THE VAGINAL MUCOSA
AND PERSONAL HYGIENE

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Synopsis

The vagina is a peculiar organ of the woman’s body: it is virtually an exposed cavity which undergoes substantial changes over the years and during the menstrual cycle in relation to hormonal stimulation; it thus has highly variable defences against external agents. In adult women the hair on the mont of Venus and the labia majora are a first protection barrier.

A very important feature in maintaining the physiological “ecology” of the vagina is a pH which also undergoes substantial changes throughout the menstrual cycle and over the years. pH is very low at ovulation and increases during the luteal phase.

The vaginal ecosystem can be heavily influenced by hormonal changes and is made up of many microorganism living together in perfect harmony. Amongst them, Doederlein’s bacillus pays a major role, turning glycogen into lactic acid and determining vaginal pH.

The use of personal detergents characterizes Mediterranean countries and has no pendant in Anglo-Saxon countries, where the bath replaces the bidet.

Such trend has increased during the last 5 years, indicating greater bodily care and awareness.

The perfect personal care detergent must:
- be gentle
- be as close to physiologic pH (3.8-4.2) as possible
- have a lenient effect on mucosae
- have no selective disinfecting effect
- not dry the cutis
- attenuate unpleasant smells naturally
- be packaged practically and hygienically

so as to remove pabulum, which may favour the development of pathogenic germs, and also keep the vaginal mucosa trophism (especially when it is physiologically insufficient), which may involve the development of Doederlein’s bacillus and also favour tissural metabolism.

Furthermore it is important that sexual intercourse is made easier if the vagina is dry. This means that personal detergents are necessary for women to keep such an important organ as the vagina healthy without making use of hormones (which are easily absorbed by the mucosa and may give rise to systemic effects) or of antimycotic or antibacterial substances (their abuse may cause diminished local resistance to phlogosis, resulting in a real immunodepression of the organ).
La vagina è un organo peculiare nel corpo femminile: è una cavità virtuale che comunica con l’esterno e che subisce notevoli modificazioni nelle diverse età e nelle varie fasi del ciclo a seconda degli stimoli ormonali cui è soggetta; conseguentemente le sue difese dagli agenti esterni sono estremamente variabili. Nella donna adulta una prima barriera di protezione è costituita dagli stessi peli che ricoprono il monte di Venere e le grandi labbra.

Un fattore estremamente importante per il mantenimento della fisiologia “ecologica” vaginale è rappresentato dal pH che subisce anch’esso notevoli modificazioni nelle diverse età e nelle varie fasi del ciclo: molto basso al momento dell’ovulazione, sale in fase luteinica.

Dell’ecoambiente vaginale, tanto sensibile alle variazioni ormonali, fanno parte diversi microrganismi che convivono generalmente in perfetto equilibrio. Tra di questi un ruolo di “primo attore” è svolto dal Bacillo di Doederlein, che con il suo metabolismo determina la trasformazione del glicogeno in acido lattico stabilendo così il grado di acidità del pH vaginale.

L’impiego di prodotti per l’igiene intima è un fenomeno caratteristico dei paesi mediterranei che non trova riscontro nei paesi anglosassoni dove l’uso del “bidet” è sostituito dalla doccia integrale. Tale fenomeno è andato ad aumentare nel corso degli ultimi 5 anni, sintomo di una maggiore attenzione e di una maggiore consapevolezza del proprio corpo.

Il detergente ideale per l’igiene intima deve:
- essere delicato
- avere un pH vicino ai valori fisiologici (3,8-4,2)
- possedere azione lenitiva sulle mucose
- essere privo di azione disinfettante selettiva
- non provocare secchezza della cute
- attenuare in maniera naturale gli odori sgradevoli
- avere una confezione pratica ed igienica

in modo da rimuovere il pabulum favorevole allo sviluppo dei germi patogeni mantenendo - specialmente nei casi in cui non sia fisiologicamente sufficiente - un trofismo della mucosa vaginale che comporti lo sviluppo del Doederlein e favorisca il metabolismo tissutale.

