EAU de PHILAE

ACQUA DI COLONIA AGLI ESTRATTI DI PIANTE FRESCHE

L'Eau de Philae è un'Acqua di Colonia
alle piante officinali e ai fiori freschi
di altissima qualità, arricchita da essenze ed estratti
benefici, creata sulla base di un'antica ricetta rinvenuta
nell'isola egiziana di Philae.
Il risultato è una preziosa e purissima
Acqua di Colonia rinfrescante e tonificante
dalla delicata e fresca fragranza, dal bouquet fruttato
e dalle molteplici virtù.
Dedicata alla cura ed al benessere di tutta la famiglia,
idonea alla frizione del corpo, al massaggio circolatorio
e muscolare, al bagnetto dei più piccini,
agli arrossamenti della pelle, alle punture d'insetto.

ISBN 978-88-6673-018-7

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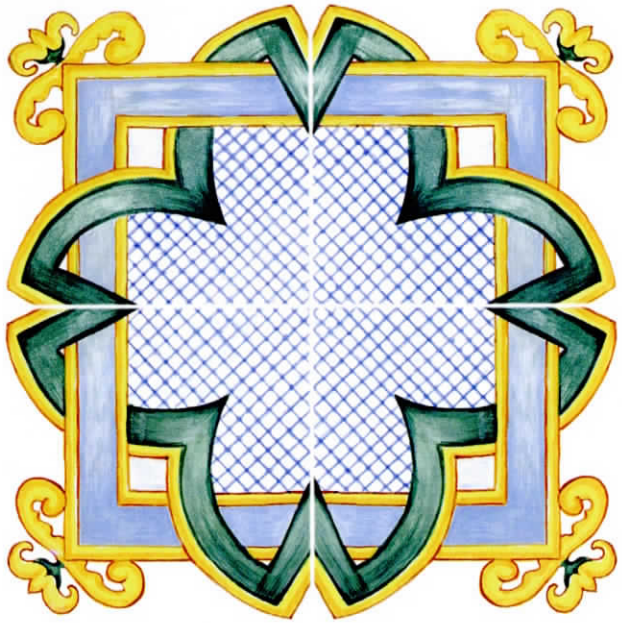

a cura di

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Nominato con Decreto Ministeriale del 21/11/1995 (800/A.G./23/3032) dal Ministero della Sanità -Direzione Generale Servizio Farmaceutico- come "Esperto" per la "Commissione per i Medicinali Omeopatici".

Nominato il 23/01/1990 (N.100.CSS/1.1.4/113) e il 5/07/1990 (N.100.CSS/1.1.4/1050) dal Ministero della Sanità come "Esperto" per la Commissione del Consiglio Superiore di Sanità -Sessione IV- riguardante "Prescrizioni e condizioni per la produzione e commercio di prodotti omeopatici".

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Nominato nel 2003 Esperto della "Formazione Continua in Medicina" del Ministero della Sanità-ECM per la "Valutazione culturale e scientifica degli eventi formativi".

EAU de PHILAE

Antinfiammatoria

Antibatterica

Antimicotica

Antivirale

Cicatrizzante

SalusInfirmorum

INTRODUZIONE

Era il lontano 1974 quando, ancora studente del secondo anno di Medicina, mi avvicinai al mondo delle cosiddette Medicine Alternative. Lessi per caso, sull'insegna di una Farmacia, in via del Corso a Roma, la parola Omeopatia. Entrai, chiesi informazioni e, sul consiglio del farmacista comprai, in verità senza troppa convinzione, una bottiglietta di Eau de Philae. Regalai questa soluzione di erbe medicinali a mia madre che rimase entusiasta del suo profumo e delle sue innumerevoli proprietà. Dopo pochi mesi decisi di consultare un medico omeopata che riuscì, con mia grande meraviglia, a risolvere il mio annoso problema di un eczema diffuso. Ben presto ho cominciato a studiare l'Omeopatia e le Bioterapie. Ho avuto la fortuna di poterle imparare da grandi Maestri e ho poi avuto la possibilità di insegnarle. Sono passati tanti anni da quell'incontro occasionale con la bottiglietta di Eau de Philae ma sempre ho avuto la convinzione, nella mia attività professionale e nell'insegnamento, che la diffusione maggiore delle cosiddette Medicine Alternative e la loro accettazione da parte del mondo Accademico passi attraverso una spiegazione che poggi su sicure ed inoppugnabili dimostrazioni scientifiche le quali siano in grado di interpretare modernamente la Tradizione.
In tale ottica si inquadra questo mio lavoro di interpretazione scientifica delle proprietà di Eau de Philae alla quale hanno fatto affidamento tanti miei pazienti.

Roma, Natale 2013. Valter Masci

PREFAZIONE

L'Eau de Philae è una soluzione alcolica alle piante officinali la cui formula si deve ad un noto maestro dell'Omeopatia, il dr. Chavanon, che ha operato in Francia tra gli anni trenta e gli anni sessanta lasciando in eredità numerose formulazioni di rimedi omeopatici ancora in uso per la loro indiscussa validità.

Secondo la tradizione il dr. Chavanon, per la formulazione dell'Eau de Philae, ha fatto riferimento ad una antica ricetta rinvenuta nell'isola egiziana di Philae, dove sorgeva il tempio di Iside, la dea della vita e della fertilità.
Ben conoscendo le proprietà medicinali delle piante e delle spezie in essa contenute, pensò di riformularla utilizzando al posto degli estratti di pianta, delle tinture madri e al posto delle spezie, degli oli essenziali, in modo da poterne garantire stabilità e standardizzazione.

Lo stesso Chavanon e altri eminenti omeopati francesi quali Levandon, Binet, Pommier hanno attribuito all'Eau de Philae numerose attività farmacologiche, confermate oggi da ricerche scientifiche.

Secondo la Tradizione l'Eau de Philae è una soluzione alcolica, a base di componenti vegetali, messa a punto dal dr. Chavanon sulla base di una antica formulazione rinvenuta nell'isola egiziana di Philae.
La sua delicata fragranza e l'azione sperimentata dei suoi principi naturali rendono l'Eau de Philae un ideale complemento nell'igiene personale quotidiana e come protettivo cutaneo.

Composizione essenziale

- Melilotus officinalis
- Bellis perennis
- Rosmarinus officinalis
- Lilium candidum
- Calendula officinalis

In base alla loro attività sperimentata dimostrata scientificamente gli estratti vegetali presenti nell'Eau de Philae possono essere indicati, per uso locale, come utile coadiuvante terapeutico:

- per contrastare le infiammazioni cutanee;
- per combattere le sovrapposizioni microbiche di patologie cutanee;
- per favorire la cicatrizzazione in caso di piccole lesioni cutanee (ferite ed ulcerazioni);
- dopo depilazioni e rasature;
- nel trattamento di piccole bruciature cutanee;
- come coadiuvante topico in caso di herpes simplex virus tipo 1;
- nell'igiene personale per merito della sua azione antibatterica, antimicotica, antivirale;
- nel trattamento degli edemi post-traumatici;
- nella protezione dai danni cutanei da raggi UV e da radioterapia;
- nel contrastare la fibrosi cutanea.

A seconda dell'impiego l'Eau de Philae può essere utilizzata, localmente, pura o diluita in 2/3 - 1/2 di acqua.

