(54) Title: HERBAL COMPOSITION USEFUL FOR TREATMENT OR ORAL CAVITY AND A METHOD FOR ITS LOCAL DELIVERY THEREOF

(57) Abstract: An herbal composition useful for the treatment of periodontitis, gingivitis, oral mucositis, aphthous stomatitis, oral lichen planus and viral related stomatitis. This novel composition is comprising an effective dose of products from Hippophae Rhamnoides as an active component and with or without products of at least one of the group of Germanium plant, Polygonum Bistorta, Malaleuca Alternifolia and alcoholic solution of iodine in a pharmaceutically acceptable carrier adapted for topical delivery in oral cavity. The present invention also encompasses a method for the production of said composition and its use thereof.
HERBAL COMPOSITION USEFUL FOR TREATMENT OF ORAL CAVITY AND A METHOD FOR ITS LOCAL DELIVERY THEREOF

FIELD OF THE INVENTION

The invention relates to treatment products and method for treatment oral cavity related diseases by herbal composition. More particularly, the present invention relates composition comprising an effective dose of products from Hippophae Rhamnoides and products of at least one of the group of Geranium and especially Geranium Robertianum, Polygonum Bistorta, Melaleuca Alternifolia; and may comprise also effective amount of alcoholic solution of iodine in a pharmaceutically acceptable carrier adapted for oral topical delivery for the treatment for periodontitis, gingivitis, oral mucositis, aphthous stomatitis, oral lichen planus and viral related stomatitis.

BACKGROUND OF THE INVENTION

Diseases of oral cavity are prevalent and diverse, comprising periodontal disease (i.e., Periodontitis), and oral mucositis (stomatitis). These diseases of oral cavity are characterized with significant pain and with physical oral malfunctions; increase risk for local and systemic infections, and hence deteriorate quality of life.

Periodontitis is a plaque and bacteria-generated inflammatory condition of the periodontum, e.g., the tissue that surrounds and supports the teeth and gums (i.e., gingiva). The first stage of the periodontitis (i.e., gingival disease or gingivitis) is appeared at the alteration of the light-pink color of the firm, knife-edge normal gum, to a red and puffy gum, which bleeds readily when the teeth are brushed. The duration of this initial lesion is 2-4-days. Gingivitis may lead to more advance periodontitis states at a duration of about 2-3 weeks, comprising stages of bone resorption; epithelial cells degeneration; distraction of dento-gingival and alveolar crest fibers, and the formation periodontal-pockets.

Oral Mucositis (Stomatitis) lesions are of uncertain etiology (for background in U.S. Pat No. 6,080,395) and gradually heal within 7-10 days producing no scaring and may coincident with systematically toxicity. Stomatitis may be a cause of oral pain during treatment of cancer, wherein it is associated with complication of bone
marrow transplantation. Stomatitis was found to be more severe and of longer duration in patients with herpes simplex virus (HSV) reactivation. Recurrent HSV stomatitis occurs on the lips or as intraorally vesicles, which may rupture quickly leaving small ulcerations. Similarly, Aphthous stomatitis (canker sores) is characterized by the development of painful, recurring ulcerations of the oral mucosa lesions. Oral cavity diseases will be hence defined in this patent as at least one of the group of periodontitis, gingivitis, oral Mucositis, aphthous stomatitis, oral lichen planus and viral related stomatitis.

The treatment of chronic periodontitis includes scaling and root planning with antibiotic therapy. Nevertheless, increasing occurrence of allergic reactions and of autoimmune diseases in one hand and microorganisms’ increasing stability to conventional antibiotics on the other stimulates the development of novel pharmaceutical compositions, based on biochemicals of botanic origin. Other treatments comprise with the application of remedies that are far from be effective, as such as antibacterial agents (chlorhexidine for example), coating (milk of magnesia, kapectate etc.), analgesics (lidocaine) and antihistamines.