E’ importante inoltre che venga facilitato il rapporto sessuale là ove esistono situazioni di secchezza vaginale. Si devono cioè trovare prodotti intimi per la donna che mantengano vitale questo importante organo che è la vagina, senza ricorrere né ad ormoni - che vengono facilmente assorbiti dalla mucosa e possono dare effetti sistemici - né a sostanze antimicotiche o antibatteriche il cui abuso produce una diminuzione della resistenza locale della flogosi, una vera e propria immunodepressione d’organo.
The vagina is a peculiar organ of the woman’s body: it is virtually an exposed cavity which undergoes substantial changes over the years and during the menstrual cycle in relation to hormonal stimulation; it thus has highly variable defences against external agents (1,12,14,17).

In adult women, the hair of the mount of Venus and the labia majora are a first protection barrier. In young women, the labia majora are thick and resistant thus providing a further mechanical barrier which elderly women lack. After the menopause the labia majora become thinner, while the hair decreases and the rima pudendi remains disclosed. The local administration of a 2% minoxidil solution seems to be ineffective in preventing the substantial reduction pubic hair which occurs in elderly women, as the authors themselves have observed.

Even the labia minora protect the vagina. They are skin folds which are rich in dense and highly vascularized connective tissue having erectile properties. The labia minora have no hair follicles but are rich in oil glands which secrete a cheesy substance, with a peculiar and intense smell, on the vaginal vestibule, in the interlabial groove and below the clitoris cap. This mixes with secretions from the oil and sweat glands of the labia majora, with debris of soaked hair and stratum corneum, secretions from the major (Bartolino’s) and minor (Skene’s) glands of the vestibule, and with paraurethral secretions. Obviously such substances, rich in fats, sugars and proteins, may be an excellent medium for the development of several microorganisms (16,21,23,27) when proper personal care is lacking. Yet they also give rise to aesthetic and psychological problems connected with a feeling of “disorder”.

A passage by the greatest surgeon of the XVI century, Ambroise Paré, describing the vagina and its sexual function, is both interesting and humorous. He wrote:

“there is a certain serous moisture, similar to sperm but more liquid and less dense, which causes a sharp and exciting pungency odour like a light itch tickling, that stimulates the parts to perform their action, giving desire and pleasure, which builds up a great amount of hot spirits that long for release. On the other hand, this moisture - besides giving the desire for coupling, and a great pleasure - becomes very wet and soaks the urinary canal against their pungency odour. Could anyone reflecting on a woman’s natural canal and the filth passing through, the adjacent anus and bladder, be eager for coupling?”.

When parted, the labia minora reveal the vaginal vestibule where the hymen is located. The hymen is a highly vascularized membrane of variable shape and thickness: it can be lunate, annular, septate, cribiform, and rarely imperforate, which can create serious problems during puberty. Obviously, even the hymen performs a protective function. Into the vestibule open canals of Skene’s and Bartolino’s glands. These secretions contribute to the humidity of the cun- nus but, in spite of belief to the contrary, they are not useful to sexual life. Lubrication during coitus depends on perivaginal plexus transudation which is proportional to intensity of sexual stimulation and is related to stage of the menstrual cycle and to the patient’s age; in elderly women the mucosa is atrophic and fragile and lubrication is scarce (10,26).

Further in, the vagina becomes wider, forming the fornices with the uterine cervix. The rear fornix is wider and is where vaginale and cervical secretions, microorganism and flaking cells accumulate. In the rear fornix the material for vaginal smears is taken.

In addition to macroscopic anatomy the vaginal histology in different stages of the cycle and the woman’s life must be taken into account. In fact, a greater or lower sensitivity to external agents in strictly related to the condition of vaginal epithelium and thus to the hormonal situation (11,19,20,24,25).
The vaginal mucosa is polyptychial, rich in glycogen and the surface cells contain keratohyalin granules. In the follicular stage, just before ovulation, high levels of estrogens are responsible for thickening of the mucosa and a substantial glycogen content. Soon after ovulation, this gathers in granules, which are released externally by shedding of surface cells. During the luteal stage, the epithelium appears thin and has a low glycogen content. Obviously everything is related to procreation finalism linked to the different cycle stages.

A very important feature in maintaining physiological “ecology” of the vagina is pH which also undergoes substantial changes throughout the menstrual cycle and over the years. pH is very low at ovulation and increases during the luteal phase.