Note

Si consiglia di tenere il flacone di Eau de Philae lontano dalla portata dei bambini. In Letteratura scientifica sono riportati casi, seppure rarissimi, di dermatite allergica conseguente all'utilizzazione dermica di estratti vegetali di Calendula officinalis e di Rosmarinus officinalis.

Azione farmacologica delle piante e dei loro principi attivi presenti in Eau de Philae

Ha azione antinfiammatoria

Per merito della Calendula, per azione di composti della calendula glycoside che sono in grado di contrastare una infiammazione sperimentale provocata con (TPA) 12-O-tetradecanoylphorbol-13-acetate[4].

Per merito di Bellis, per azione dell'acido gallico[10] come testimoniato contro un edema provocato in animali da esperimento con lo zymosan dove agisce inibendo la funzione dei leucociti polimorfonucleati PMNs[12].

Per merito di Melilotus, per azione della scopoletina[3], la quale anche applicata localmente dimostra azione antinfiammatoria[1].

Ha azione antimicrobica

Per merito di Bellis, per azione dell'acido gallico, come dimostrato su 15 tipi di batteri[11].

Per merito di Rosmarinus officinalis che contiene cineolo e alfa-pinene, i quali sono attivi contro 13 tipi di batteri e contro il fungo Candida albicans[23]. Inoltre Rosmarinus officinalis è attivo contro lo Stafilococco aureus per azione del cineolo[21] ed è attivo contro l'Enterococco fecalis[22].

Per merito di Lilium candidum che ha netta azione, in vitro, contro virus Herpes Simplex Virus-tipo 1[18].

Ha azione cicatrizzante

Per merito della Calendula, come dimostrato su 34 pazienti affetti da ulcere varicose[6], la quale è in grado di riparare le ulcerazioni favorendo la proliferazione e la migrazione dei fibroblasti[7] e facendo aumentare nel granuloma cicatriziale il contenuto di idrossiprolina, il maggior componente delle proteine del collagene[8].

Per merito di Bellis, come dimostrato su ferite sperimentali in animali di laboratorio[9], per l'azione della quercetina[16].

Ha azione protettiva cutanea

Per merito di Bellis che è in grado di proteggere i danni cutanei da raggi UV riducendo il numero delle cellule Lagherans dell'epidermide[14] e che è protettiva anche delle radiodermiti[15].

Per merito di Rosmarinus officinalis che ha effetto protettivo contro il danno da raggi UV inibendo gli enzimi matrix metalloproteinase-1 (MMP-1) i quali tendono ad aumentare in seguito all'esposizione ai raggi UV[25]

Per merito di Lilium candidum che ha capacità antiossidante per merito della isorhamnetin rutinoside[19].

Per merito di Calendula che ha azione positiva contro i raggi ultravioletti (UV)[32] e nella prevenzione delle radio-epiteliti[33 34].

Ha azione tonica sulla cute

Per merito di Bellis che per la presenza della quercetina ha azione antifibrotica cutanea inibendo le matrix metalloproteinasi (MMP9)[13].

Ha azione sull'edema da bruciature cutanee e da traumi

Per merito di Melilotus che è efficace nell'edema da ingiuria termica attivando la fagocitosi[31] e che migliora il gonfiore post-traumatico di una frattura[25 26] per azione della cumarina che è in grado di stimolare la proteolisi tramite i fagociti[29].

Note

Si riportano qui di seguito gli usi più tradizionali dell'Eau de Philae:

a) diluito in acqua
- negli arrossamenti da pannolini del bambino e dell'anziano incontinente
- nell'igiene intima maschile e femminile

b) utilizzato puro
- dopo rasature e depilazioni
- nell'igiene del medico come disinfettante cutaneo
- nel trattamento di piccole patologie cutanee (ferite, ulcerazioni, bruciature, dermiti del sole)

Azione farmacologica specifica di ogni pianta presente in Eau de Philae

MELILOTUS OFFICINALIS. È stato dimostrato che l'estratto di Melilotus, somministrato sottocute prima o dopo una ingiuria termica provocata sperimentalmente sulla cute, ha effetto antinfiammatorio ed antiedemigeno[31]. Tale beneficio è da imputare sia alla presenza della scopoletina[3], la quale anche applicata localmente dimostra azione antinfiammatoria[1], sia alla presenza della cumarina che ha azione antidemigena. Infatti è stato visto che la somministrazione orale di estratti di Melilotus migliora il gonfiore post-traumatico di una frattura[25 26], e ciò avviene per merito della cumarina. Si può desumere che lo stesso effetto si può ottenere con l'applicazione locale di estratto di Melilotus perché il suo principio attivo più importante, la cumarina[3] applicata localmente è rapidamente assorbita attraverso la cute[27 28]. Ricordiamo che l'effetto positivo della cumarina nel migliorare l'edema presente in una bruciatura cutanea, nell'edema post-traumatico e nel linfedema è dovuto alla sua capacità di proteolisi conseguente all'iperafflusso di fagociti nella zona della lesione[29]. Da sottolineare che la cumarina usata localmente non è causa di fotoallergia[30].

Lavori scientifici riportati

1) Prudente A.S., et al. Pre-clinical anti-inflammatory aspects of a cuisine and medicinal millennial herb: Malva sylvestris. *Food Chem Toxicol. 2013 May 16;58C:324-331.*
Malva sylvestris has been used since ancient times for its emollient, laxative and anti-inflammatory properties, being extensively used as salads, soups and teas. The preset study alfidi the **topical anti-inflammatory action of M. sylvestris hydroalcoholic extract (HE)** and its compounds in mice ear inflammation caused by 12-O-tetradecanoylphorbol-acetate in mice. The LC-MS analysis of the HE confirmed the presence of alfidi tin, quercetin and alfidi 3-glucoside compounds in the HE of M. sylvestris. Topical application of

the HE reduced ear oedema, polymorphonuclear cells alfid (myeloperoxydase activity and histological analysis) and interleukin-1β levels in the tissue. The topical application of the compound present in the HE, alfidi 3-glucoside was also able to inhibit ear oedema and leukocytes migration. The other tested compounds, **alfidi tin, quercetin and alfidi 3,5-glucoside were able to prevent the formation of oedema and cell infiltration**, but with less effectiveness when compared to HE and alfidi 3-glucoside. Therefore, these results consistently support the notion that M. sylvestris alfi possesses topical anti-inflammatory activity, the compound alfidi 3-glucoside seems to be major responsible for this effect, with the participation of other anti-inflammatory compounds in the extract. Thus, as recommended by population, M. sylvestris can be used as a future treatment to skin disorders.

25) Chen Yang, et al. Clinical experience of melilotus extract for traumatic swelling of surgery. *Guangzhou Medical Journal 2002-06.*
To study the **efficacy of melilotus extract to symptomatic swelling** of surgery Methods: It controlled single blind randomized observation of 300 cases received Melilotus Extract, contrasted with 300 cases normal for observing swelling relief efficacy Results: **Melilotus Extract decreases traumatic swelling of surgery ahead 2~3 weeks with normal, adverse event was not obersverded in all cases** Conclusion: Melilotus Extract is safe and efficacy in treatment of traumatic swelling of surgery and the complaints associated with it.

