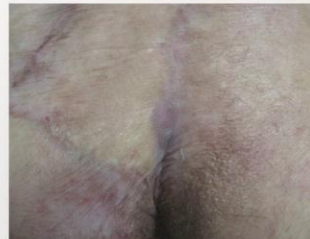
2011/7/11



2011/7/19



2011/7/22





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Decubitus

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Gender: Male

Age: 48 years

Cause: The spinal cord

Treatment duration: Less than a month

Treatment

after 4 day



after 6 day



after 7 day



after 8 day



after 10 day





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Decubitus

Decubitus, pressure ulcers, as more is known.

Lesions caused by many factors such as friction pressure - humidity - shear force - temperature - age and medication, to any part of the body, especially bone segments - such as bone, cartilage outer elbows - knees and ankles. Although in most cases, treatable and preventable in most cases weak - Seniors and wheelchair (especially where spinal injury is involved) is often fatal Decubitus (even Dht medical terms) and cause of death have been reported in developed countries. Nano Silver 4000 PPM for the treatment of solution concentration used was 15PPM .

Gender: Male

Age: 48 years

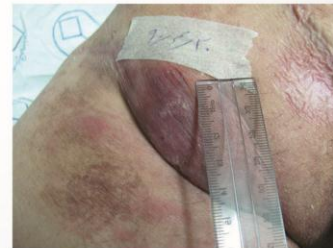
Cause: The spinal cord

Treatment duration: Less than a month

2011/7/6



2011/7/11



2011/7/22

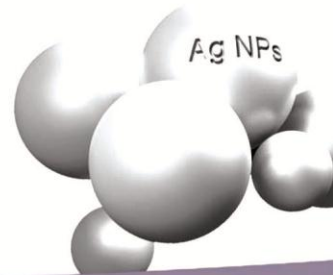


SILVER NANO-COLLOID

NANO ALVAND ARAD



NIVASHA
ANTI-MICROBIAL COLLOID



TECHNICAL FEATURES

A silver nanocolloid is a substance that consists of silver nanoparticles that do not dissolve, but remain in suspension. These particles are stabilized to allow the silver particles to remain suspended in water. These nanoparticles are larger than most molecules, but so small they cannot be seen by the naked eye.

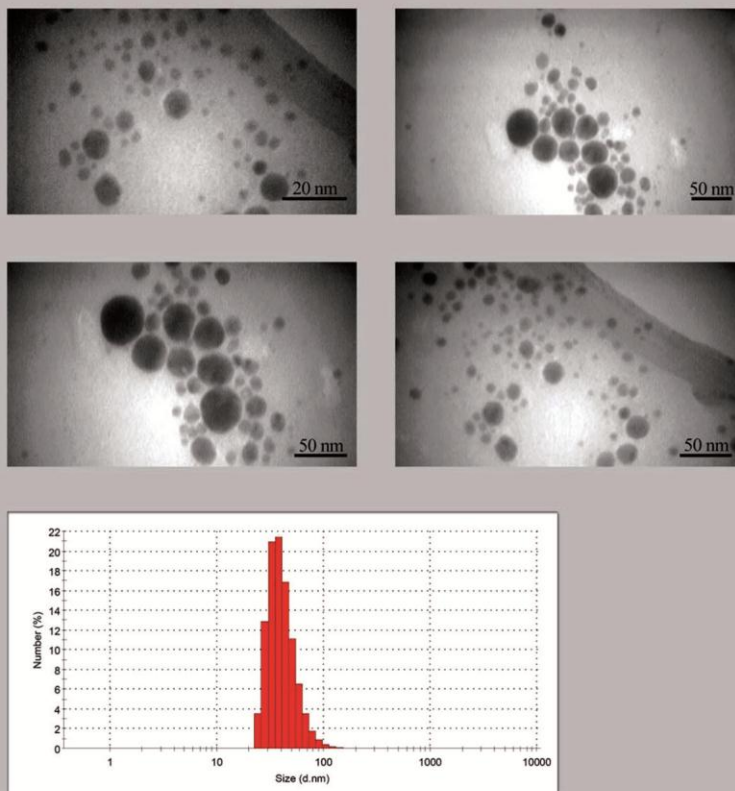
Particle size is a crucial factor. Much of the efficiency of the colloidal solution depends on the actual size and uniformity of silver particles. Particles that are too large are less effective.

The presence of colloidal silver near a virus, fungus, bacterium or any other single celled pathogen disables its oxygen metabolism enzyme, its chemical lung. Within a few minutes, the pathogen suffocates and dies, and is cleared out of the body by the immune, lymphatic and elimination systems. Unlike pharmaceutical antibiotics, which destroy beneficial enzymes, colloidal silver leaves these tissue-cell enzymes undamaged, as they are radically different from the enzymes of primitive single-celled life. Thus colloidal silver is partially safe for humans, reptiles, plants and all multi-celled living matter.

