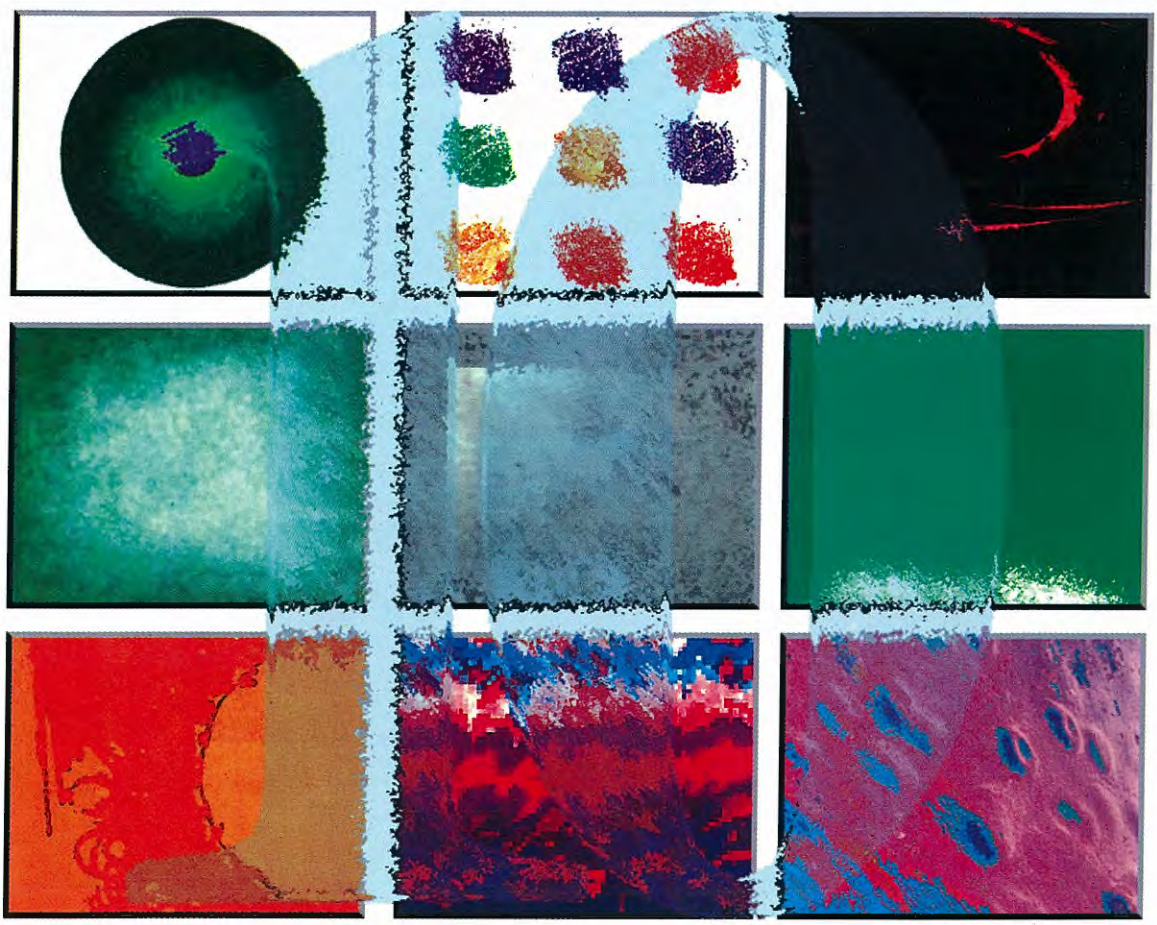
journal of applied cosmetology

1



1983 - 1992: 10 years

Official Journal of International Society of Cosmetic Dermatology

INTERNATIONAL EDIEMME

Volume 10 - Number 1
January-March 1992
ISSN 0392-8543 Sped. abb. post. IV°70

DEODERM
CREMA

DEODORANTE DELICATO ATTIVO NELLE IPERIDROSI

PRIVO DI ALCOOL, CONSERVANTI E PROFUMI

mavi

La Ricerca scientifica nella Dermocosmesi

Per Campioni Medici e Documentazione Scientifica scrivere a:

Mavi Sud S.r.l. - Direzione Propaganda Medica - Viale dell'Industria, 1 - 04011 Aprilia (LT)

La forza dell'Avena colloidale diventa specifica per ogni zona del corpo.

I prodotti di igiene e dermatologia della linea naturale Aveeno si basano sulle proprietà dell'avena colloidale, note da millenni e oggi confermate dalle più attuali ricerche cliniche.

I granuli d'avena colloidale assorbono ed adsorbono solo le impurità superficiali, lasciando la pelle pulita, il film idrolipidico integro ed il pH a livelli fisiologici.

Inoltre l'avena residua esercita sulla cute un'importante azione lenitiva, idratante ed emolliente che non interferisce con l'eventuale uso di farmaci.

Perciò Aveeno garantisce un'efficace azione idratante per la pelle secca, protettiva per quella normale, delicata per la cute dei bambini, preventiva e coadiuvante per la pelle micotica e seborroica.

La forza dei prodotti Aveeno, nelle diverse formulazioni, diventa specifica per ogni esigenza di igiene personale, ogni zona del corpo e ogni tipo di paziente dermatologico.

AVEENO OLEATO
EMULAVE FLUIDO
EMULAVE BARRA

AVEENO NORMALE
AVEENO INTIMO
AVEENO CREAM
AVEENO BAR
AVEENO OLIO PER BAGNI

AVEENO BAMBINI
AVEENO LATTE DETERGENTE
NORMAVEEN SHAMPOO
AVEENO DERMO-OLIO
AVEENODERM

ACNAVEEN FLUIDO
ACNAVEEN BARRA
SEBAVEEN SHAMPOO

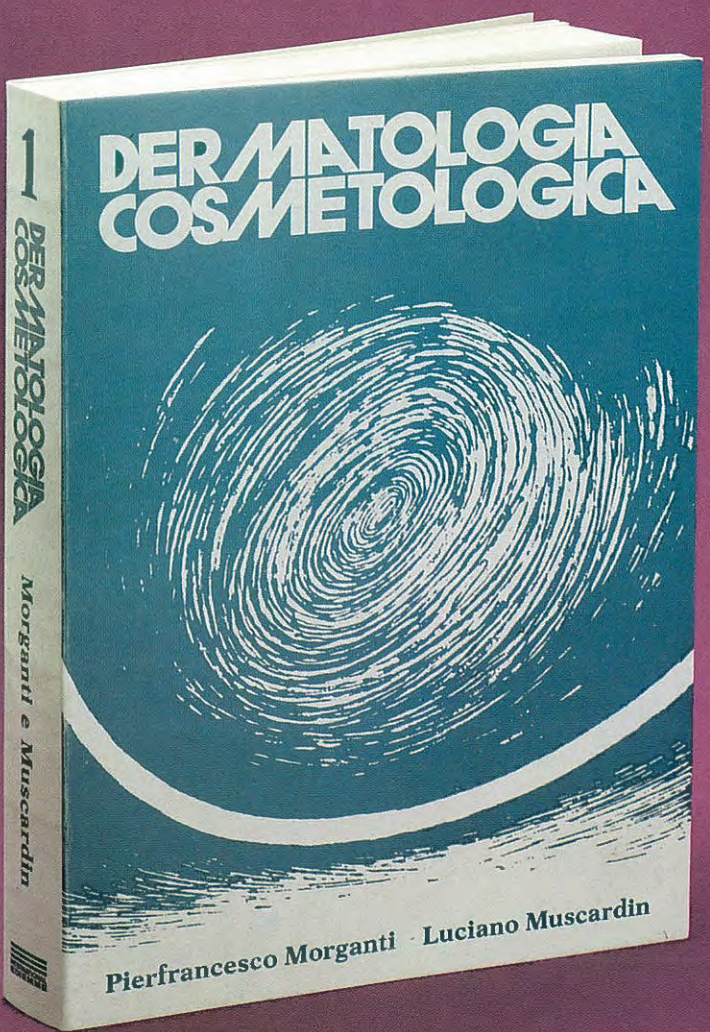
MICAVEEN BARRA
MICAVEEN FLUIDO

RYDELLE LABORATORIES

PRODOTTI COSMETICI VENDUTI IN FARMACIA

AVEENO®

LINEA NATURALE DI IGIENE E DERMATOLOGIA.



INTERNATIONAL EDIEMME

Via Innocenzo XI, 41 - 00165 Roma (Italy) Tel. (06) 63.78.788

DERMATOLOGIA COSMETOLOGICA
A cura di P. Morganti e L. Muscardin
Ed. International Ediemme

Indice 1° Volume

Indice 2° Volume

Indice 3° Volume

MAVIGEN SHAMPOO

SHAMPOO AL COLLAGENE PER LAVAGGI FREQUENTI

LPO

BALSAMO PROTETTIVO E RIPARATORE

mavi

La Ricerca scientifica nella Dermocosmesi

Per Campioni Medici e Documentazione Scientifica scrivere a:
Mavi Sud S.r.l. - Direzione Propaganda Medica - Viale dell'Industria, 1 - 04011 Aprilia (LT)

DALLA RICERCA MAVI GLI IDRATANTI A PERMEABILITA' SELETTIVA

IDRATANTE

PER LA CUTE SEBORROICA

IDRATANTE

DOPO TRATTAMENTO CON FARMACI

IDRATANTE MONODOSE
privo di conservanti

NELLE XEROSI PRONUNCIATE

L'IDRATAZIONE E L'ASSORBIMENTO PROGRAMMATI CON PRECISI INDICI NUMERICI

mavi

La ricerca scientifica nella dermocosmesi.