26) LIN Cong-li, et al. Clinical observation of the curative effects of melilotus extract on limb swelling resulting from fractures of tibia and fibula. *Anhui Medical and Pharmaceutical Journal 2007-12.*
Aim To observe the curative effects and side effects of melilotus extract on limb swelling resulting from fractures of tibia and fibula. Methods the clinical data of 90 cases of fractures of tibia and fibula in our department from January, 2006 to June, 2007 were analyzed. Patients were averagely divided into three groups according to the use of drugs, i.e. the treatment group, control group and combination therapy group. The extinctive degree of limb swelling and treatment time were observed respectively. Results Melilotus extract and mannitol have the similar effects on extinction of limb swelling (P0.05). The curative effects of group with both melilotus extract and mannitol are superior to groups with melilotus extract or mannitol only. Conclusion Melilotus extract has effects on anti-exudation, improving microcirculation, promoting the recovery of wounds and effectively decreasing inflammation and pain. Its side effects are less than other drugs of the same kind. So melilotus extract has the curative effects on limb swelling resulting from fractures of tibia and fibula. Both melilotus extract and mannitol can be used together to treat limb swelling of medium and high degree.

27) Beckley-Kartey S.A., et al. Comparative in vitro skin absorption and metabolism of coumarin (1,2-benzopyrone) in human, rat, and mouse. *Toxicol Appl Pharmacol. 1997 Jul;145(1):34-42.*
The in vitro percutaneous absorption and skin metabolism of coumarin (1,2-benzopyrone) was studied in metabolically viable human, rat (F344), and mouse (CD1 and DBA/2) skin. Following application of [14C] coumarin (3.7 microg/cm2; 0.02% in ethanol) to unoccluded skin in flow-through diffusion cells of a skin absorption model (SAM), the **absorption through the skin into the receptor fluid at 72 hr was rapid and extensive** in all species, reaching (mean +/- SD) 50.4 + 9.1% of the applied dose in human, 51.3 +/- 7.3% in rat, and 44.9 +/- 13.5% in mouse. When the skin was occluded immediately after exposure, the extent of absorption at 72 hr was enhanced in all species. At 72 hr, substantial amounts of [14C] coumarin were found in unoccluded mouse skin (31.7 +/- 13.6%), with less in human (10.2 +/- 6.5%) and rat (12.7 +/- 5.0%) tissue. When occluded, the skin residues at 72 hr were 10.4 +/- 11.7% (mouse), 8.5 +/- 3.9% (human), and 11.9 +/- 7.5% (rat). The absorption of coumarin through rat skin into the receptor fluid over 72 hr was linearly related to the applied dose (r2 = 0.998 unoccluded skin; r2 = 0.999 occluded skin) over the dose range 3.7 to 378.7 microg/cm2. The nature and extent of cutaneous metabolism was studied following (i) topical application for 24 hr to human, rat, and mouse skin in the SAM system; (ii) incubation at 37 degrees C for up to 6 hr with human, rat, and mouse whole skin homogenates; and (iii) incubation at 37 degrees C for up to 24 hr with freshly isolated and cultured human epidermal keratinocytes. HPLC and GCMS analyses of skin extracts and receptor fluid confirmed that, in all three species, only the parent compound, coumarin, was present at all times from 10 min to 24 hr. **These data indicate that topically applied coumarin is rapidly and extensively absorbed through human, rat, and mouse skin, and that the compound remains metabolically unchanged during absorption. These observations may have implications for the safe and effective use of coumarin in consumer products which come into contact with the skin and as a topical therapeutic agent.**

28) Minghetti P., et al. Development of local patches containing melilot extract and ex vivo-in vivo evaluation of skin permeation. *Eur J Pharm Sci. 2000 Apr;10(2):111-7.*
Melilot extract could be effective in treating localised varicose syndrome or capillary fragility. The monolayer patch was selected to obtain a prolonged release of coumarin contained in the phytocomplex. Two types of methacrylic patches (patch 1 based on a blend of Eudragit E100 and Eudragit NE; patch 2 based on Eudragit L100) were prepared. Both patches were equivalent in terms of coumarin release and ex vivo skin permeation profiles. The two

patches differed significantly as regards respective adhesive properties. At low peel rate only patch 1 showed adhesive failure as confirmed by the in vivo performance. When comparing the behaviour of the patches containing melilot extract with analogous patches containing synthetic coumarin, no melilot phytocomplex enhancer effect was shown. **The data of the ex vivo coumarin skin permeation and those obtained by the in vivo stripping technique showed a good correlation (r(2)=0.9727 for patch 1, r(2)=0.9835 for patch 2).**

29) Piller N.B., Casley-Smith JR. The effect of coumarin on protein and PVP clearance from rat legs with various high protein oedemas. *Br J Exp Pathol. 1975 Oct;56(5):439-43.*
Coumarin (a benzo-pyrone) has been shown to bring about the **rapid removal of protein from normal or burnt tissues and from those with lymphoedema, with or without burning**. This was particularly evident when the removal of protein was compared with that of a non-metabolizable control-PVP. **The mode of action would seem to be by stimulation of proteolysis**. The fragments of protein could then rapidly leave the tissues because of their small size, their high diffusion coefficients and a concentration gradient which was directed from the tissues to the blood. In this way excessive amounts of protein would be removed, thus releasing the oedema fluid. The removal of non-metabolizable PVP was reduced with normal and burnt legs, possibly of stimulated phagocytosis. In the presence of lymphoedema there was a more rapid removal of PVP with coumarin; this was possibly a consequence of the great reduction of intercapillary distances resulting from the removal of oedema fluid.

30) Gerberick G.F., Ryan C.A. A predictive mouse ear-swelling model for investigating topical photoallergy. *Food Chem Toxicol. 1990 May;28(5):361-8.*
The photoallergic potential of various compounds was assessed using a mouse ear-swelling model, which offers the advantage of being quantifiable and more objective than models based on subjective evaluation of erythematous skin reactions. Cyclophosphamide pretreated BALB/c mice were induced by topical treatment of the dorsal skin surface on 3 consecutive days and challenged on the ears 5 days after the last induction. For each induction and challenge treatment, mice were consecutively irradiated with ultraviolet (UV) A (10 J/cm2) and UVB (45 mJ/cm2) radiation 30 min to 1 hr after test material application. The photoallergic response to musk ambrette, a known human photoallergen, was significantly augmented when three consecutive induction exposures were used as compared with one or two inductions. The photoallergic potential of nine other known human photoallergens (tetrachlorosalicylanilide, bithionol, 6-methylcoumarin, chlorpromazine, sodium omadine, bisphenol A, sulphanilamide, fentichlor and p-aminobenzoic acid) was successfully detected using the mouse model. In each experiment, the ear thickness changes observed in the photoallergy test mice were significantly greater than the changes observed in the contact allergy, vehicle/radiation and phototoxicity control mice. **Coumarin and homosalate, two agents not traditionally associated with causing photoallergy in humans or animals, did not demonstrate contact photoallergy using this model**. With three of the photoallergens, musk ambrette, bithionol and tetrachlorosalicylanilide, the ear swelling response obtained was due to photoallergy alone and not due to the co-existence of both contact photoallergy and contact allergy. In addition, irradiating mice 24 hr, rather than 1 hr, following application of the test material during the induction phase resulted in a significantly reduced photoallergic response with both musk ambrette and tetrachlorosalicylanilide. These results indicate that the mouse ear-swelling model is a potentially useful model for investigative and predictive photoallergy testing.