There are a number of over-the-counter medications for cold sores (fever blisters), cancer sores, oral ulcerations and the like, including BLISTEX™, ZILACTIN™, and CAMPHO PHENIQUE™. A prescription medication also available, under the trade mark ZOVIRAX™, which is effective when taken orally by interfering with replication of the HSV at the genetic level. However, none of these medications is very effective for local application.

Few patents concerning compositions for teeth and gum treatment disclosed the plant products as the treatment material (Pat. US 4,963,346, Pat. US 5,472,685, and Pat. US 5,980,870). Other patents concern with different chemical agents as treatment material for topical application in periodontal disease: Omega 3,20, 22 carbohydrates, hexa- unsaturated or penta-unsaturated fatty acids are disclosed in Pat. US 5,225,441; sulphated saccharide is disclosed in Pat. US 5240,710; gel composition for prevention and treatment gingivitis comprises ascorbic acid, copper sulfate disclosed on Pat. US 5,298,237, stabilized chlorine dioxide and phosphates for treatment abnormal conditions of the epithelium of bodily orifices disclosed in Pat. US 5,489,435.

Russian, Japanese and Chinese scientists were the first to prove oil of Sea Backthorn (i.e., Hippophae Rhamnoides) for burn treatment. Said oil was extracted,
usually in by solvent extraction systems, separation of the fresh juice and by carbon
dioxide supercritical fluid extraction from the berries, berries pulp and seeds.
Aforementioned oil was found to contain of ascorbic acid, flavonoids and in particular
kaempferol, carotinoids, and especially beta-carotene, gamma-carotene, lycopene, and
lipophyllic fractions, comprising oleic acid, isolinol acid, linolenic acid and stearic
acid. Hippophae Rhamnoides and its products, comprising extract or oil of the berries,
berries pulp and seeds, is defined in the present patent as “product from Hippophae
Rhamnoides” and can be acquired from official suppliers of natural botanic products,
such as “Henry Lamotte”, Germany; “Rich Nature Health Products”, USA;
“Yunipharm”, Russia etc.

SUMMARY OF THE INVENTION

It is the object of the present patent to provide an improved herbal composition useful
for the treatment of oral cavity related diseases is useful for treating at least one of the
group of periodontitis, gingivitis, oral mucositis, aphthous stomatitis, and viral related
stomatitis; comprising as an active ingredient an effective dose of products from
Hippophae Rhamnoides in a pharmaceutically acceptable carrier adapted for oral
topical delivery. Said composition may additionally comprising at least one of the
following substances: extract or oil from the following plants: Geranium and
especially Geranium Robertianum; Polygonum Bistorta; Melaleuca Alternifolia. The
composition may comprise also effective amount of alcoholic solution of iodine.

It is another object of the invention to provide an improved method for the
production of pharmaceutically acceptable carrier matrix adapted for topical delivery
in oral cavity, comprising an herbal composition as defined in one of previous claims,
comprising but not limited to the operations of extracting products of from Hippophae
Rhamnoides with oil, comprising but not limited to Wheat Germ oil; separating first
extract and admixing with fresh batch of products of Hippophae Rhamnoides in one
or more repetitions, effective admixing of efficient dose of said ingredients to form
the desired product.

It is still object of the present invention to provide an improved method for
treating oral diseases by a pharmaceutically acceptable carrier matrix adapted for oral
topical delivery comprising administrating an efficient dose of herbal composition
effective to treat oral diseases as described in pervious claims; immersing said matrix
the for an effective period of time for at least one day to three weeks; wherein each
day comprising of few sessions.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS OF THE
INVENTION

In accordance with the present invention, a new herbal composition has been
discovered and proved effective for the treatment of oral cavity related diseases, is
comprising as an active ingredient an effective dose of products from Hippophae
Rhamnoides, wherein said composition is additionally comprising at least one of the
following substances: Geranium plants, Polygonum Bistorta, Melaleuca Alternifolia,
and alcoholic solution of iodine. The composition is administrated in a
pharmaceutically acceptable carrier adapted for oral topical delivery have been
discovered and found to be very effective treating diseases and disorders at oral
cavity.