Mavi Sud S.r.l. - Viale dell'Industria, 1 - 04011 Aprilia (LT).

STYLOgrafica - Roma

IDRO® SKIN
ANTI-AGE

RENDE MENO EVIDENTI LE PICCOLE RUGHE INTORNO AGLI OCCHI E ALLA BOCCA, PROTEGGENDO LA PELLE DALL'INVECCHIAMENTO PRECOCE

mavi

La ricerca scientifica nella dermocosmesi

Per Campioni Medici e Documentazione Scientifica scrivere a:
Mavi Sud S.r.l. - Direzione Propaganda Medica - Viale dell'Industria, 1 - 04011 Aprilia (LT)

A new look at old skin: A challenge to cosmetology

1st International Meeting on Cosmetic Dermatology, Rome, Italy, March 7-9, 1985

Editors: P. Morganti, W. Montagna

Readership:

Third year undergraduates, research workers in the field of Cosmetic Chemistry, Biochemistry, Medicine, Pharmacy and Pharmacology, researchers and managers working in the cosmetic and pharmaceutical industries.

The proceedings contained in this volume provide comprehensive view of the different aspects of the skin aging with its cosmetological implications.

Contents (main chapters)

A NEW LOOK AT OLD SKIN: A CHALLANGE TO COSMETOLOGY
Editors: P. Morganti, W. Montagna

Proceeding of 1.st International Meeting on Cosmetic Dermatology, Rome, Italy, March 7-9, 1985, 1986;
17-24 cm. 400 pages, Hardbound In Italy L. 100.000;
ISSN 0393-5779

International Society of Cosmetic Dermatology

journal of applied cosmetology

Trimestrale di Dermatologia Cosmetologica
Quarterly Review of Cosmetic Dermatology

GENERAL INFORMATION

The **JOURNAL OF APPLIED COSMETOLOGY** is an international journal devoted to publisching original papers, reviews and other material which represent a useful contribution to research on the skin and on cosmetics.
It is aimed at cosmetic chemists, dermatologists, microbiologists, pharmacists, experimental biologists, toxicologists, plastic surgeons, and all other scientists working on products which will come into contact with the skin and its appendages.
The Journal is publisched quarterly in English. It is distributed to cosmetic chemists, dermatologists, plastic surgeons, medical and pharmaceutical schools, medical libraries, selected hospitals and research institutions throught the world, and by subscription to any other interested individuals or organizations. Statements and opinions expressed are personal to the respective contributors and are not necessarily endorsed by the Editor(s), Advisers, Publishers of Distributors of this Journal.

COPYRIGHT

Sections of Journal

The following sections will be features of the Journal:

Original Laboratory Studies: descriptions of original investigative laboratory research in cosmetics and related areas.

Special Reports: Items of special interest to the readers, including reports on meetings, societies, legislation, etc.

General Articles: scientific articles of general interest to our readers will be considered for publication. These articles should be concerned with newer developments in such related fields as dermatology, biology, toxicology, etc.

Short Communications: the lenght should not exceed 5 typewritten pages with not more than 3 figures included. Headings ("Materials", "Discussion", etc.) as well as Summaries are to be omitted. If accepted, these submission will appear in print in a very short time.

Letter to the Editor: comments on Journal articles are invited as well as brief contributions on any aspects of cosmetic science. Letters may include figures, and/or references, but brevity is necessary.

Guest Editorials: concise, authoritative, substantiated commentary on specific topics of contemporary interest.

Book Reviews: book and monographs (domestic and foreign) will be reviewed depending on their interest and value to subscribers. Send material for review to the Editor, Dr. P. Morganti. No such material will be returned.

Address: all papers should be submitted to:
Dr. P. Morganti
INTERNATIONAL EDIEMME
Via Innocenzo XI, 41
00165 Rome - Italy
Tel. 06/637.87.88

INFORMATION FOR AUTHORS

Papers must be submitted in English. Authors whose mother tongue is not English should arrange for their manuscripts to be written in proper English prior to submission.

Procedure of Submission of Manuscripts: submit three copies of both the manuscript and all illustrative material to the above address.

Organization of the Manuscript: investigative studies should be organized as follow: title, abstract page, introduction, material and methods, results, discussion, acknowledgments, references, legend for figures, tables. All pages should be numered consecutively starting with the abstract. The entire manuscript is to be typewritten, double–spaced, and with 3 cm margins.
Trade names must be capitalized: the common name for compounds may be used if the formal chemical name as established by international convention is given after the first use. Any abbreviations other than those which are generally accepted must be defined. In the text, references to dual authors will use both surnames throughout. For multiple authors, use the surnames of all authors at the first reference and only the first author followed by "et al." thereafter. Please mark in the margin of the manuscript the desired position of the figures and tables. To allow faster publication only set of proofs will be furnisched to the author including the figures and tables in their final position.

Title page: list the title, name(s) and degree(s) of author(s), department(s) and institution(s) at which the work was done, city, state, and postal code. Any preliminary report or abstract of the work should be referred to as a footnote to the title.

Summary: each paper must be headed by an English language title of not over 70 characters (including spaces) suitable for use as a running head and must also be proceded by an English summary not exceeding 300 words typed double–spaced. The summary will include statements of the problem, method of study, results, and conclusions. Since this summary will be used by astracting journals, it must be self–explanatory and should not inlcude abbreviations, footnotes, and references.

Footnotes: should be listed consecutively at the bottom of the page on which they fall, designated by the following symbols in order *, +, +, §, II, **, etc.

Key Words: key words for computerised storage and retrieval of information should be incorporated in the summary.

References: the references have to be abbreviated as listed in the Index Medicus. The style of the references must conform to the examples given below:
1) Robbins CR, Kellych (1970) Aminoacid composition of human hair. Text Res J 40:891-896
2) Strehler BL (1977) Time, cells and aging 2nd edn. Academic Press, New York
3) Ebling FJ, Rook (1972) Ciclic activity of the follicle. In: Texthook of dermatology 11, Blackwell, Oxford, p. 1567-1573.

Illustrations: figures should be numbered consecutively using Arabic numerals Tables should be numbered consecutively, using Roman numerals. All photographs should be black and white, glossy and unmounted. The number and size of illustration should be restricted to the minimum needed to clarify the text. Authors requiring extra space for illustrations will be charge accordingly. This is also the case for color illustrations. All figures, photographs, graphs, or diagrams should be submitted on separate sheets.

Animal Experiments: descriptions of animal experiments should include full details of the types of animal used (inbred, etc.) and the conditions under which they were kept (standard diet, etc.)

Trade Names: all common cosmetic ingredients should be referred to by their generic names, as indicated in the latest edition of CTFA Cosmetic Ingredient Dictionary, and the European Pharmacopeia. If a materials is not listed, then the trademarked name can be used, with the chemical composition given in footnotes.

INFORMAZIONI PER L'ABBONAMENTO

L'abbonamento annuale comprende quattro numeri. È possibile ottenere abbonamenti a prezzo ridotto da parte dei ricercatori che lavorano presso Istituti che abbiano sottoscritto almeno un abbonamento a prezzo normale.
L'Editore potrà fornire a richiesta notizie più dettagliate. Le sottoscrizioni di abbonamento possono essere effettuate mediante assegni postali, bancari, di conto corrente o per contanti indirizzandoli a:

L'IVA è a carico dell'editore, non detraibile dall'abbonato a norma art. 74 lett. C DPR 633/72

INTERNATIONAL EDIEMME - Via Innocenzo XI, 41, 00165 ROMA
(c/c bancario n. 29612/37 Banco di Santo Spirito Ag. 123, P.zza Pio XI - 00165 Roma)

SOTTOSCRIZIONI ANNUALI

Italia L. 60.000 - Altre Nazioni $ 50

Numero singolo L. 16.000

Numero arretrato L. 20.000

SUBSCRIPTION INFORMATION

Subscriptions are entered on a calendar years basis only and include four regular quarterly issues. Half–price subscriptions are available to research scientists whose institutions already subscribe at full rate. Details on application from publisher.
Payment must be made in U.S. dollars using bank draft, international postal money order only. Italian residents only may pay by personal check:

INTERNATIONAL EDIEMME - Via Innocenzo XI, 41, 00165 ROMA
(c/c bancario n. 29612/37 Banco di Santo Spirito Ag. 123, P.zza Pio XI - 00165 Roma)

ANNUAL SUBSCRIPTION RATE:

Italy, Lit. 60.000 - Other Countries, $ 50
Additional Air Mail postage rate: $ 15

journal of applied cosmetology

Quarterly Review of Cosmetological Dermatology

INFORMAZIONI PER L'ABBONAMENTO

L'abbonamento annuale comprende quattro numeri. È possibile ottenere abbonamenti a prezzo ridotto da parte dei ricercatori che lavorano presso Istituti che abbiano sottoscritto almeno un abbonamento a prezzo normale.