31) Nishikawa M., et al. [The suppressive effect of melilotus extract on the thermal edema of rats]. *Nihon Yakurigaku Zasshi. 1983 Mar;81(3):193-209.*
The **effect of melilotus extract (ME)** and Esberiven (ES) **which contain coumarin on the thermal edema**, which is one of high protein edema, was evaluated by both quantitative and qualitative assays. The **intraperitoneal injection of ME** immediately after burn greatly reduced the amount of swelling and effectively inhibited the occurrence of necrosis and induration in the injured leg-skin as compared with the saline controls in which a 3rd degree of thermal injury was observed. Administration of ES also induced a similar suppressive effect. Furthermore, **either intraperitoneal or subcutaneous local injection of ME** 4 hr before burn was effective in reducing the edema and thermal injury. No increase of the lymph flow and output of lymphocytes and protein from the thoracic duct lymph was observed in thermally injured rats given an injection of ME. **The massive infiltration of neutrophils and macrophages 6 to 24 hr after the subcutaneous injection of ME was histologically observed in the dermal lesion of normal rats**. Twenty-four hr later, macrophages, fibroblasts, and lymphocytes became predominant. The **present data taken together suggest that ME exerts the suppressive effect on thermal injury by either prior or post administration, and these effects might be induced in an indirect manner, through the action of phagocytic cells accumulated in the injured lesion**, not via lymphatic drainages of excess fluid and protein.

3) Farmacopee omeopatiche tedesca e francese.

CALENDULA OFFICINALIS. I principi attivi più importanti di Calendula officinalis sono degli oleanane-triterpeni glicosidi e più precisamente sono dei composti della calendulaglycoside[4], i quali esibiscono marcata attività antinfiammatoria dimostrata contro una infiammazione provocata da 12-O-tetradecanoylphorbol-13-acetate (TPA)[4]. È altrettanto interessante che Calendula mostra precisa azione cicatrizzante, come dimostrato su 34 pazienti affetti da ulcere varicose[6]. Calendula è in grado di riparare le ferite favorendo la proliferazione e la migrazione dei fibroblasti[7] e facendo aumentare nel granuloma cicatriziale il contenuto di idrossiprolina, il maggior componente delle proteine del collagene[8]. È anche importante ricordare l'azione positiva della Calendula contro i raggi ultravioletti (UV)[32] e nella prevenzione delle radio-epiteliti[33 34].

Lavori scientifici riportati

4) Ukiya M., et al. Anti-inflammatory, anti-tumor-promoting, and cytotoxic activities of constituents of marigold (Calendula officinalis) flowers. *J Nat Prod. 2006 Dec;69(12):1692-6.*
Ten ***oleanane-type triterpene glycosides***, 1-10, including four new compounds, calendulaglycoside A 6'-O-methyl ester (2), ***calendulaglycoside*** A 6'-O-n-butyl ester (3), calendulaglycoside B 6'-O-n-butyl ester (5), and calendulaglycoside C 6'-O-n-butyl ester (8), along with five known flavonol glycosides, 11-15, were isolated ***from the flowers of marigold (Calendula officinalis).*** Upon evaluation of compounds 1-9 for ***inhibitory activity against 12-O-tetradecanoylphorbol-13-acetate (TPA)-induced inflammation*** (1 microg/ear) in mice, all of the compounds, except for 1, exhibited marked anti-inflammatory activity, with ID50 values of 0.05-0.20 mg per ear. In addition, when 1-15 were evaluated against the Epstein-Barr virus early antigen (EBV-EA) activation induced by TPA, compounds 1-10 exhibited moderate inhibitory effects (IC50 values of 471-487 mol ratio/32 pmol TPA). Furthermore, upon evaluation of the cytotoxic activity against human cancer cell lines in vitro in the NCI Developmental Therapeutics Program, two triterpene glycosides, 9 and 10, exhibited their most potent cytotoxic effects against colon cancer, leukemia, and melanoma cells.

5) Radioza S.A., Iurchak L.D. [Antimicrobial activity of Calendula L. plants]. *Mikrobiol Z. 2007 Sep-Oct;69(5):21-5*. The sap of different organs of genus Calendula plant species has been studied for antimicrobial activity. The sap of racemes demonstrated the most expressed antimicrobial effect while that of the roots - the least one. Calendula species inhibited all tested ***pathogenic microorganisms, especially Pseudomonas syringae, P. fluorescens, Xanthomonas campestris, Agrobacterium tumefaciens. Calendula suffruticosa*** was the most active to all investigated microorganisms.

6) Duran V. , et al. Results of the clinical examination of an ointment with marigold (Calendula officinalis) extract in the treatment of venous leg ulcers. *Int J Tissue React. 2005;27(3):101-6.*
The aim of this study was to determine ***the therapeutic efficacy of marigold (Calendula officinalis) extract on the epithelialization of lower leg venous ulcers***. The experiment was carried out in 34 patients with venous leg ulcers. The patients were divided into two groups. In the first (experimental) group, patients were treated with an ***ointment containing marigold extract***, which was prepared in an apparatus devised by Soxleth and was incorporated into a neutral base. Twenty-one patients with 33 venous ulcers were treated. Therapy was ***applied twice a day for 3 weeks***. The second group was a control group that consisted of 13 patients with 22 venous ulcers. In the control group, saline solution dressings were applied to ulcers for 3 weeks. In the experimental group the total surface of all the ulcers at the beginning of the therapy was 67,544 mm2. ***After the third week*** the total surface of all the ulcers was 39,373 mm2 (***a decrease of 41.71%***). In seven patients, complete epithelialization was achieved. In the control group the total surface of all the ulcers at the beginning of the therapy was 69,722 mm2. After the third week the total surface of all the ulcers was 58,743 mm2 (a decrease of 14.52%). In four patients, complete ***epithelialization*** was achieved. There was a statistically significant acceleration of wound healing in the experimental group ($p < 0.05$). The results obtained are preliminary, but they suggest the positive effects of the ointment with marigold extract on venous ulcer epithelialization.

7) Fronza M., et al. Determination of the wound healing effect of Calendula extracts using the scratch assay with 3T3 fibroblasts. *Journal of Ethnopharmacology, Volume 126, Issue 3, 10 December 2009, Pages 463-467.*
Presentation of the scratch assay as a convenient and inexpensive in vitro tool to gain first insights in the wound healing potential of plant extracts and natural compounds.The present study deals with the optimization of the scratch assay which can be used as an in vitro model for quantification of fibroblast migration to and proliferation into the wounded area. It is suitable for the first evaluation of the wound re-epithelialization potential of crude herbal extracts, isolated compounds and pharmaceutical preparations. As a proof of concept three preparations from traditional medicinal plants were investigated. Swiss 3T3 albino

mouse fibroblasts were used in monolayers and platelet derived growth factor as positive control. ***Hexane and ethanolic extracts from Calendula officinalis*** and Matricaria recutita, Hypericum oil as well as the triterpenoids faradiol myristate and palmitate were studied. To differentiate between proliferation and migration antimitotic mitomycin C was added. ***Both extracts of Calendula officinalis stimulated proliferation and migration of fibroblasts at low concentrations, e.g. 10 microg/ml enhanced cell numbers by 64.35% and 70.53%, respectively***. Inhibition of proliferation showed that this effect is mainly due to stimulation of migration. Faradiol myristate and palmitate gave comparable stimulation rates at an almost 50 microg/ml concentration, indicating that they contribute partially, but not most significantly to the wound healing effects of Calendula preparations. Extracts from Matricaria recutita were only moderately active. Hypericum oil was cytotoxic at concentrations higher than 0.5 microg/ml. The scratch assay in the present form can be used as a promising scientific approach and platform to differentiate between plant extracts known for their wound healing and their anti-inflammatory properties.