In one preferred embodiment of the present invention is the utilization of
products from Hippophae Rhamnoides, and more particularly, extracts or oil berries,
berries pulp, nectar or seeds of Hippophae Rhamnoides, in the range of 2 to 99
percent by weight of said composition. Best mode for the composition comprises 85
percent by weight of products from Hippophae Rhamnoides.

It is preferred embodiment of the present invention to utilize a mixture of
aforementioned products from Hippophae Rhamnoides with extract or oil of 0.5 to 20
percent by weight of extract or oil from at least one of the group of Strawberry
Geranium, Geranium Robertianum, Geranium Wilfordii, and Geranium Thunbergii.
More specifically, it is preferred to utilize 2 percent by weight of products from
Geranium Robertianum.

It is another preferred embodiment of the present invention to utilize a mixture
of aforementioned products from Hippophae Rhamnoides with extract or oil of 0.5 to
20 percent by weight of extract or oil from Polygonum Bistorta. Best mode for the
composition comprises 2 percent by weight of Polygonum Bistorta.

It is another preferred embodiment of the present invention to utilize a mixture
of aforementioned products from Hippophae Rhamnoides with extract or oil of 0.5 to
20 percent by weight of extract or oil from Melaleuca Alternifolia. Preferably, 2
percent by weight of Melaleuca Alternifolia should be used.
It is another preferred embodiment of the present invention to utilize a mixture of aforementioned products from Hippophae Rhamnoides with extract or oil of 0.05 to 0.2 (and preferably 0.1) percent by weight of alcoholic solution of iodine. Best mode for the composition comprises 0.1 percent by weight of said iodine solution.

In other preferred embodiment of the present patent is a method for the production of pharmaceutically acceptable carrier matrix adapted for topical delivery in oral cavity, comprising an herbal composition as defined in one of the previous claims, comprising but not limited to the operations of effective admixing of efficient dose of said ingredients to form the desired product in form of one of the group of solution, suspension, salve, past, powder, gel, cream, dental fixative, periodontal implant, chewing gum, chewable tablets, effervescent tablet, and lozenge.

In another preferred embodiment of the present patent is a method for treating oral cavity related diseases by a pharmaceutically acceptable carrier matrix adapted for oral topical delivery comprising administrating an efficient dose of herbal composition effective to treat oral diseases as described in previous claims; immersing said matrix the for an effective period of time onto affected tissue.

In another preferred embodiment of the present patent is a method as described above wherein the pharmaceutically acceptable carrier matrix adapted for said oral topical delivery is applying onto affected tissue for at least 1 to 21 days; wherein each day comprising of few sessions.

It is still preferred embodiment of the present patent is a method as described above, wherein the pharmaceutically acceptable carrier matrix adapted for oral topical delivery is useful for treating at least one of the group of periodontitis, gingivitis, oral mucositis, aphthous stomatitis, oral lichen planus and viral related stomatitis.

EXAMPLES

Five volume parts of Wheat Germ oil were mixed with tree volume parts of dry Sea Buckthorn (Hippophae Rhamnoides) fruits with and without seeds and vigorously admixed by means of mechanical blender in several intervals for period of 5 hours, wherein sedimentation was avoided. The mixture was than separated by means of press or centrifuge, and liquid fraction was hence collected, wherein first
phase was extracted. Five volume parts of said phase extract was mixed with three volume parts of a new batch of said dry fruits by means of mechanical blender for additional period of 5 hours, and again, sedimentation was prevented. The mixture was then transferred to a press for separation yielding the desired liquid fraction.

An herbal composition comprising 85% by weight of said oily extract from Hippophae Rhamnoides berries; 2% by weight of essential oil from Geranium Robertianum; 2% by weight of alcoholic Extract from Polygonum Bistorta; 2% by weight of essential oil from Melaleuca Alternifolia; 10% by weight of Cocoa oil as carrier and 0.1% by weight of alcoholic solution of Iodine was prepared.