L'Editore potrà fornire a richiesta notizie più dettagliate. Le sottoscrizioni di abbonamento possono essere effettuate mediante assegni postali, bancari, di conto corrente o per contanti indirizzandoli a:

INTERNATIONAL EDIEMME - Via Innocenzo XI, 41 - 00165 Roma
c/c bancario n. 29612/37 Banco di Santo Spirito Ag. 123, 00165 Roma

ABBONAMENTO JOURNAL OF APPLIED COSMETOLOGY

Italia L. 60.000 - Altre Nazioni $ 50

Istruzioni per l'abbonato:
❒ *desidero abbonarmi a questa rivista per l'anno in corso*
❒ *rinnovo automaticamente il mio abbonamento per gli anni futuri (questa forma di abbonamento può essere comunque disdetta in ogni momento).*
❒ *desidero ricevere le norme editoriali per eventuali collaborazioni.*
(Scrivere in stampatello)

Nome _____

Indirizzo _____

_____

Città _____ **CAP** _____

Nazione _____

journal of applied cosmetology

Quarterly Review of Cosmetological Dermatology

SUBSCRIPTION INFORMATION

Subscriptions are entered on a calendar year basis only and include four regular quarterly issues.

Half-price subscriptions are available to research scientist whose institutions already subsribe at full rate. Details on application from publisher.

Payment must be made in U.S. dollars using bank draft, international postal money order only. Italian residents only may pay by personal check:

c/c bancario n. 29612/37 Banco di Santo Spirito Ag. 123, 00165 Roma

ORDER FORM JOURNAL OF APPLIED COSMETOLOGY

Annual subscription rate: **Italy, Lit. 60.000 - Other Countries $ 50**

Additional Air Mail postage rate: Africa and Middle East $ 12. North, Central and South America $ 14, Far East $ 15, Oceania $ 19.50

Please Check

❒ *1 year subscription*

❒ *Renew my subscription automatically in future years (this continuation order is instended for subscriber's convenience only and my be cancelled at any time).*

❒ *Send me a copy of information for Authors.*

❒ *Please charge this order to my credit card (All order subjet to credit approval).* Delete as necessary:

❒ **AMERICAN EXPRESS** ❒ **DINERS CLUB - Card Number** | | | | | | | | | | | | | | | | | |

Expiration date.....
(Please Print)

Name _____

Address _____

_____

City _____ **Postal Code** _____

Country _____

STAMP

Spett. Direzione

"JOURNAL OF APPLIED COSMETOLOGY"
INTERNATIONAL EDIEMME
Via Innocenzo XI, 41
00165 ROMA (ITALY)

STAMP

Spett. Direzione

"JOURNAL OF APPLIED COSMETOLOGY"
INTERNATIONAL EDIEMME
Via Innocenzo XI, 41
00165 ROMA (ITALY)

journal of applied cosmetology

Trimestrale di Dermatologia Cosmetologica
Quarterly Review of Cosmetic Dermatology

Contents

Original Laboratory Studies

J. Appl. Cosmetol. **10**, 1-6 (January - March 1992)

ASSESSMENT OF SKIN HYDRATION AND SOFTENING EFFECTS OF COLLOIDAL OAT FRACTION CONTAINING CREAM

P. Creidi, B. Faivre, P. Agache
Department of Dermatologie Fonctionnelle, University of Besançon, France.

Received: April 20, 1991

Key words: *Oat extract; Emollients; Sodium Dodecyl-Sulfate; Skin Conductance; Skin profilometry.*

Synopsis

A concentrated colloidal oat fraction in a O/W cream has been compared with a reference O/W emollient cream for stratum corneum hydrating and skin surface softening effects in a double-blind randomized study in 10 healthy female volunteers whose skin had been made dry and irritated by repeated applications of sodium dodecylsulfate. Stratum corneum hydration was assessed through conductance measurements. Skin surface smoothness was evaluated through a visual plus tactile subjective assay and by profilometry of skin surface casts. All methods demonstrated recovery of the skin following one week's treatment with either product. This improvement was sustained a week later. It is concluded that the tested oat extract enriched cream has a hydrating and softening effect on the skin surface which is "similar or superior to that of a conventional O/W strongly moisturizing cream".

Riassunto

È stata verificata l'attività emolliente ed idratante di una emulsione O/W contenente una frazione colloidale di avena paragonata ad una crema emolliente di confronto. Il controllo è stato effettuato sulla cute di 10 volontarie sane irritate con una soluzione di dodecilsulfate di sodio. L'idratazione dello strato corneo è stata verificata con misure di conduttanze, mentre l'azione emoliente é stata valutata sia visivamente che mediante la profilometria. I dati ottenuti dimostrano che entrambe le creme migliorano lo strato cutaneo fin dopo la prima settimana. La crema arricchita con avena colloidale ha dimostrato di possedere un'attività idratante ed emolliente senz'altro simile e talvolta superiore ad una crema convenzionale fortemente idratante.

Introduction

Emollients are increasingly used in dermatology and skin care because they offer protection and stratum corneum hydration by their lipidic capital nature. Furthermore the latter has a softening effect on keratins. In dermatological practice they are often associated with anti-inflammatory/antipruritic ingredients such as mineral powders (silicate, zinc oxide) or organic compounds (starch) (1,2). In that respect oat extracts in powders have been long used, especially in skin diseases of children which are mostly exudative or pruritic.
Recently a new preparation* has been proposed for such dermatoses as eczema, diaper dermatitis, senile itch, seborrheic dermatitis, icthyoses and all chronic skin diseases characterized by sustained irritancy and dryness. A softening effect is claimed by the use of a colloidal oat concentrate together with, even if not occlnsive, a strong hydrating effect. As such creams based on oat extracts are not currently in widespread use throughout France, a double blind randomized comparison was made with a well-known moisturizer in respect of skin surface hydration and softening effects.

Material and methods

Products

The reference product was a O/W emulsion enriched with lipid, glycerol and sodium pyrrolidone carboxylate and containing 10% primrose oil.
The tested preparation was a O/W emulsion enriched with allantoin, glycerol and NaCI and containing 1% of a concentrated colloidal oat meal extract.**

*Aveenocream, PROMEDICA Laboratories
** AVEENO ®: S.J. Johnson, Rydelle Lab. Racine (Wisc.) USA

Protocol

The experiment was conducted with 10 healthy female volunteers (19-39 years of age, mean sd 32 ± 5.6) in a double-blind randomized manner. Two weeks prior to starting treatment, both volar forearms of each volunteer were made dry and irritated by daily application of 4% sodium dodecyl sulfate (SDS) in water for 15 days (3,4).
Then either the tested or reference creams were applied and gently rubbed on the skin of either the dominant or dominate volar forearm according to a previous randomized allocation. The application was repeated once a day in the evening for 7 days.

Assessment

The day before start treatment (DO), the day after the end of treatment (DS) and 7 days later (D15) the following assessments were made in the morning:

1- A blind visual and tactile assessment of skin smoothness by an expert, on a continuous scale.
2- A stratum corneum (SC) conductance measurement using Courage and Khazaka CM 820 corneometer (5).
3- A profilometric study of the skin surface (6,7,8).

This comprised the taking of a silicone (Silflo®) skin replica of about 5 cm2 area. A positive cast (Araldite AY 103) was made from the replica, and scanned for profilometry perpendicular to the main furrow direction along 15 mm. Five parallel scans were run, 500 µm a part. Assessment parameters were the mean depth of 10% deeper furrows and of tbe rest of furrows, the mean furrow spacing and the total length of profile related to assessment length.

Statistics

A one-way (time) analysis of variance was made on visual-tactile assessment data.
A two-way analysis variance (time, treatment) followed by Student-Newman-Keuls-Test was made on corneometer assessment and on each skin relief parameters, using PCSM Delta-soft R.

Results

VISUAL AND TACTILE ASSESSMENT
(Fig. 1)
Before treatment the reference treated areas were less rough than the Aveenocream treated ones. No difference was observed by day 0, day 8 and 15. This would have given an advantage to Aveenocream. But none of the differences or variations were statistically significant.

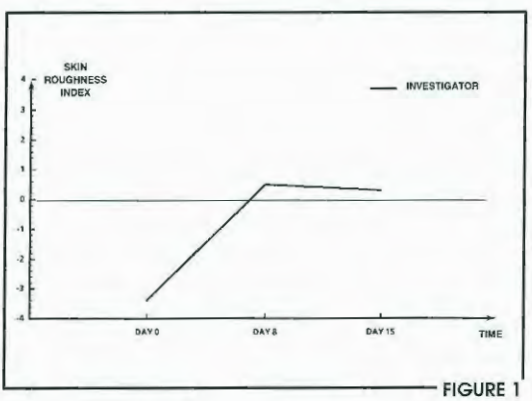


FIGURE 1

Psychosensorial evaluation of skin roughness

STRATUM CORNEUM CONDUCTANCE
(Fig. 2)
With both creams the skin conductance rose significantly (p. <0.05) by day 8 (i.e. the day following the end of treatment). Although the conductance value decreased by day 15 (78.6) (i.e. after a week without treatment) compared to day 8 (81.8 and p <0.05) it remained higher than before treatment, at day 0 (65 and p <0.05).