8) Preethi K.C., Kuttan R. Wound healing activity of flower extract of Calendula officinalis. *J Basic Clin Physiol Pharmacol. 2009;20(1):73-9.*
The effects of oral and topical application of Calendula officinalis flower extract on excision wounds made in rats were checked. The parameters assessed were the days needed for re-epithelization and percentage of wound closure. The hydroxy proline and hexosamine content in the granuloma tissue of the wound was also measured. The ***percentage of wound closure was 90.0% in the extract-treated group***, whereas the control group showed only 51.1% on the eighth day of wounding ($p < .01$). The days needed for re-epithelization were 17.7 for the control animals; extract treatment at a dose of 20 or 100 mg/kg b.wt ***reduced the period to 14 and 13 days***, respectively. **A significant increase was observed in the hydroxy proline and hexosamine content** in the extract-treated group compared with the untreated animals. The data indicate potent wound healing activity of C. officinalis extract.

32) Mishra A.K., et al. A pilot study on in vitro evaluation of flowers of Calendula officinalis (L) as a natural anti-solar agent. *J Nat Pharm 2011;2:77-9.*
Ultraviolet (UV) radiation from the sun assists in vitamin D synthesis and various hormones production in the body system. However, the skin surface can actually suffer unfavorable results when it is exposed too long to the sun rays, chiefly if unprotected. It is mainly due to the harmful ultraviolet B (UVB) radiations of sunlight and these radiations may yield the skin related problems. The present study was designed to evaluate the UV absorption ability of aqueous and methanolic extract of *Calendula officinalis* keeping in view its possible application as an anti-solar agent. **Material and Methods**: The aqueous and methanolic extracts were prepared and the method was performed by UV visible spectrophotometry in range of 200- 400 nm for both the extracts. The aim of present study was to evaluate the anti-solar properties amongst the two extracts. **Results**: **Findings suggested that *C. officinalis* (L) methanolic extract exhibited a better anti-solar activity than that of the aqueous. Conclusion: From this, it was concluded that the methanolic extract from flowers of *C. officinalis* (L) may be used in various sunscreen formulations**.

33) Chargari C., et al. [Importance of local skin treatments during radiotherapy for prevention and treatment of radio-induced epithelitis.] *Cancer Radiother. 2009;13(4):259-66.*
Radio-epithelitis represents a common problem, for which treatments are characterized by a great heterogeneity. The present review of literature focuses on data referenced in Pubmed (©)/Medline(©) and published in French/English. Despite a real preclinical rationale, aloe vera and trolamine failed to demonstrate any benefit in the prophylactic settings. In a prospective assessment phase III assessment, ***Calendula Officinalis was shown to be superior to trolamine for the prevention of radio-epithelitis***. In the curative settings, sucrafalte failed to demonstrate any benefit. The benefit of dermocorticoids was suggested in terms of erythema and itching. Promising clinical results are available with hyaluronic acid (MA S065D and Ialugen) and silver leaf may reduce the intensity of cutaneous radio-induced side effects. Data from the literature are conflicting, making real the difficulty to adopt from clinical trials any proof-of-principle strategy. Considering these uncertainties, several strategies are allowed. New topics are under investigation. Present data from the literature highlight the need for further trials, in order to propose evidence-based treatments and to harmonize clinical practice.

34) Andrade M.D., et al. Prevention of skin reactions due to teletherapy in women with breast cancer: a comprehensive review. *Rev Lat Am Enfermagem. 2012 Jun;20(3):604-11.*
One of the possible courses of cancer treatment is teletherapy, and one of the most important adverse side effects are skin reactions, an ailment more commonly called radiodermatitis. The main purpose of this study is to analyze knowledge of the evidence about topical products used in the prevention of radiodermatitis, to support care delivery to women with breast cancer during teletherapy. The research method used here is the comprehensive literature review. Four databases were used to select the bibliography. The sample consists of 15 articles. ***The data shows that, among the topical products analyzed here, Calendula, corticosteroids and Xclair have shown significant protective effects***, underlining their actions. The lack of articles published in Brazil highlights the need for further research in this area, seeking better care quality through the use of products with scientifically proven efficiency.

BELLIS PERENNIS. Unguento di fiori di Bellis è stato valutato positivamente su ferite sperimentali provocate in animali di laboratorio[9]. Nei fiori individuate flavonoidi, tra cui la quercetina e fenoli, tra cui il più importante è l'acido gallico[10]. L'acido gallico ha azione antimicrobica, testimoniata contro 15 tipi di microrganismi[11], e possiede azione antinfiammatoria, testimoniata contro un edema provocato in animali da esperimento, poiché è in grado di interferire con l'attività dei polimorfonucleati[12]. La quercetina, applicata localmente, è efficace sulle ferite[16] ed inoltre ha dimostrato azione antifibrotica cutanea inibendo le matrix metalloproteinases (MMP9)[13] è in grado di proteggere la cute dai danni da raggi UV riducendo il numero delle cellule di Langherans dell'epidermide[14] ed è protettiva delle radiodermiti[15].

Lavori scientifici riportati

9) Karakaş F.P., et al. The evaluation of topical administration of Bellis perennis fraction on circular excision wound healing in Wistar albino rats. *Pharm Biol. 2012 Aug;50(8):1031-7.*
Bellis perennis L. (Asteraceae) has been used traditionally in the treatment of bruises, broken bones, and wounds by European people. To investigate the wound healing activity of B. perennis flowers in Wistar albino rats. ***Dried B. perennis flowers were extracted*** with ethanol, then fractioned with n-butanol and an oinment was prepared. ***Twelve male adult Wistar rats were used***. Six ***wounds were created for each animal*** by using circular excision wound model. The first two wounds were treated topically with HOTBp (hydrophilic ointment treatment containing n-butanol fraction). The second two wounds were control group and not treated with anything. The third two wounds were treated only with HOT (hydrophilic ointment treatment without n-butanol fraction). ***Treatments were applied once a day and lasted for 30 days***. Wound samples were excised on days 5th, 10th and 30th. The percentage of wound healing was calculated by Walker's formula after measurement of the wound area and the tissue samples were examined histopathologically. The ***percentages of wound closure (HOTBp: 100%; HOT: 85% and control: 87%)*** and histopathological observations showed that there were statistically significant differences between HOTBp, HOT and control groups ($p < 0.05$) at 30th day. Topically administered ointment prepared from the n-butanol fraction of B. perennis flowers has a wound healing potential without scar formation in circular excision wound model in rats. Thus, traditional usage of wound healing activity of B. perennis was scientifically verified for the first time.