Changes in the vaginal epithelium during the menstrual cycle can be followed in vaginal smears made in the different phases. In the beginning of proliferative stage, that is soon after menstruation, cells are scarce and basophilic. In the late proliferative stage, influenced by the high estrogen level, shedded cells are keratinized, acidophilic and flat or curved according to the degree of shedding. In the initial secretory stage, due to progestational hormone production, surface cells increase in number looking wide, with curved edges and basoplasm, and some polymorphonuclear cells and Doederlein’s bacilli appear. Finally, in the late secretory stage some days before menstruation, collections of curved-edge basophilic cells can be noticed, shedding is at its maximum and free nuclei, Doederlein’s bacilli, cytoplasmic fragments, mucus and polymorphonuclear cells can be detected in the smear.

Babies have excellent defences against external agents. They have anatomic defences, such as hymen and cunnus turgor and the polyptychial vaginal epithelium, as well as biological defences, like the acid pH, the shedding of the vagina epithelium, and the secretions of the cervical glands stimulated by the high maternal-placental estriolmia (1).

After few weeks of life, to improve hepatic glucuronide conjugation, estriolmia and therefore the defences against external agents decrease (1). The mucosa appears thin and atrophic and will remain like that throughout childhood. The vaginal pH increases due to a glycogen lack and the absence of Doederlein’s bacillus. Cervical secretions is scarce and thus also vaginal cleansing. The protective effect due to turgor of the labia majora, labia minora and hymen decreases and the absence of pubic hair is a further lack of mechanical protection. The external genitalia are therefore more exposed to irritant and allergenic agents and to infection by microorganisms (1).

During pregnancy, as a consequence of the high levels of estrogens and progestational hormones, the mucosa grows to its peak, forming a thick layer of keratinized surface cells. In late pregnancy, the increase of progestational hormones leads to the formation of smaller cells with curved edges called “navicular cells”.

During confinement, due to the sudden fall in hormone levels, the vaginal epithelium flattens and basal cells prevail in the smear.

After the menopause, the vaginal mucosa looks very thin, pale and bleeds easily. The vagina is no longer acidic and infections become more frequent. Vaginal smears are atrophic and made up almost entirely of basal cells. Polymorphs can also be seen. The rate of anaerobic glycolysis decreases substantially. Glucose 6-phosphate decreases by 35%, fructose 6-phosphate by 76%, pyruvate by 39%, lactate by 40% and ATP by 12%.

In women undergoing estriol treatment, pyruvate, lactate and ATP increase while ADP decrease (12).

The vaginal ecosystem can be heavily influenced by hormonal changes and is made up of many microorganism living together in perfect harmony. Amongst them, Doederlein’s bacillus
plays a major role, turning glycogen into lactic acid and determining vaginal pH, physiologically ranging between 3.8 and 4.2, thus stopping microorganism developing in an alkaline environment (6,3,4).

Upsets of this balance can cause vaginitis. Microbiological or infectious alterations of the vaginal ecosystem may be due to pathogenic microorganism such as trichomonas vaginalis, hemophilus vaginalis, candida albicans, clamydia trachomatis or to common forms like colon bacilli, aerobic streptococci, anaerobic cocci developing beyond control (27,5,4,23).

Traumatic and irritating causes are also to be taken into account. Such causes can be identified with wearing clinging or synthetic clothes (tights), the improper use of diaphragm, irrigators, the use of spray deodorants and alkaline soaps, and an incorrect care of the external genitalia after defecation. Local irritation ensuing from such practices creates an ideal medium for microorganisms to develop.

Poor physiological protection of the vaginal mucosa (1) during the menopause and in childhood may lead to vaginitis. Abundant unmetabolized glycogen may predispose to fungal infections, and diabetes is another biological cause of vaginitis. Pregnancy and other conditions in which the natural defences are reduced, increased mucosal congestion, can be included in this category.

Antibiotic therapy can cause vaginal imbalance and encourage growth of fungi. Sexual intercourse can be a contagion. Poor personal hygiene especially after menstruation, parasitic infestations (ptheiriasis, scabies), fig warts and herpes genitalis can cause vaginitis. Oral contraceptives, on the contrary, do not seem to be responsible for candida, despite the common belief.

The symptoms of vaginitis depend on the responsible agent, with various discharges and irritation. Local aspects can be worsened by unrest and nervousness causing deep prostration in the most serious and recurrent forms. According to seriousness of the infection and the responsible agent, treatment is by antibiotics or antifungals by oral and/or topical administration.

pH is a major factor influencing the susceptibility of the vagina to the development of microorganisms. Usually, its value ranges from 3.5 to 4.2 rising to 4.5-4.9 during menstruation. Sometimes during pregnancy, it tends to decrease further, while during menopause it increases by 1 or 2 digits.