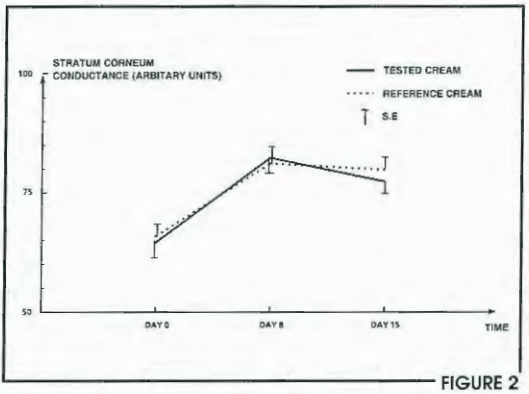


FIGURE 2

Stratum corneum conductance

Skin relief parameters

All relief parameters displayed the same non symmetrical V-shape variations with time. Following a week's treatment a strong reduction in the depth of both types of furrows was observed (fig. 3 and 4).

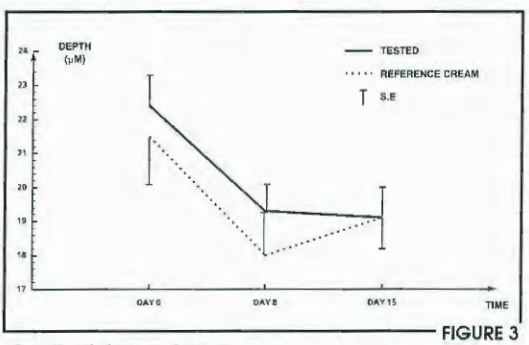


FIGURE 3

Depth of deeper furrows

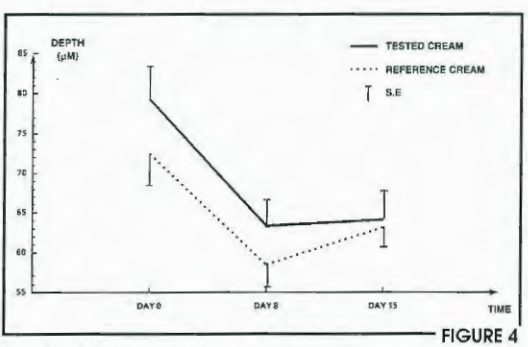


FIGURE 4

Depth of shallower furrows

The same held true for the furrow spacing (fig. 5) and the actual profile length (fig. 6).
These reductions were significant ($p < 0.05$).

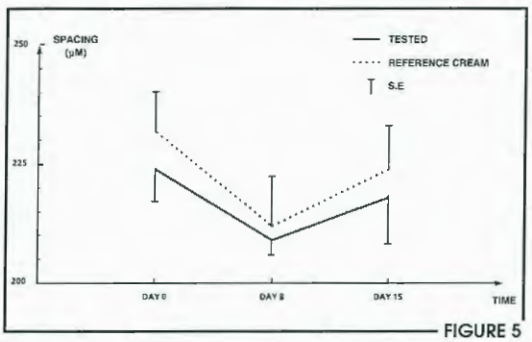


FIGURE 5

Spacing of skin surface furrows

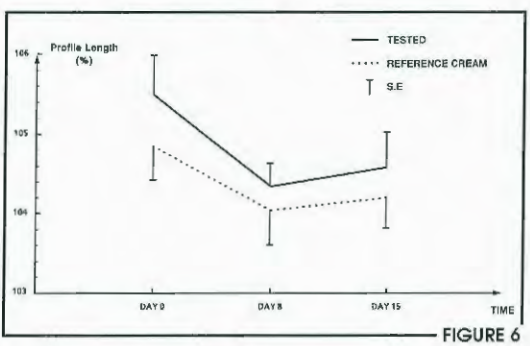


FIGURE 6

Profile length of skin surface

One week after the end of treatment a stabilization or a slight increase (spacing of furrows) was noticed but this was not statistically significant.

Before treatment areas treated with the reference product bad less deep and less spaced furrows and a shorter profile length than the areas treated by Aveenocream. The same difference was also found one day after the end of treatment (day 8) but disappeared a week later for the depth of both types of furrows owing to slight increase of the parameter in reference-treated areas. However the difference was not statistically significant.

Discussion

A concentrated colloidal oat fraction in a O/W cream was compared to a well known emollient O/W cream in respect of SC hydrating and skin surface softening effects in a double-blind randomized study in 10 healthy female volunteers whose skin had been made dry and irritated by repeated application of SDS. While SC hydration was assessed through conductance measurements, skin surface smoothness was evaluated through a subjective visual and tactile assay and by profilometry of skin surface casts. All methods provided similar results and showed a rapid recovery of the skin surface following one week's treatment with either product. Without any further treatment this improvement was sustained a week later except for a slight and not significant worsening of some profilometric parameters in reference product-treated areas.

The correlation of conductance with profilometric results is compatible with the well-known influence of hydration on smoothing of the skin surface relief. The latter also correlated with the subjective assessment of smoothness but had a lower variation coefficient, especially when the depth of deeper furrows was concerned. A good correlation between the 4 parameters of skin was also observed. Hydration of SC is associated with a decrease of the mean depth of furrows and reduction in both furrow spacing and total profile length. The mechanisms of such changes is supposed to include a folding of the plateaus inducing numerous shallow furrows and accordingly a reduction in both the mean depth and spacing of furrows. Moreover a strong swelling of the bottom of main furrows would be responsible for their decrease in depth and shortening of the total profile length.

Although a small group was used in this investigation, it clearly demonstrated than an ointment based on a concentrated colloidal oat ex-

tract had a similar or higher hydration and softening effect on a human SC than a conventional W/O greasy cream and consequently could be of interest in the treatment or chronic irritant or itchy dermatoses.

References

1. **Nouaigui H., Antoine J.L. Masmoudi M.L. Van Neste D.J. and Lachapelle J.M. (1989)**: "Etudes invasive et non invasive du pouvoir protecteur d'une crème siliconée et de son excipient vis-à-vis de l'irritation cutanée induite par le Lauryl Sulfate de sodium." *Ann. Dermatol Venereol*, **116**: 389-398.
2. **Bianken R., Van Vilsteren M.J.T., Tupker R.A. and Coenraads P.J. (1989)**: "Effect of mineral oil and linoleic-acid-containing emulsions on the skin vapour loss of sodium-Lauryl-Sulphate-induced irritant skin reactions." *Contact dermatitis*, **20**: 93-97.
3. **Fulmer A.W., Kramer G.J. (1986)**: "Stratum corneum lipid abnormalies in surfactant-induced dry scaly skin." *J. Soc. Cosm. Chem.*, **86**: 598-602.
4. **Takahashi M., Aizawa M. Miyazawa K. and Machida Y. (1987)**:"Effects of surface active agents on stratum corneum cell cohesion." *J. Soc. Cosm. Chem.*, **38**: 21-28.
5. **Leveque J.L., De Rigal J. (1983)**: "Impedance methods for studying skin moisturisation." *J. Soc. Cosm. Chem*, **34**: 419.
6. **Chuard M., Rondot D. and Mignot J. (1984)**: "On the use of a modular system for microtopographical surface measurement." *Wear*, **96**: 31-44.
7. **Assoul M., Galal T. and Mignot J. (1987)**: "Cutaneous relief measurement using a wide range automatic profilometer. *Bioeng Skin*, **3**: 109-122.
8. **Mignot J., Zahouani H., Rondot D. and Nardin P. (1987)**: "Morphological study of the human skin relief." *Bioeng Skin*, **3**: 177-196.

J. Appl. Cosmetol. **10**, 7-12 (January - March 1992)

A STUDY OF THE CUTANEOUS BACTERIAL FLORA, pH AND TEWL OF INFANT DETERGENT SOLUTION.

*** G. Carlucci, M. Di Carlantonio, M. Guarracino, G. Palumbo**
**** P. Amerio, F.Longhi**
**Istituto di Ricerca FARICERCA S.p.A. - Via Aterno - 66020 Sambuceto di S.G. Teatino - (CH) Italy*
*** CLINICA DERMATOLOGICA - Università degli Studi "G. D'Annunzio" - Chieti - Italy.*

Received: January 3, 1992

Key words: *Detergents; Bacterial Flora; Irritative Phenomena; pH Values, TEWL Values.*

Synopsis

Over the last few years there has been a growing tendency to use detergent products specifically designed for infant skin when diapers are changed.
These products consist of non-woven wipes moistened with detergent solution.
The purpose of this study was to establish wbetber the intensive use of tbe product over a period of at least fifteen days influences the cutaneous flora, pH and TEWL values and general skin conditions.

Riassunto

Negli ultimi anni si é verificato un aumento nell'uso di prodotti detergenti formulati appositamente per la pulizia della cute dei bambini durante il cambio dei pannolini.
Questi prodotti consistono in fazzoletti di cellulosa imbevuta con una soluzione detergente.
Con questo studio si é voluto stabilire se l'uso intensivo del prodotto, prolungato per almeno quindici giorni, possa influenzare la flora cutanea, il pH, la TEWL e le condizioni generali della cute.