NIVASHA has less than 1% ionic silver and contains 99% of silver is in the form of metallic nanoparticles

CHARACTERIZATION

TEM Images and DLS Analysis Of Silver Nanocolloid



Ionic Silver vs Silver Nanoparticles

Colloidal silver contains silver in two distinctly different forms of silver nanoparticles and silver ions. When the water of colloid is evaporated the silver ions must combine with an available anion to form a compound which have minimum anti-bacterial properties. But Metallic silver particles retain the anti-bacterial properties of silver and thus protect the surface from bacterial growth. Therefore the percentage of silver nanoparticles is very important in silver colloids.

Elemental analysis of colloid before and after ultracentrifuge showed that NIVASHA has less than 1% ionic silver and contains 99% of silver is in the form of metallic nanoparticles.

Total Silver Content (ppm)	1250
Ionic Silver Content (ppm)	5
Metallic Silver Content (ppm)	1245
Metallic Nanoparticles (wt%)	99.6

techniques. Our applied method by using just one enzyme could distinguish between species of dermatophytes prevalent in Iran including *Trichophyton rubrum*, *Trichophyton mentagrophytes*, *Trichophyton tonsurans*, *Trichophyton violaceum*, *Trichophyton verrucosum*, *Trichophyton schoenleinii*, *Microsporum canis*, *Microsporum gypseum*, and *Epidermophyton floccosum* with the duration of shorter than one week.

Conclusion: The PCR and PCR-RFLP targeting the rDNA regions were rapid, stable, and convenient and it seems to be reliable tools for the etiological study of dermatophytosis.

Epidemiological study of *Leishmania major* infection in rodents of endemic regions in Fars province, south of Iran

Parhizkari M, Motazedian M.H., Hatam G.R

Department of Parasitology and Mycology, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran.

Introduction: Cutaneous Leishmaniasis is one of the most important parasitic diseases in Iran. In recent years, rural cutaneous Leishmaniasis has been one of the most challenging public health problems in Fars province and is categorized as zoonosis disease. This study seeks to determine the prevalence of the disease and identify the corresponding reservoir.

Materials and Methods: This research has been done to specify the genus and species of the rodents which were infected by parasite as the reservoir in 21 regions of Fars province. Rural cutaneous Leishmaniasis is common endemically. Specific PCR-based method was used for identification of the reservoir. 55 *Rattus norvegicus*, 3 *Meriones Persicus*, 1 *Meriones Libycus*, 64 *Tatera indica* and 13 *Mus munculus* have been studied.

Results: 29 *Rattus norvegicus*(52.73%), 3 *Meriones Persicus* (100%), 35 *Tatera indica* (54.68%) and 6 *Mus musculus*(46.15%) were infected with parasite.

Conclusion: Nowadays, the case of this disease is practically increasing because the cities are expanding and human being becomes as transmitters and reservoir foci of the disease. Most cases of Leishmaniasis are in unutilized rural areas and some suburbs. The houses which have been built of mud bricks and stone with low hygienic standards in addition to other habitual houses are proper locations for the mosquitoes and rodents to live and reproduce.

Therapeutic effects of Nanosilver Solution in the Treatment of Cutaneous Leishmaniasis in Balb/c.

Shirani Bidabadi, L⁽¹⁾, Doudi, M⁽²⁾, Ghahraman Tabrizi, N⁽¹⁾, Nilforoushzadeh, M.A⁽¹⁾, Moradi, SH⁽¹⁾, Zolfaghari Baghbaderani, A.⁽¹⁾

(1) Skin Diseases and Leishmaniasis Researches center (Sedigheh Tahereh), Medical Sciences/ University of Isfahan, Isfahan, Iran.

(2) Islamic Azad University, Science and Research Campus, Tehran, IR. Iran. Fax: 033532-20146.

(3) Skin Diseases and Leishmaniasis Research Center, Isfahan University of Medical Sciences, Research center & Training of leprosy and Skin Diseases, Department of Dermatology, Tehran University of Medical Sciences

(4) Skin Diseases and Leishmaniasis Research center (Sedigheh Tahereh), Medical Sciences/ University of Isfahan, Isfahan, Iran.

Introduction: Leishmaniasis is a parasitic diseases transmitted by sand - flies. Seventeen out of 30 Iranian provinces are contaminated. Although many therapeutic modalities have been suggested, no definite treatment for this wide spread infection is available. Many drugs currently used for cutaneous leishmaniasis have their side effects and create complications such as drug resistance. This has prompted researchers to become interested in some drugs for example Nanosilver particles.

Nanomaterials have different properties and one of them is Nanosilver that is famous for its antibacterial, antifungal and antiviral effects. Big silver metal particles, has little potency and used for jewelry products, but this metal when converted to very small particle, bactericidal properties are increased and used in antibacterial material. Size of nanoparticles are about 25 Nanometer. High surface tension of Nanosilver, inhibition with cell metabolism (Electronic), that inhibited from breath, growth, production of Bacteria, Fungi and so on. Advantages of using Nanosilver products are antibacterial, anti fungi, antiviral with low concentration and Nanosilver products have long resistance time. The aim of this study was to access the formulation of a drug without harmful chemical material and side effects.