Vaginal acidity is due to lactic acid production by lactobacillus in balance with fungi or other pathogens that proliferate in alkaline environments. In fact, there is a correlation between pathogenic fungi or bacteria and vaginal alkalinity. Vaginal secretions may reach a pH as high as 8.5. In candida infections pH remains in general within normal range, whereas in trichomonas and hemophilus infections it may reach 5.0-5.5.

Normalization of the pH can be a way to make the environment as inhospitable as possible to these microorganisms.

In vaginitis, leukorrhea is to be distinguished from the normal odourless white secretions whose pH is around 4 that are physiological in all fertile women. Such secretions are made up of gland secretions, epithelial cells, vaginal serous extravasation and of the metabolic material of the microorganisms forming the normal vaginal saprophyte flora.

Sometimes such secretions are interpreted as due to lack of personal care or as inflammation requiring the over use of disinfectants leading to alterations in the physiological pattern. It is worth recalling that sometimes such secretions can smell unpleasantly, probably because of ammoniacal superfermentation.

The menstrual cycle, even though it is physiological catastrophe for the reproductive tract, does not cause substantial alterations in the overall pattern as tissue repair occurs in few days: cells are replaced, debris disappears and everything
The vaginal mucosa and personal hygiene

turns back to normality.
Genuine leukorrheas caused by bacterial, fungal or protozoan infections are white, yellow or dark green, often smell unpleasant, and provoke itching and irritation. Candida albicans and Trichomonas vaginalis are the germs most commonly involved. Recently, a microscopic bacterium, Clamydia trachomatis is increasingly implicated when adapted to obligatory cell parasitosis, as responsible for recurrent subacute vulvar vaginitis and salpingitis with sterility, a possible outcome.

Irritating layers

All skin affections can be located on the female external genitalia, yet the most common are irritating vulvitis immediately followed by contact allergical vulvitis.
The possible factors which can lead to an irritating vulvitis have already been mentioned. They are: deodorants, disinfectants, spermicides, clinging or synthetic clothes, unsuitable soaps or detergents, the abuse of therapeutic agents (antibiotics), debilitating affections (diabetes), nutritional deficiencies and so on.
When in contact with an irritated mucosa, sweat acts as a worsening agent, sometimes causing serious itching that can end up in impetigo.
Obviously, in irritative status, the overall physiological balance is altered, personal care is neglected or reaches paroxysm and could be a worsening agents if performed using unpropoer means.

Personal odours

The distinctive personal odours originate from many different sources in the pubic and perineal areas.

In addition to normal apocrine secretion, the odours of smegma are to be taken into account. Smegma arises from the oil gland secretions of the labia minora, the major vestibular lips, the small and strewn minor vestibular and paraurethral lips, and concentrates in the vaginal vestibule.
In the perineal region, the cutis of the anal orifice is rich of oil and sweat glands. Sweat glands are partly made up of circumanal glands whose secretion has a peculiar odour.
Further, exacerbating agents are soaked debris of hair and stratum corneum which collects in the inguinal wrinkles and the secretions of the oil glands long hair follicles. After puberty, these glands extend over the pubis down the labia majora and almost up to the abdomen.
The perineal and genital skin area as well as the remaining portion of skin surface are affected by the olfactory differences connected to genotypes, environment and nutrition, and by the considerable changes occurring during female adolescence especially in external genitalia.
In elderly women the vaginal mucosa is atrophic, and more liable to be attacked by external agens. Often different urinary disorders coexist (4,9,13,2,15,7,11,8,22,18).
In girls lubricating secretions are scarce, since there is apocrine perspiration in the pubic area until puberty (1).
During the fertile period, considerable changes occur in respect to both maximum secretion and transitory physiological conditions due to sexual activity or to small gynaecological disorders.
In this period many common female situations can be noticed.
Often in women using contraceptive pills mucousal secretions increase and in the genital area a stronger smell can be perceived that can become even stronger in time.
The peculiar smells of menstruation, even more violent in pathological states, are a real physic trauma for many women.
In this period susceptibility to pathogenic microbes (changes of physiological pH) and the reproduction of autochthonous microbes increase, with odorous consequences.

**Generative tract and personal care**

The use of personal detergents characterizes Mediterranean countries and has no pendant in Anglo-Saxon countries, where the bath replace the bidet.