Introduction

Current lifestyles have led to an increased use of detergent products.
The formulation of detergent and personal hygiene products is towards the use of solutions which are less irritating on the skin.
The aim of all producers and researchers in the field is to produce a detergent which cleanses the skin without altering its physiology.
Traditional detergents such as soap bars and liquid soap can be somewhat irritating on the skin, especially with repeated and frequent use.
The study of the mechanism of skin cleansing has revealed that, although superficial dirt is removed, this is accompanied by a thinning of the horny layer and of the hydrolipid film and also an alteration in skin penetration power and skin bacterial population.
It has been observed that alterations in skin pH value are a consequence both of the removal of the hydrolipid film and of the use of detergent products with a different pH value to that of the skin (1).
Alterations in the horny layer lead to a decreased water-binding capacity and therefore to increased transepidermal water loss (TEWL) (2,3). Furthermore, an alteration of the pH values is one of the main mechanisms involved in the alteration of the cutaneous flora (4).
The above-mentioned phenomena may give rise to desquamation and irritative processes manifested as dry, erythematous skin. These effects are more common in infancy and early childhood than in adult life, due to the greater delicacy and sensitivity of the child's skin (5,6).
Recent years have seen the introduction of specific products for the cleansing of infants and young children, particularly of products for use during diaper-changing. These products are generally in the form of wipes, made of inert nonwoven material, wetted with a detergent solution containing a mixture of surfactants and emollient agents which cleanse while being very careful with the skin.
The aim of this study was to assess alterations in the cutaneous flora, skin pH values and TEWL values occurring after use of a product of this type. (LINES LINDO by FATER - Italy)
Furthermore, at the beginning and at the end of the trial, the presence or absence of irritative skin phenomena was recorded.

Materials and Methods

The trial was carried out on a group of 36 subjects (15 males and 21 females) aged between 4

Table I

pH AND TEWL VALUES

	BEFORE USE		AFTER USE	
	Value	**ds**	**value**	**ds**
pH	5.45	0.50	5.54	0.39
TEWL	15.08	5.97	13.02	4.0

and 30 month. All were wearing diapers continuously. At recruitment, subjects were examined by a dermatologist who ascertained that there were no apparent skin lesions, and took a microbiological sample. Skin pH and TEWL values were instrumentally recorded.
During the trial stage, lasting 15 days, the wipes were used continually, at each diaper change. At the end of this period, the subjects were examined once more by a dermatologist who recorded the presence or absence of irritative phenomena, the skin pH and TEWL values, and took another bacteriological sample. Instrumental recordings were taken from exactly the same site. At the end of the trial it emerged that 1-2 wipes had been used at each change.
Microbiological samples were taken by applying a sterile swab to the skin of the buttocks, at a site 2 cm. from the intergluteal furrow, on a surface measuring approximately 2 cm. X 2 cm.. The total microbe count was performed. A qualitative and quantitative investigation was made of micro-organisms, including saprophytes and potential pathogens, likely to be present in the diapered area:

- enterobacteria (E. coli; Proteus; S. faecalis)
- stapbylococci (S. aureus, S. epidermidis)
- Pseudomonas aeruginosa
- Candida albicans.

Microorganisms were identified by the A.P.I. microbiological identification system (Suppliers: Bio Merieux Italiana).
The following galleries were used:
A.P.I. 20 E for Enterobacteria
A.P.I. 20 STREP for Streptococci
A.P.I. AUX for Fungi.

Skin pH and TEWL values

Skin pH and TEWL values were measured at the same site. Recordings were taken approximately 2 minutes after removal of the diaper. Skin pH values were measured by a Beckman 31 pH-meter with a flat-membrane electrode (91-35 Orion). Recordings were taken when the values become stable on the display. The electrode was washed in distilled water and dried between each recording.
TEWL values were recorded at the same site after pH recordings with the sensing head of an evaporimeter Servomed EP-1.
The evaporimeter measures cutaneous hydrotension indirectly by determining the quantity of water which evaporates from the skin (7).

Statistical analysis

Student's two-tailed "t" test was used to compare the data collected before and after the use of the product. The number of bacterial populations was calculated as a logarithm in order to adapt to the normal distribution.
Values of $p<0.05$ were considered statistically significant.

Results

The clinical examinations showed that the use of cleaning wipes produced no local irritation.
Furthermore, two cases in which mild irritative processes were recorded at the first examination showed complete disappearance of irritation after use of the product.
There were no variations in the microbe population, as shown by swabs taken before and after continual use of the product.
The total microbe population tended to normalize towards classes with lower numbers of colonies (Fig. 1).
Indeed all the micro-organisms examined showed this tendency.
We observed that E. Coli, which had very low populations before the test, showed no variation (Fig. 2); while S. Aureus showed more cases

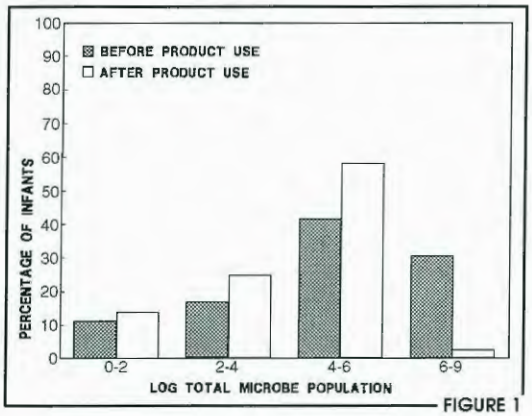


FIGURE 1

Distribution of the total microbe population in the sample examined before and after use of the product.

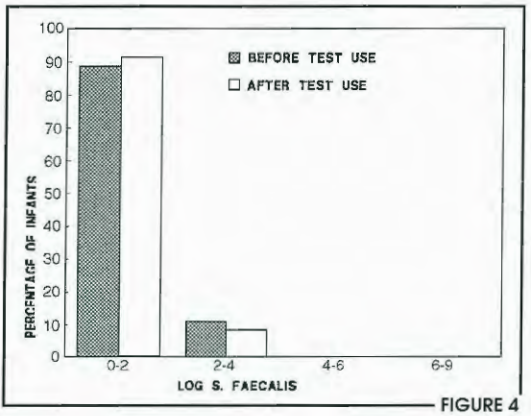


FIGURE 4

Distribution of the number of colonies of S. faecalis before and after use of the product.

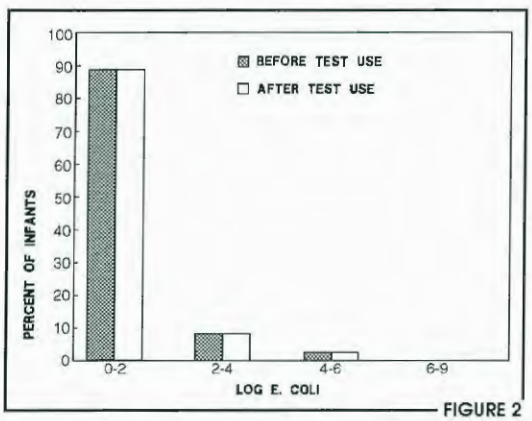


FIGURE 2

Distribution of the number of colonies of Escherichia coli before and after use of the product.

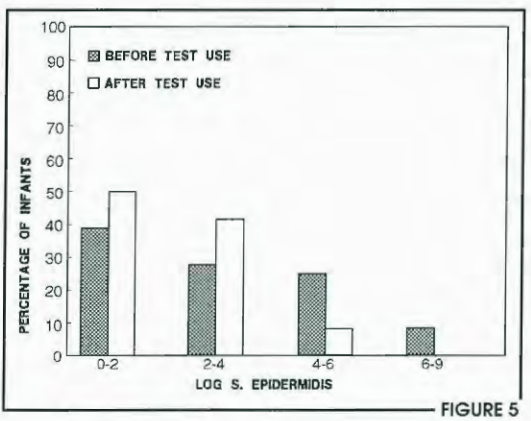


FIGURE 5

Distribution of the number of colonies of Staphilococcus epidermidis before and after use of the product.

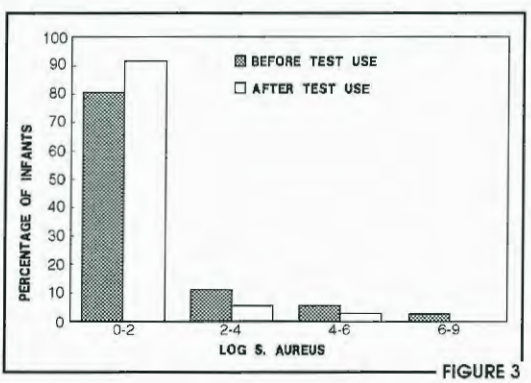


FIGURE 3

Distribution of the number of colonies of Staphilococcus aureus before and after use of the product.

with a lower number of potentially pathogenic colonies after use of the products (Fig. 3).
S. faecalis and S. Epidermidis (Fig. 4,5) also showed a lower number of colonies after use of the product.
Cases of Proteus and Candida were almost completely absent (one case of each, before and after use), while no cases of Pseudomonas were recorded.
pH and TEWL values are shown in table 1. pH values are similar to those recorded in other studies (8); statistical analysis does not show

significant differences between before-use and after-use values ($p>0.05$).
TEWL values do not show statistically significant differences before and after use of the product ($p>0.05$).

Discussion

The aim of the experiment was to assess whether use of a new cosmetic detergent on non-woven material would influence the cutaneous flora or the skin condition itself through chemical or mechanical action, leading to localised irritative phenomena.
Specific tests were therefore carried out.
Although clinical examination before and after the trial period may be influenced by a certain degree of subjectivity, no irritative phenomena were observed.
Moreover this result is confirmed by the objective parameters of skin pH and TEWL, which were not altered by use of the product.