10) Siatka T., Kašparová M. Seasonal variation in total phenolic and flavonoid contents and DPPH scavenging activity of Bellis perennis L. flowers. *Molecules. 2010 Dec 21;15(12):9450-61.*
Variations in ***total phenolic and flavonoid contents*** as well as antioxidant activity of ***Bellis perennis (common daisy) flowers*** were investigated. The flowers were collected monthly (from March to October, i.e., during the usual flowering season of the plant) at three localities in three different years. Total flavonoids were determined spectrophotometrically by two methods: by formation of a complex with aluminium chloride after acidic hydrolysis of flower extracts (method 1) and by reaction with boric and oxalic acids in extracts without their modification (method 2). Total phenolics were determined spectrophotometrically using the Folin-Ciocalteu reagent. The antioxidant activity was determined spectrophotometrically by a 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical scavenging assay. ***The contents of flavonoids varied from 0.31 to 0.44 mg quercetin*** equivalent/100 mg dry weight (method 1) and from 1.37 to 2.20 mg pigenin-7-glucoside equivalent/100 mg dry weight (method 2). ***Total phenolics ranged from 2.81 to 3.57 mg gallic acid*** equivalent/100 mg dry weight. The antioxidant activity expressed as IC(50) values varied from 66.03 to 89.27 μg/mL; it is about 50, 30, 20, and 10 times lower as compared with quercetin, ascorbic acid, Trolox®, and butylhydroxytoluene, respectively, and about five times higher in comparison with apigenin-7-glucoside. There is a significant correlation between antioxidant activity and total phenolics. No correlation between total flavonoid contents and antioxidant activity was observed. Contents of phenolics and flavonoids as well as antioxidant activity of daisy flowers vary to a relatively small extent during the year and are not dependant on the time of collection. Thus, the flowers possess comparable quality as to these characteristics over the whole flowering season of Bellis perennis. Effects of environmental factors on the amounts of secondary metabolites in plants are also discussed.

11) Stević T., et al. Antioxidant, cytotoxic, and antimicrobial activity of Alnus incana (L.) ssp. incana Moench and A. viridis (Chaix) DC ssp. viridis extracts. *J Med Food. 2010 Jun;13(3):700-4.*
Antioxidant, cytotoxic, and antimicrobial activities of leaves, bark, and cone extracts of Alnus incana (L.) Moench ssp. incana and endemic species A. viridis (Chaix) DC ssp. viridis were evaluated. All extracts were found to be strong 1,1-diphenyl-2-picrylhydrazyl free radical scavengers, exhibiting 50% inhibitory concentration (IC(50)) values of 3.3-18.9 microg/mL, and also showed

activity in inhibition of lipid peroxidation with IC(50) values ranging from 38.5 to 157.4 microg/mL. A. incana and A. viridis extracts exhibited significant cytotoxic effects toward HeLa cells, with IC(50) values ranging from 26.02 to 68.5 microg/mL. The most active extract of A. incana bark also contained great amounts of total ***phenolics (316.2 mg of gallic acid equivalents/g).*** In our experiment all extracts were virtually nontoxic on brine shrimps. Extracts were ***screened for activity against 15 microorganisms, and all extracts investigated showed antimicrobial activity***. The most active were dry extracts of cones of A. incana and A. viridis with minimum inhibitory concentration values ranging from 0.117 to 0.129 mg/mL.

12) Kroes B.H., Van den Berg A.J. Anti-inflammatory activity of gallic acid. *Planta Med. 1992 Dec;58(6):499-504.*
Quarles van Ufford, H. van Dijk, R.P. Labadie. ***Gallic acid was found to possess antiinflammatory activity towards zymosan-induced acute food pad swelling in mice. In vitro studies on the mode of action of gallic acid revealed that this compound interferes with the functioning of polymorphonuclear leukocytes (PMNs).*** Scavenging of superoxide anions, inhibition of myeloperoxidase release and activity as well as a possible interference with the assembly of active NADPH-oxidase may account for the inhibition of inflammatory process by gallic acid. Structure-activity relationship analysis showed that the o-dihydroxy group of gallic acid is important for the inhibitory activity in vitro.

13) Yoon J.S., et al. Antifibrotic effects of quercetin in primary orbital fibroblasts and orbital fat tissue cultures of Graves' orbitopathy. *Invest Ophthalmol Vis Sci. 2012 Aug 31;53(9):5921-9.*
We investigated the effects of quercetin on fibrotic markers and matrix metalloproteinases (MMPs) in primary cells and whole orbital tissues from Graves' orbitopathy (GO). Orbital fat tissues were harvested from GO for primary cell and tissue cultures during orbital fat decompression. To determine noncytotoxic dose and time of quercetin treatment, 3-(4,5-dimethyl-thiazol-2-yl)-2,5-diphenyl-tetrazolium bromide (MTT) assay and LDH release assay were performed. ***The effects of quercetin on fibrosis were evaluated according to a scratch wound closure assay***, and Western blotting for expression of fibronectin, collagen Iα, α-smooth muscle actin with or without TGF-β stimulation, and MMP-2, -7, -9, and tissue inhibitor of metalloproteinase-1 with or without IL-1β stimulation. The gelatinolytic activities of MMP-2 and MMP-9 were measured using gelatin zymography. In tissue cultures, MMP secretion and MMP and collagen Iα mRNA levels were determined by enzyme-linked immunosorbent assays and reverse transcription-polymerase chain reaction (RT-PCR), respectively. Quercetin significantly inhibited cell migration at nontoxic concentrations. In primary cells, quercetin dose-dependently downregulated expression of TGF-β-stimulated fibronectin and collagen Iα, and IL-1β-enhanced MMP-2 and MMP-9. However, without IL-1β stimulation, 10-50 μM of ***quercetin increased MMP-2 expression and activity***, but dose-dependently suppressed MMP-9 expression and activity. In tissue cultures, quercetin dose-dependently inhibited MMP-2 and -9 activity and secretion, but ***30 and 50 μM of quercetin increased tissue MMP-2 mRNA***. MMP-9 and collagen Iα mRNA levels were dose-dependently suppressed. Quercetin inhibited fibrotic markers and affected MMP-2 and MMP-9 activities in primary cell and orbital fat tissue cultures from GO at nontoxic concentrations. ***Our results support the potential use of quercetin for active inflammation and treatment or prevention of chronic fibrosis in GO.***

14) Steerenberg P.A., et al. Quercetin prevents UV-induced local immunosuppression, but does not affect UV-induced tumor growth in SKH-1 hairless mice. *Photochem Photobiol. 1997 Apr;65(4):736-44.*
Ultraviolet is thought to induce skin tumors by its dual activity as a mutagenic agent and a suppressor of cell-mediated immunity. ***In the present study the effects of quercetin, a flavonoid-containing compound, on carcinogenesis and immunosuppression were studied in SKH hairless mice exposed to suberythemal doses of UV for up to 17 weeks***. It was found that quercetin did not affect the onset or growth of non-melanoma skin tumors resulting from UV exposure. In contrast, ***it prevented the suppression in contact hypersensitivity (CHS) to picryl chloride induced by UV. The mechanism of this prevention might be explained by the observation that the decreased number of epidermal Langerhans' cells is partly prevented by the quercetin***. Quercetin did not alter the effects of UV in increasing numbers of spleen and lymph node cells, only partly in decreasing the CD8-positive cells in spleen cell populations and decreasing the lymphoproliferative response of spleen cells to the mitogens concanavalin A and phytohemagglutinin. Thus oral quercetin did not prevent UV-induced carcinogenesis although it restored the skin-associated CHS response probably by protecting the antigen-presenting cells in the skin.