Materials and Methods: This study is an experimental research in which, we used inbred; 16 female Balb/c mice aged 4-6 weeks. The mice provided by Iranian pastur Institute and were randomized into four groups each including four mice. They were treated with Nanosilver solution for 1.5 months spraying for one time daily on leishmaniasis of the mice. Group 1 to 4 were treated with pure water with Acidi pH, A, B, C, D solution with 5%, 10%, 20%, 35% concentration of Nanosilver.

Results: The results suggested that A solution of Nanosilver(35%) was significantly more effective in the

reduction of ulcer size. But we observed that B solution (20%) of Nanosilver can not reduce the ulcer size and it caused the increased ulcer size. C and D solution (5% & 10%) of Nanosilver were effective in reduction of ulcer size.

Conclusion: Our results suggest that Nanosilver solution is effective for the treatment of cutaneous leishmaniasis mice. Regarding these results, we suggest the efficacy of these solutions on topical and spraying application on Balb/c mice lesions.

Seroepidemiological Study on Visceral larva Migrants (VLM) by IFA Method in Patients Referred to the School of Public Health, Tehran University of Medical Sciences during (2000 – 2008).

Roohnavaz M.¹, Massoud J.¹

School of Public Health, Tehran University of Medical Sciences, Parasitology and Mycology Department.

Introduction: IFA is still being used as a suitable technique for the diagnosis of the most zoonotic diseases and VLM, caused by *Toxocara* species.

T. canis is the main agent for toxocariosis infection in humans particularly in children.

Materials and Methods: For the preparation of particulate antigens, an infected dog was autopsied and all *Toxocara* spp. from its small intestine were collected. After washing all the helminthes in PBS, species of isolated toxocara were identified by macroscopical and microscopical characteristics. All the collected *T. canis* were folded in ventral muscle of rabbit, then the tissue was cut into 5µ slices, put on microscopical slides and kept at - 20 °c. Based on IFA method, particulated antigens were tested by suspicious human serums (Dilution 1: 20) taken from the referred patients in our laboratory and fluorescent- conjugated anti human IgG antibody (Dilution 1: 10), respectively.

Results: Altogether, 1068 human serum samples were tested by IFAT of which 126 (11.79 %) were positive. 66 (52.38%) of the infected individuals were male and 60 (47.61%) of them were female. No statistically significant difference between the males and females was observed ($p = 0.53$).

Conclusion: VLM disease should be considered as a parasitic infection in Iran.

Human Cercarial Dermatitis: the Most Neglected of the Neglected Tropical Diseases in Mazandaran Province, northern Iran.

Fakhar M., Gohar-Dehi Sh., Madjidaci M.

Department of Parasitology and Mycology, School of Medicine, Mazandaran University of Medical Sciences, Sari

Introduction: Larvae (*ocellate furcocercariae*) of the avian schistosomes are known as the most important causative agents of human cercarial dermatitis (HCD), which is considered as an emerging disease in various parts of the world. HCD is characterized by a sudden onset of severe itchy monomorphic maculopapular skin eruptions affecting areas exposed to water. This study was aimed to investigate HCD in a village next to Feridoun-Kenar district where migrating birds naturally habitat each year in winter.

Materials and Methods: This study was conducted on paddy field workers close to man-made pond where habitat migrating birds come from May 2009 to July 2009. To detect HCD cases, the feet and hands of all the workers (n=600) were examined. Clinical signs and symptoms were recorded. Also, a total of 179 migrating ducks (*Anatidae* family) were hunted and then nasal blood vessels examined for detecting egg and/or adult worm of bird's schistosomes.

Results: 410 (68.3%) out of the 600 examined subjects had maculopapular on feet and/or hand (mainly on the feet). The majority of cases were adults and were indigenous. Thirty-seven (20.7 %) of the examined ducks, mainly *Anas clypeata* were found to be infected with *Trichobilharzia* spp.

Conclusion: Our results showed that cercarial dermatitis is the most common and most neglected disease in this village (it is considered as a new endemic focus) particularly during the summer months. As well, the migrating ducks play a main role in infesting man-made ponds. We suggest that the health education of the people specially rice farmers about the protection against cercarial skin penetration and the management measurements of avian schistosomiasis in the new endemic focus should be considered.

Evaluation of Dot Blots Immunoassay in the Detection of Leishmania Antigen within Naturally Infected Sand flies and Comparison with Culture and Dissecting methods

Nekouie H., Khamesipour A., Nayerreh H., Khabiri A.R.

Pasteur Institute of Iran Center for Research and Training in Skin Diseases and Leprosy

Leishmaniasis is a worldwide infectious disease. *Leishmania* spp is found in the tropical and subtropical



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