The results of the microorganisms tests performed before and after use of the trial product are also important, in that they show a normal cutaneous bacterial flora, as regards both strains and number of colonies. The disappearance or decrease in number of potential pathogens (S. aureus, Pseudomonas, Proteus, E. Coli)) was observed after use of the trial product.
This phenomenon may be related to the mechanical action of cleansing rather than to the chemical action of the detergent itself.
The decrease in the number of fungal organisms (Candida albicans) which were initially present in some subjects may be similarly explained.
It can be concluded that use of detergent products containing substances which do not alter factors regulating skin physiology, such a microbial flora and pH values, allows constant and long term cleansing even in subjects with sensitive skin, such as infants and young children, without giving rise to irritative phenomena.

References

1. **Savermann G., Doerschner A., (1986)**: "Comparative study of the skin care efficacy on In-use properties of soap aud surfactant bars." *J. Soc. Cosm. Chem.* **37**: 309-327
2. **Murahata R.I., Crowe D.M., Roheim J.R., (1986)**: "The use of transepidermal water loss to measure and predict the irritation response to surfactants." *Int. Journal of Cosm. Sc.* **8**: 225-231
3. **Leveque J.L., Garson J.C., de Rigal J., (1979)**: "Transepidermal water loss from dry and normal skin". *J. Soc. Cosmet. Chem.* **30**: 333-343
4. **Binazzi M. (1988)**: "The flora cutanea (cap. 20). In: Trattato italiano di dermatologia - Serri F. - Ed. Piccin
5. **Maibach H.I., Boisits E.K. (1982)**: Neonatal skin, vol. 1 Ed. Dekker
6. **Zimmerer R.E., Lawson D., Calvert J. (1986)**: "The effects of wearing Diapers on Skin" *Pediatric Dermatology* Vol. 3 No 2: 95-101
7. **Pinnacoda J., Tupker R.A. (1990)**: "Guidelines for transepidermal water loss (TEWL) Measurement. *Contact Dermatitis* **22**: 164-178
8. **Bellucci R., Carlucci G., Di Girolamo R., Palumbo G., Guarracino M. (1989)**: "Skin pH in the diapered area." 5th International Congress of Pediatric Dermatology, Milano.

J. Appl. Cosmetol. **10**, 13-16 (January - March 1992)

EFFECT OF SOME EXOGENOUS GLYCOSPHINGOLIPIDS ON HUMAN KERATINOCYTES IN CULTURE

I. Varani, A. Terzaghi, L. Donati*, M. Marazzi*, S. Garbin*, G. Tettamanti and M. Masserini

*Dipartimento di Chimica e Biochimica Medica e * Istituto di Chirurgia Plastica e Ricostruttiva, Università di Milano, Via Saldini 50, 20133 Milano, Italy.*

Received: October 30, 1991

Key words: *Cell Cultures, Keratinocytes, Glycosphingolipids, Proliferation*

Synopsis

We have studied the influence of different glycosphingolipids on human keratinocytes in culture and their action on cellular proliferation. We found none of the molecules utilized had any cytotoxic effect. Moreover, the glycosphingolipids could modify the proliferation rate of keratinocytes. These molecules could play a role as epidermal eutrophic, repairing and protective agents and could also be used as vehicles for cosmetically active products.

Riassunto

Prove condotte utilizzando diversi glicosfingolipidi hanno dimostrato che queste molecole non hanno effetto citotossico sulle colture in vitro di cheratinociti umani, e che alcuni sono in grado di modificare la capacità proliferativa di queste cellule. Essi potrebbero quindi essere utilizzati come agenti eutrofici, riparativi e protettivi dell'epidermide ed anche come veicoli per sostanze cosmeticamente attive.

Introduction

Glycosphingolipids are amphipatic molecules, which are normal components of cellular membranes (1, 2), and are also present in the plasma membranes of epidermal cells. When they are exogenously added to "in vitro" cultured cells, they become strongly incorporated in the plasma membrane (3,4). In this situation, they become biochemically identical to endogenous glycolipids and mimic their metabolic pathway. Moreover, the exogenous enrichment of cells can cause a modified architecture of the cellular membranes, and offers the possibility to modify the cellular response. In the present work, we begin to study if the exogenous treatment with these molecules might play a role in epidermal structure and function.

Materials and methods

All the materials for cell culture were from Irvine Scientific (Santa Ana, CA, U.S.A.). Mitomycin C, insulin, transferrin, triiodothyronine, adenine and cholera toxin were from Sigma Chem. Co. (St. Louis, MO, USA). 3H-thymidine ([3H]TdR) from Amersham (Little Chalfont, U.K.). Glycosphingolipids were extracted and purified from beef brain. Their purity was over 99%.

Preparation of epidermal cell suspension

The epidermal cell suspension was prepared by enzymatic release of cells from the epidermis after initial separation from the dermis. The skin ($2cm^2$ area) was cut with surgical scissor to small slices. These were treated in Trypsin/EDTA (Trypsin 0.5g (1:250)/EDTA 0.2g; 1h at 37°C. The dermis was discarded and the epidermal cells were harvested and then centrifuged. The pellet was resuspended in medium without EGF and seeded in 25 cm^2 culture flasks with a layer of mitomycin C-treated 3T3 fibroblasts.

3T3 fibroblasts culture

Murine 3T3 cells were cultured in Dulbecco's modified Eagle medium (DMEM) containing 10% foetal calf serum (FCS). Confluent cultures of 3T3 cells were treated with mitomycin C (4μg/ml) (5,6) for 2h, washed twice with PBS and harvested with 0.2% EDTA in PBS to detach the cells from the culture flask. The cells were plated in flasks for human keratinocyte culture with a density of 20000 cells/cm^2, 4 h prior to initiation of epidermal cell cultures.

Epidermal cell culture

Human ECs were cultured as described by Rheinwald & Green (7). The cells were inoculated at a density of 8000 cells/cm^2 into 25 cm^2 flasks containing the mitomycin C- treated 3T3 fibroblasts. With this density the keratinocytes, in normal condition, reach a confluent layer in 8-9 days. The growth medium (10ml) consisted of a 3:1 mixture of DMEM and Ham's F12 medium supplemented with 10% FCS, 5μg/ml insulin, 5μg/ml transferrin, $2x10^{-9}$ M triiodothyronine, $1.8x10^{-4}$ M adenine and 1nM cholera toxin. 48 h after initiation and subsequently every second day, the cultures were fed with the same medium containing 10μg/ml epidermal growth factor (EGF). For the harvesting of different glycolipid cultures ten plates (35mm culture dishes) were prepared in all experiments.

Treatment with glycosphingolipids

Glycosphingolipids (GM1, asialoGM1, glucosylceramide, galactosylceramide, lactosylceramide and sulfatide) were dissolved in the culture ECs medium with EGF and without FCS. The medium containing a given glycosphingolipid (10^{-5}M), was added to the cell cultures every day for a period of 1h. After incubation, the medium was removed and the cells were washed twice with 1ml PBS. The ECs medium was again added, except to the cells for thymidine incorporation.

Thymidine incorporation assay

The proliferative activity of the different glycolipids was assessed by monitoring [^{3}H] thymidine ([^{3}H] TdR) incorporation. The [^{3}H] TdR was dissolved (4μCi/ml) in ECs medium supplemented with 10% FCS. At different times, immediately after the treatment with glycolipids, the cultures were pulsed with 4μCi/plate [^{3}H] TdR (Amersham International) and cultured for an additional 6 h. The cells were washed twice with 1ml PBS. The cells were treated overnight in 300μl of 0.5 M NaOH, and 10μl of the solution were counted for radioactivity with a Packard ß- counter.

Results

Microscopic examination showed a normal growth of human keratinocytes treated or not treated with glycosphingolipids. 4 - 5 days after the epidermal cells were seeded, colonies were present in all culture plates. The morphology of untreated and treated cells was the same. Nine days after the inoculation, the cells formed a confluent monolayer, as predicted. The [^{3}H] TdR incorporation was measured after one day (T0), 2 days (T1), 5 days (T2) and 8 days (T3). After 8 days, we observed a marked decrease of [^{3}H] TdR incorporation in both the glycosphingolipid-treated cultures and the control ones. In these conditions the cells become confluent and this explains the low values of [^{3}H] TdR incorporation obtained in all samples.

The % of [^{3}H] TdR incorporation at confluence is 5% of that observed after 1 day in culture. A different behaviour was observed between keratinocytes which had been treated with different glycosphingolipids. The keratinocytes present in the untreated cultures showed a decrease of [^{3}H] TdR incorporation for all the experiment (Fig. 1). We observed that the cells treated with GM1 and asialoGM1 showed at T0 a decrease (-28% for both) of [^{3}H] TdR incorporation in respect to the control. In T1 and T2, there was an increase of [^{3}H] TdR incorporation (T1: GM1 + 23%, asialoGM1 + 26%: T2: GM1 + 65%, asialoGM1 + 56%) (Fig. 2). The epidermal cells treated with the two glycolipids showed a strong decrease of incorporation at T3, that anyway remained higher than untreated cells (+45% and + 31% respectively).