15) Rozenfel'd L.G., et al. [The possibilities of protection against local radiation injuries in ORL-oncologic patients]. *Vestn Otorinolaringol. 1990 Mar-Apr;(2):56-8.*
Quercetin granules and gel were used to provide local protection in 64 ENT-cancer patients given radiotherapy. The highest effect was obtained as a result of a combined (per os and topical) application of quercetin throughout the entire radiotherapy course. The use of quercetin granules to treat acute radiation-induced epithelitis was effective and allowed radiotherapy to be completed.

16) Timofeev A.A., et al. [The use of quercetin granules for treating suppurative soft-tissue wounds of the maxillofacial area and neck]. *Stomatologiia (Mosk). 1989 Nov-Dec;68(6):11-3.*

Wound-healing effect of quercetin granules was examined in 20 experimental animals and in 90 patients with suppurative-inflammatory diseases of the maxillofacial and cervical soft tissue. The results ***evidence anti-inflammatory and wound-healing effects of quercetin granules used as 20% gel***.

17) Gomathi K., et al. Quercetin incorporated collagen matrices for dermal wound healing processes in rat. *Biomaterials. 2003 Jul;24(16):2767-72*.
We have been developing antioxidants incorporated collagen matrix as a novel biomaterial for various biomedical applications. In this study we made use of quercetin incorporated collagenous matrix for dermal wound healing in rat. Quercetin incorporated collagen (QIC) treated groups were compared with control and collagen (CS) treated animals. QIC treated animal showed a better healing when compared to control and CS treated wound. The biochemical parameters like hydroxyproline, protein, uronic acid content in the healing wound, revealed that there is an increase in proliferation of cells in quercetin treated groups when compared to CS group and there is considerable increase in wound contraction when compared to CS treated group. In addition we adapted the antioxidant assay using 2,2'-azobisisobutryonitrile (AIBN) to assess in vitro antioxidant activity of QIC. The antioxidant studies indicate QIC quench the radicals more efficiently. ***These results suggested that quercetin incorporated collagen matrix could be a novel dressing material for dermal wound healing***.

LILIUM CANDIDUM. Nella tradizionale popolare era utilizzato contro herpes zoster[20]. Attualmente è stata dimostrata in vitro netta azione contro virus Herpes Simplex Virus-1[18]. inoltre ha capacità antiossidante per merito della isorhamnetin rutinoside[19].

Lavori scientifici riportati

18) Yarmolinsky L., et al. Antiviral activity of ethanol extracts of Ficus binjamina and Lilium candidum in vitro. *N Biotechnol. 2009 Dec 31;26(6):307-13*.
The antiviral activity of plant ethanol extracts against Herpes Simplex Virus-1 and -2 (HSV-1 and HSV-2) and Varicella-Zoster Virus (VZV) was investigated in vitro. Ficus binjamina, resistant to plant viruses, and Lilium candidum, which has a high susceptibility to plant viruses were used. Leaf extracts of F. binjamina inhibited all studied viruses, while its fruit extracts inhibited only VZV. **L. candidum leaf** extracts had no effect on VZV but **strongly inhibited HSV-1** and slightly HSV-2. None of the extracts showed significant cytotoxic effect on uninfected Vero cells even at a concentration of 250 microg/ml (CC(50)>400 microg/ml). The greatest antiviral effect was obtained when extracts were added to cells at the time of infection, whereas a partial inhibitory effect was observed when they were added post-infection. There was indirect evidence for strong interactions between the plant extracts and the viruses and weak interactions with the cell surface.

19) Mucaji P., et al. [Constituents of Lilium candidum L. and their antioxidative activity]. *Ceska Slov Farm. 2007 Jan;56(1):27-9*.
The paper deals with the separation and identification of a flavonoid glycoside from the petals of Lilium candidum L. and the antioxidative properties of the ethanolic extract of the flowers and selected compounds isolated from this species. The isolated flavonoid glycoside was identified as **isorhamnetin-3-O-rutinoside** by acid hydrolysis, TLC comparison with authentic samples, and UV and mass spectra. Isorhamnetin rutinoside was isolated from Lilium candidum L. for the first time. The antioxidative activity of the ethanolic extract of the flowers and some isolated compounds were determined using DPPH assays.

20) Pieroni A. Medicinal plants and food medicines in the folk traditions of the upper Lucca Province, Italy. *J. Ethnopharmacol. 2000 Jun;70(3):235-73.*
An ethnopharmacobotanical survey of the medicinal plants and food medicines of the northern part of Lucca Province, north-west Tuscany, central Italy, was carried

out. The geographical isolation of this area has permitted the survival of a rich folk phytotherapy involving medicinal herbs and also vegetable resources used by locals as food medicine. Among these are the uncommon use of Ballota nigra leaves as a trophic protective; the use of Lilium candidum bulbs as an antiviral to treat shingles (Herpes zoster); Parmelia sp. as a cholagogue; Crocus napolitanus flowers as antiseptic; Prunus laurocerasus drupes as a hypotensive; and the consumption of chestnut flour polenta cooked with new wine as bechic. Many wild gathered greens are eaten raw in salads, or in boiled mixtures, as 'blood cleansing' and 'intestine cleansing' agents. Of particular interest is the persistence of the archaic use of Bryonia dioica root against sciatica, and the use of ritual plant therapeuticals as good omens, or against the 'evil eye.' Over 120 species represent the heritage of the local folk pharmacopoeia in upper Garfagnana. Anthropological and ethnopharmacological considerations of the collected data are also discussed.

ROSMARINUS OFFICINALIS. L'olio essenziale ha dimostrato azione antibatterica contro Staphylococcus aureus[21] e contro Enterococcus faecalis[22] per merito del cineolo e dell'alfa-pinene che sono attivi contro tre batteri Gram-positivi (Staphylococcus epidermidis, Staphylococcus aureus e Bacillus subtilis), tre Gram-negativi bacteria (Proteus vulgaris, Pseudomonas aeruginosa ed Escherichia coli) e due funghi (Candida albicans ed Aspergillus niger)[23]. Inoltre Rosmarinus ha effetto protettore contro il danno da raggi UV inibendo le matrix metalloproteinase-1 (MMP-1)[24].