EXAMPLE 1

Female 28 y.o., M+2. Dental status before treatment: Exacerbation of the chronic periodontitis after childbirth of the second child, accompanied by the changing of normal gut flora. Conventional treatment (scaling and root planning with antibiotic therapy) did not bring improvement during two weeks. Status at the beginning of the treatment with the disclosed method: Purulent gingivitis with the mobility of 4 and 5 tooth bilateral on maxilla. After scaling and root planning the disclosed therapy was started.

Individual devices for gingivae were manufactured according to vacuum splint sheeting technology, on a Sta-Vac™ vacuum-forming machine from transparent vinyl material (acquired from Discus Dental Ltd).

Internal surface of the individual device was covered with gel. Device was put on the patient’s maxilla for 4 hours. After 4 hours device was put off from the patient’s teeth. Its internal surface was dirty with excreted pus. The second treatment was during 8 night hours. During 10 days patient strictly followed same routine and administrated the device with the gel for 4 hours during the daytime and for 8 hours during the night. After the 10 days of treatment improvement was registered. Excretion of pus finished, inflammation diminished, Gingivae was pink but edematous. From the days 15 to 21 precipitation and regeneration of gingivae was noted. After 3 weeks of treatment: moving of the tooth disappeared, gingiva pink and firm, halitosis did not detect.
EXAMPLE 2

Female 28 y.o. Dental status before treatment: gingivitis of the maxilla of medium severity, halitosis. Treatment with spreading said gel article 4 to 5 times a day for 5 days. After the treatment pink and firm Gingiva, without halitosis occurrence was indicative for excellent therapy.

EXAMPLE 3

Male patient 58 y.o. Dental status before treatment: deficit of 7 teeth, Exacerbation of aphthous Stomatitis (cancer sores). Treatment consists of topical application of the medication 4 to 5 times at the lesion site. From the first application pain diminishing was noted. Complete resolution of the pain was evaluated on the third day of the treatment, and after a week of the treatment complete healing of the ulcerations was noted.
We claim:

1. An herbal composition useful for the treatment of oral cavity related diseases comprising as an active ingredient an effective dose of products from Hippophae Rhamnoides in a pharmaceutically acceptable carrier adapted for topical delivery in oral cavity, wherein said active ingredient is administrated in the range from 60 to 95 percent by weight.

2. A composition as described in claim 1 wherein said composition is additionally comprising at least one of the following substances:
   (a) 0.5-20 percent by weight of extract or oil from Geranium plant from at least one of the group of Strawberry Geranium, Geranium Robertianum, Geranium Wilfordii, and Geranium Thunbergii;
   (b) 0.5-20 percent by weight of extract or oil from Polygonum Bistorta;
   (c) 0.5-10 percent by weight of extract or oil from Melaleuca Alternifolia;
   (d) 0.05 – 0.2 percent by weight of alcoholic solution of iodine.

3. A method for the production of pharmaceutically acceptable carrier matrix adapted for topical delivery in oral cavity, comprising an herbal composition as defined in one of previous claims, comprising but not limited to the operations of extracting products of from Hippophae Rhamnoides with oil, comprising but not limited to Wheat Germ oil; separating first extract and admixing with sufficient dose of fresh products of Hippophae Rhamnoides in one or more repetitions, effective admixing of efficient dose of said ingredients to form the desired product.

4. A method for treating oral diseases by a pharmaceutically acceptable carrier matrix adapted for topical delivery in oral cavity comprising administrating an efficient dose of herbal composition effective to treat oral cavity related diseases as described in pervious claims; immersing said matrix for an effective period of time onto affected tissue.

5. A method as claim 4 wherein the pharmaceutically acceptable carrier matrix adapted for topical delivery in oral cavity is applying onto affected tissue for at least 1-21 days; wherein daily administration comprising of 1-3 sessions of 1-8 hours each.

6. A method as claims 4 wherein the pharmaceutically acceptable carrier matrix adapted for topical delivery in oral cavity is useful for treating at least one of
the group of periodontitis, gingivitis, oral mucositis, aphthous stomatitis, oral lichen planus and viral related stomatitis.