With glucosylceramide (fig. 3), at T0 and T1, values of [^{3}H] TdR incorporation were similar to those obtained for the control (-13% and -3.6% respectively). After 5 days of treatment with the glycolipid (T2), the [^{3}H] TdR incorporation reached the values observed with GM1 and asialoGM1 (+64.4%).

Lactosylceramide and sulfatide (fig. 3) produced at T0, at T1 and at T3, [^{3}H] TdR incorporation levels comparable with the control cells. An increase was observed at T2 (+35% and +45%). With galactosylceramide the values of radioactivity incorporation were: T0: -28%, T1: -18%, T2: -10.5%. At T3 a small increase of incorporatiou (+26%) was found compared to the control.

Discussion

Microscopic examination and [^{3}H] TdR incorporation indicated a normal proliferation for cultures treated with all glycolipids. From this point of view glycosphingolipids do not interfere with the epidermal cell cultures. However, they affect the proliferation rate of keratinocytes; the results obtained with [^{3}H] TdR incorporation showed that different glycosphingolipids affect the cell cultures. GM1 and asialoGM1 efficiently promoted the rate of cellular proliferation for the whole duration of the experiment, while galactosylceramide caused a decrease of the rate.

The other glycosphingolipids (glucosylceramide, lactosylceramide and sulfatide) positively affected the proliferation as shown by the experiments. In conclusion, some glycosphingolipids seem to exert a positive effect on keratinocytes proliferation. This eutrophic effect could be employed for cosmetic purposes on human skin.

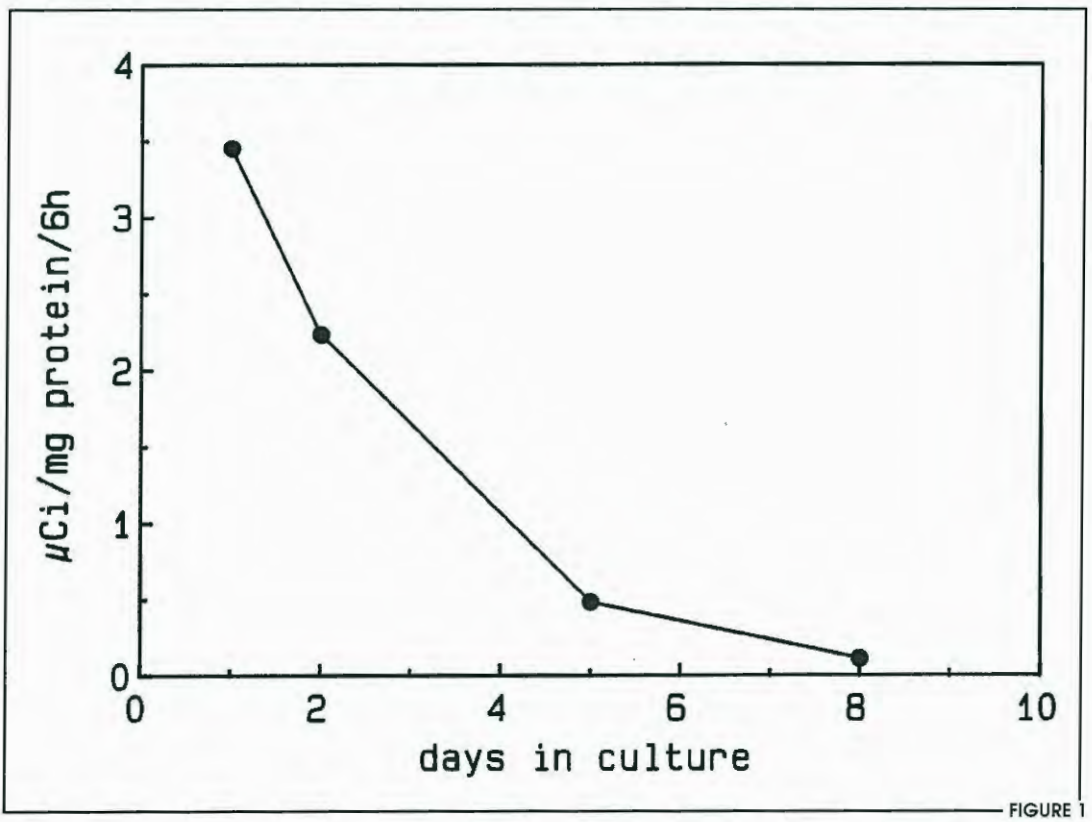


FIGURE 1

3H-thymidine incorporation into human keratinocytes at different times in culture.

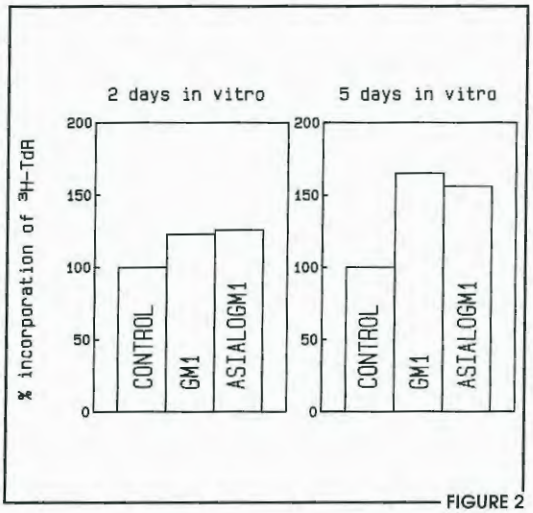


FIGURE 2

³H-thymidine ([³H] TdR) incorporation after treatment of human keratinocytes in culture with different glycolipids. [³H] TdR incorporation into keratinocytes not treated with glycolipids taken as 100% (control).

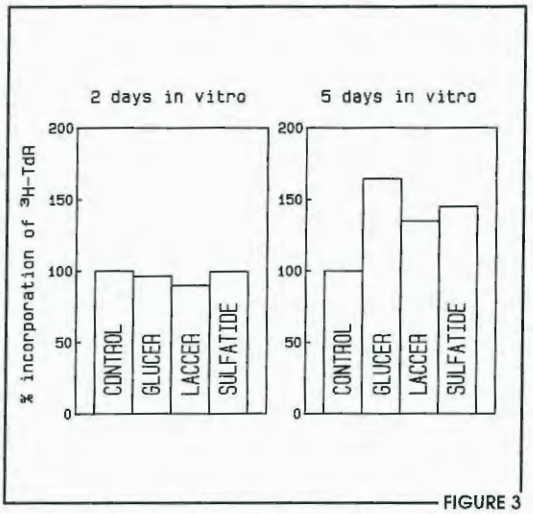


FIGURE 3

³H-thymidine ([³H] TdR) incorporation after treatment of human keratinocytes in culture with different glycolipids. [³H] TdR incorporation in keratinocytes not treated with glycolipids taken as 100% (control).
GLUCER = glucosylceramide; LACCER = lactosyl-ceromide.

Acknowledgments

This work was supported by a grant of C. N. R. (Rome, Italy; Progetto strategico: principi attivi per cosmetica).

References

1. **Gray G. M. and Yardley H. J. (1975)**: *J. Lip. Res.* **16**,434-440
2. **Gray G. M. and Withe R. J. (1978)**: *J. Invest. Dermatol.* **30**,336-341
3. **Schwartzmann G., Hoffmann-Bleihauer P., Shubert J., Sandhoff K. and Marsh D. (1983)**: *Biochemistry* **22**,5041-5048
4. **Chigorno V., Pitto M., Cardace G., Acquotti D. and Kirschner G. (1985)**: *Glycoconiugate J.* **2**,279-291
5. **K. L. Blacker, M. L. Williams and M. Goldyne (1987)**: *J. Invest. Dermatol.* **6**,536-539
6. **J. Hunyadi, M. Simon Jr. and A. Dobozy (1989)**: *Acta Derm. Venereol. (Stockh.)* **69**,509-512
7. **J. G. Rheinwald, H. Green (1975)**: Cell 6, 331-334

Cosmiatry II

P.A. Viglioglia and J. Rubin
Americana de Publicationes S.A. Edition
Buenos Aires, Argentina, 1991
page 406 - hard bound - in Spanish

The book, in its second edition, considers Cosmetologic Dermatology as a major branch of chemistry and medicine. The book points out that a doctor should know and make use of cosmetic products for the treatment of healthy skin as well as skin affected by minor pathologies. A doctor should know the composition of a cosmetic product and its underlying philosophy, while the chemical cosmetologist should very well understand the anatomy, physiology and biology of the skin.
All this is analysed in the first four chapters of the book. Many pages deal with cutaneous problems linked to solar radiations, including also the medical problems arising from PUVA therapy.
The various sun products are described with particular reference to the determination "in vivo" of the protection factor.
Cutaneous ageing is directly related to the quantity of sunlight absorbed by the skin during our lifetime.
The use of sun filters helps to prevent the involution of the skin caused by daylight.
Cosmetic treatments are very useful for improving the look of old, seborrheic and dehydrated skins. Acne, rosacea and skin dyschromiae largely benefit from the combination of suitable cosmetologic treatment with classical clinical therapies. The book also deals with the basic treatments of beauty surgery, and hydrotherapy and massage techniques where such procedures help in absorbing cosmetic products. The authors also analyse the microcircle, which plays an important role in the absorption of many active principles used for cosmetic products. In addition, the book embraces many other subjects, from descriptions of pathologies of cutaneous adnexa to the cosmetic treatment of hyperihdrosis, and the control or testing of different cosmetic products. A careful reading of this treatise will prove to be useful to doctors or cosmetologists, as well as to chemist willing to examin the medical features of cosmetic treatments. In addition, it will be valuable for student of Pharmacy and Medicine who want to enter the amazing world of Cosmetic Dermatology.