Lavori scientifici riportati

21) Gomes Neto N.J., et al. Rosmarinus officinalis L. essential oil and its majority compound 1,8-cineole at sublethal amounts induce no direct and cross protection in Staphylococcus aureus ATCC 6538. *Foodborne Pathog Dis. 2012 Dec;9(12):1071-6.*
In **this study, the inhibitory efficacy of Rosmarinus officinalis essential L. (ROEO) and 1,8-cineole (CIN) in inhibiting the growth and survival of Staphylococcus aureus ATCC 6538** and the induction of direct and bacterial cross protection (lactic acid pH 5.2; NaCl 100 g/L; high temperature 45°C) were evaluated following exposure to sublethal and increasing amounts of these treatments in meat broth. All of the concentrations of the ROEO and CIN examined in this study (minimum inhibitory concentration [MIC], 1/2 MIC, and 1/4 MIC) inhibited the viability of S. aureus throughout the 120 min of exposure. The overnight exposure of S. aureus to sublethal amounts of both ROEO or CIN in meat broth did not result in direct or cross protection. Cells progressively subcultured (24-h cycles) in meat broth with increasing amounts of ROEO or CIN showed no increased direct tolerance. These **results reveal the antimicrobial efficacy of ROEO and CIN for use in food conservation systems as anti-S. aureus compounds given their efficacy at inhibiting bacterial growth**, in addition to their lack of induction for the development of homologous and heterologous resistance.

22) Brito-Júnior M., et al. Antibacterial activity of a plant extract and its potential for disinfecting gutta-percha cones. *Acta Odontol Latinoam. 2012;25(1):9-13.*
This study evaluated the antibacterial activity of Rosmarinus officinalis extract and its potential for disinfecting guttapercha (GP) cones. In the first experiment, a hydro-alcoholic extract of Rosmarinus officinalis (leaves) in a

dilution ratio of 10% m/v was tested against Enterococcus faecalis by using the disk diffusion method. Positive and negative controls were 70% cereal alcohol and antibiotics, respectively. The procedures were performed in triplicate, and the diameters of the zones of growth inhibition were measured with a caliper after 24 h at 37 degrees C. In the second experiment, the disinfection procedures were evaluated on GP cones artificially contaminated with Enterococcus faecalis. The R. officinalis extract was compared with 2% chlorhexidine digluconate and 2.5% sodium hypochlorite, using a direct exposure test (5 min treatment). Sterilized and non-disinfected cones were used as negative and positive controls, respectively. After 24 h of incubation, bacterial counts were taken. For both experiments, the data were statistically analyzed by Kruskall-Wallis and Tukey's tests ($p < 0.05$). The plant extract produced zones of inhibition comparable to those of tested antibiotics. Significant GP cone disinfection was verified with all disinfectant solutions, with no significant difference between them. **R. officinalis extract showed bactericidal effect on Enterococcus faecalis** and capacity to disinfect GP cones contamined with it.

23) Jiang Y., et al. Chemical composition and antimicrobial activity of the essential oil of Rosemary. *Environ Toxicol Pharmacol. 2011 Jul;32(1):63-8.*
The composition of the essential oil of Rosemary was analyzed by gas chromatography-mass spectrometry (GC-MS). 22 components, which constitute 97.41% of the oil, were identified. **The major constituents were 1,8-Cineole (26.54%) and α-Pinene (20.14%).** Minimum inhibitory concentrations (MICs), minimal bactericidal concentration (MBC) and time-kill dynamic processes **against three Gram-positive bacteria (Staphylococcus epidermidis, Staphylococcus aureus and Bacillus subtilis), three Gram-negative bacteria (Proteus vulgaris, Pseudomonas aeruginosa and Escherichia coli) and two fungi (Candida albicans and Aspergillus niger)** were determined for the oil, 1,8-Cineole and α-Pinene. The oil showed pronounced antibacterial and antifungal activity than 1,8-Cineole and α-Pinene against all of the tested microbes. Furthermore, the survival rates and morphological changes of S. aureus after treatment with different concentrations of the essential oil were assessed by flow cytometry (FCM) and atomic force microscopy (AFM).

24) Martin R., et al. Photoprotective effect of a water-soluble extract of Rosmarinus officinalis L. against UV-induced matrix metalloproteinase-1 in human dermal fibroblasts and reconstructed skin. *Eur J Dermatol. 2008 Mar-Apr;18(2):128-35.*
Chronic UV exposure is responsible for long term clinical manifestations such as photoaging and photocancers. One of the major events involved in the development of skin photodamage is up-regulation of matrix metalloproteinase-1 (MMP-1). In this study, the effects of a water-soluble extract of Rosmarinus officinalis (Ro) on the expression of UV-induced MMP-1 were investigated. Using MMP-1 promoter-reporter gene constructs, Ro extract was shown to inhibit UV-induced up-regulation of MMP-1 gene transcription. The anti-MMP-1 effect was confirmed at the protein level in dermal human fibroblasts exposed either to UVB, UVA or Solar Simulated Radiation. Zymographic analysis on casein and gelatin gels revealed that Ro extract more specifically targeted MMP-1 compared to MMP-2. Using a 3D-skin model exposed to Solar Simulated Radiation, anti-MMP-1 activity was confirmed together with a photoprotective effect at the morphological level. Finally the release of cytokines IL1alpha and IL6 which participate in the up-regulation of MMP-1 induced by UV exposure could be prevented by the Ro extract. All together, from molecular to tissue level, these results illustrate the ability of the **Ro water-soluble extract to inhibit UV-induced MMP-1** and its potential benefits in preventing cutaneous photodamage.

Usi tradizionali
(a cura del redattore)

Accanto alle attività indicate dal prof. Masci, sono tradizionalmente ascrivibili all'Eau de Philae, altri usi.

Un interessante campo di applicazione dell'Eau de Philae è nella Medicina dello sport, l'uso nei massaggi contribuisce a ridurre la stanchezza e a calmare il dolore muscolare.

In Pediatria l'Eau de Philae, diluito nell'acqua del bagnetto, esplica al meglio la sua azione lenitiva contribuendo a ridurre gli arrossamenti del bimbo.

L'Eau de Philae è da tempo usata come cosmetico; la sua delicata fragranza e l'azione tonico-emolliente dei principi naturali contenuti la rendono ideale complemento dell'igiene.
Può essere usato come dopobarba o, diluito, come detergente intimo. Diluito al 50% è un efficace deodorante.

In campo estetico, nel trattamento della cute dopo elettrocoagulazione, depilazione ecc., l'utilizzo di Eau de Philae contribuisce ad evitare arrossamenti ed a favorire la cicatrizzazione.

Dalla lettura di alcuni manuali di terapia omeopatica troviamo inoltre altre indicazioni: Disinfettante, Cicatrizzante ed Antinfiammatorio in caso di: Eczemi, Herpes, Piodermiti, Punture di insetti, Screpolature, Tagli e Vesciche.
Antitraumatico, in caso di: Contusioni, Distorsioni, Ematomi traumatici.
Detergente, in caso di: Acne, Crosta lattea, Impetigine, Ulcere varicose.
Tonificante, in caso di Stanchezza muscolare, Geloni e Reumatismi.

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13) Yoon J.S., et al. Antifibrotic effects of quercetin in primary orbital fibroblasts and orbital fat tissue cultures of Graves' orbitopathy. *Invest Ophthalmol Vis Sci. 2012 Aug 31;53(9):5921-9*

14) Steerenberg P.A., et al. Quercetin prevents UV-induced local immunosuppression, but does not affect UV-induced tumor growth in SKH-1 hairless mice. *Photochem Photobiol. 1997 Apr;65(4):736-44.*

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Finito di stampare nel mese di Marzo 2014

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