Technology and Innovation

By R. Jirillo and P. Ruggeri
Ed. Gentile - Rome 1990 - Italian Edition, 62 pages.

This interesting book gives us a very detailed general view of all cosmetic products within only 62 well condensed pages.
It describes the basic formulations of all categories of cosmetics. The book also contains a list of raw materials and principles in common use, without neglecting the important problems of preservation and coloration.
A large section deals with the basic concepts of technological innovation directly linked to the Research and Development in every modern enterprise. Cosmetics need to be continuously renewed to keep an advanced level of technology so as to meet consumer expectations and to protect enterprise saving.
As a result, the concept of quality control becomes essential for any consumer goods. "Quality" means that the product matches the claims made for it and is fairly priced. Overall product quality is strictly related to the quality of, the manufacture, the quality of programmes and the quality of business organization.
Therefore, the book deals with problems concerning production technologies, of the different systems of packaging, and has an important chapter about distribution and usage.
The book ends by analysing in detail all the legislative problems pertaining to production, labelling and advertising of cosmetic products.
Because o f its wealth of detail, the book will prove to be useful for students. Therefore it should be found in University and Hospital libraries and in all centres of applied research.

Series Editor: P. Morganti

2

Every day Problems in Dermatology: The Cosmetic Connection

2nd International Meeting on Cosmetic Dermatology, Rome, Italy: May 19-22, 1987

Edited By: P. Morganti, F.J.G. Ebling

Cosmetic Dermatology

Series Editor: P. Morganti

Volume 2
Every day Problems in Dermatology: The Cosmetic Connection

Editors: P. Morganti, F.J.G. Ebling

Every day Problems in Dermatology:
The Cosmetic Connection is the second addition to the Cosmetic Dermatology Series

This book is comprised of 41 previously unpublished papers dealing with research in various fields of cosmetic dermatology. The main themes covered are: inter-relationship between drugs and cosmetic in the skin; the efficacy of, and the raction to, cosmetics; cosmetics in sports and work; cosmetics in relation to sexuality and pregnancy; and finally, the interconnection existing between cosmetics and diet. By so comprehensively covering the science of cosmetics, this text is indispensable to those involved in research and development for the cosmetics, toiletries and pharmaceutical industries. It will also be a great benefit to university and hospital pharmacists and health care professionals entrusted with any aspect of skin care.

CONTENTS (Main Chapters)
Psycological aspects of every day cosmetic dermatology (E. Panconesi)
Cosmetic, drugs and common skin disorder (W. Raab)
Percutaneous absorption and lipids of the elderly skin (J. Wepierre)
Mechanism of solar erythema (E. Quencez, P. Agache)
The skin plasticisation effect of a medium chain alpha-hydroxy acid and the use of potentiators (J.C. Hill, R.J. White, M.D. Barrat, E. Mignini)
Analytical problems of cosmetic evaluation resulting from EEC Italian regulatory procedures (L. Gagliardi, A. Amato)
Kathon C.G.: risk of sensitization (A.C. De Groot)
Methods for evaluating irritant - erythematogenic activity in cosmetics (A. Sertoli, S. Giorgini, C. Martinelli, M.C. Melli)
Social problems related to perspiration: the cosmetic connection (C. Jacobson)
Barriers creams (L.C. Parish)
Evaluation of a new skin barrier providing water and solvent protection (P. Morganti, S.D. Randazzo)
Cosmetology and sexuality in the history of gynaecology (G. Forleo, M. Fraticelli)
Metabolism of steroids in human skin (A. Lanzone, A.M. Fulghesu, F.P. Bellante, A. Caruso, S. Mancuso)
The stucture and permeability of the oral mucosa (A. Jarret)
Oral mucosa and dental care problems (E. Benagian)
Vitamins and mineral nutrition in the skin (B. Berra, S. Zoppi, S. Rapelli)
Good manufacturing and quality control practices in the cosmetic industry (F. Pocchiari)
Cosmetology and public health (L.Toti)

400 pages about - Hard-bound
Price: U.S. $ 90.00 / in Italy L. 120.000

SIDEV

SOCIETÀ ITALIANA DI
DERMATOLOGIA E VENEREOLOGIA
SEZIONE INTERREGIONALE
CENTRO SUD ED ISOLE

Presidente: Prof. O. A. Carlesimo

RIUNIONE INTERREGIONALE CENTRO SUD ED ISOLE

Università Cattolica del
Sacro Cuore di Roma
Largo Francesco Vito, 1
Presidente del Congresso: Prof. D. Cerimele

X CORSO INTERNAZIONALE ATTUALITÀ NELLE SCIENZE BASALI APPLICATE ALLA DERMATOLOGIA

Fondazione Pro Ricerca Dermatologica
Presidente: Prof. F. Serri

Roma 3-4 luglio 1992

SEGRETERIA SCIENTIFICA ED ORGANIZZATIVA:

Dott. Leonardo Celleno
Prof. Giuseppe Fabrizi
Prof. Luigi Rusciani

Clinica Dermatologica
Policlinico Universitario A. Gemelli
Largo A. Gemelli, 8 - 00168 Roma
Tel.: 3385451 - 3052353 - 30154227 - Fax.: 3052353

SEDE:
Centro Congressi U.C.S.C.
(Istituti Biologici)
Largo F. Vito, 1 - Roma

XI CONGRÈS MONDIAL
UNION INTERNATIONALE DE PHLÈBOLOGIE
XI WORLD CONGRESS

Montréal, Canada

30 août - 4 septembre 1992
August 30 - September 4, 1992

Palais del Congrès de Montréal
Montreal Convention Centre

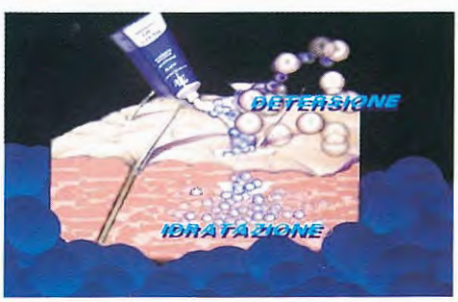
4446, BOUL. ST. LAURENT BLVD.
SUITE 704
MONTRAL, QUE., CANADA M2W 1Z5
TEL. (514) 499-8920
FAX (514) 499-8921

Chiuso in tipografia: 15 maggio 1991

Journal of Applied Cosmetology published quarterly by INTERNATIONAL EDIEMME, Via Innocenzo XI, 41 - 00165 Roma Italy. Stampa Grafica Flaminia - Via Isorella, 37/a - Roma - Tel. 06/3008343. Progetto grafico ed impaginazione STYLOgrafica Roma. Spedizione in abbonamento postale gruppo IV/70. Aut. del Trib. di Roma n. 3173/83 dell'8/7/83.

MAVIGEN IDRO SCHIUMA
L'idratante che deterge

MAVIGEN IDROSCHIUMA trova la sua specifica prescrizione sopratutto per le pelli grasse ed acneiche che dopo i trattamenti farmacologici con benzoil perossido, acido retinoico, antibiotici o acido azelaico hanno bisogno, in genere, di essere reidratate.



mavi

La ricerca scientifica nella dermocosmesi

Mavi Sud S.r.l. - Viale dell'Industria, 1 - 04011 Aprilia (LT)

MAVI E LA DETERSIONE: LE GIUSTE SOLUZIONI

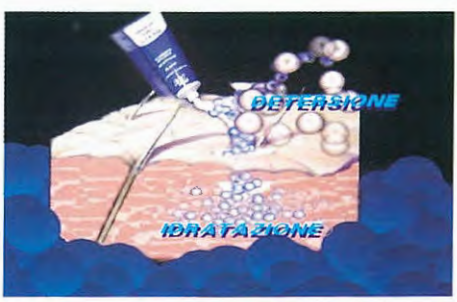
La Ricerca scientifica nella Dermocosmesi

Per Campioni Medici e Documentazione Scientifica scrivere a:

Mavi Sud S.r.l. - Direzione Propaganda Medica - Viale dell'Industria, 1 - 04011 Aprilia (LT)

MAVIGEN IDRO SCHIUMA
L'idratante che deterge

MAVIGEN IDROSCHIUMA trova la sua specifica prescrizione sopratutto per le pelli grasse ed acneiche che dopo i trattamenti farmacologici con benzoil perossido, acido retinoico, antibiotici o acido azelaico hanno bisogno, in genere, di essere reidratate.



mavi

La ricerca scientifica nella dermocosmesi

Mavi Sud S.r.l. - Viale dell'Industria, 1 - 04011 Aprilia (LT)

MAVI E LA DETERSIONE: LE GIUSTE SOLUZIONI

La Ricerca scientifica nella Dermocosmesi

Per Campioni Medici e Documentazione Scientifica scrivere a:
Mavi Sud S.r.l. - Direzione Propaganda Medica - Viale dell'Industria, 1 - 04011 Aprilia (LT)