Such trend has increased during the last 5 years, indicating greater bodily care and awareness.

**Personal care**

The first rule to be followed in correct care of the genitalia is frequent washing. Cleansing should be done very methodically during the day, even after urination, and drastic practices which may alter the vaginal saprophyte flora must be avoided.

Women should clean themselves properly, working in the right direction, e.g. always from cunnus to anus and never vice versa; in case germs hosted by anus (such as Escherichia coli) could penetrate the vagina. In the intestine such germs are innocuous, but in the urinary tract they may cause several disorders, such as smarting, tenderness, aches or, in the worst cases, kidney disease. For proper cleansing of the genitalia a detergent is necessary which keeps the environment at standard acid values, maintaining or restoring physiological pH values.

Before menstruation, hormonal variations cause an imbalance, resulting in changes in vaginal mucosa and increased vulnerability (pH).

During the menstrual cycle infections are more likely to increase, due to detachment of the mucosa and continuous laceration; the dilated cervical canal may also favour microbial penetration. During menstruation mucosal congestion may also make irritation more likely. As previously said, during childhood, pregnancy and old age hormonal activity leads to a decrease in local defences and this must be offset by proper care.

**Personal detergents**

Personal detergents are products based on rinsing. They fall within liquid tensiolytes, e.g. mixtures of surface-active substances with specific wetting, frothing and cleansing properties.

Detergents have a high capacity to lower surface tension; they concentrate on the mucosa surface, where they solubilize, emulsify and detach waste substances which may be adherent, making their removal easier. Their molecules are relatively big, and are made up of lipophilic and hydrophilic components. With a heterogeneous system surface-active agents push hydrophilic group towards water and the lipophilic group towards the other medium. In practice this property is used to obtain wetting, emulsioning, frothing or cleansing effect under special circumstances and as needed.

It is known that the cutis is physiologically covered by a layer of fats, gases and aqueous solutes; furthermore this layer, especially in its lipidic part, is very important for skin impermeability and its integrity. Not only do detergents remove possible soiling materials, they also emulsify and detach the lipidic phase of the epicutaneous layer, depriving the cutis of its impermeable and protective layer. Amongst detergents, nonionic (surface-active or nonionic emulsifying) detergents are definitely preferable both in cosmetology and dermatology. In the first case they are used for the preparation of cleansing creams and milks for face and hand care, face and eye make-up etc. In the second case - when combined with medicines - they
enhance their activity by increasing dispersion and consequently the contact areas and the penetrating potential. On the other hand they have a direct effect on the cutis by modifying the electrical potential of the horny layer, thus favouring the imbibition of superficial layers which facilitate absorption through fat glands. When carrying medicines these may penetrate even deeper, thus extending and completing their action. Differing from ionic detergents, nonionic ones are in general negligibly toxic, and they are well tolerated locally, with no injury and unwanted reactions.

There are different chemical types of surface-active agents:
- cationic surfactants
- anionic surfactants
- amphoteric surfactants
- nonionic surfactants.

1) Cationic surfactants (or active cations), with the hydrophil terminal positively charged. They are not suitable for cleansing, since they are repelled by filth, which is normally positively charged.

2) Anionic surfactants (or active anionics), with the hydrophil terminal negatively charged, are amongst the most powerful and effective detergents; they include soaps and modified soaps. Soaps are salts of weak acids and thus tend to hydrolyze, releasing alkalis and producing a basic pH. Therefore they are not recommended for preparation of personal detergents since they may cause pH imbalance which, even if temporary, may affect the standard bacterial flora by weakening its defensive effects.

On the other hand, newly-conceived anionic surfactants, such as for example collagenic by-products or starch soaps, are stable with an acid pH; thanks to the polypeptide chain they cleanse softly without causing irritation.

Furthermore, the advantage of such surfactants consists in the protein groups contained, in their molecules, which show considerable affinity with skin, whose surface is mainly protein.

3) Amphoteric surfactants (or anion-and cation-active) are molecules containing both positive and negative charges: this is why they are more keen to cutis and have a weakened cleansing effect. They are considered to be the most suitable surfactants for personal cleansing.

4) Nonionic surfactants (with no active ions) have hydroxylated-chain hydrophil terminals; their properties enhance cleansing performance. Sometimes they may also enhance the dermal features of the principal surfactant and make it better tolerated by the skin.

Other substances which may be included in the composition of personal detergents are those with disinfecting soothing, refreshing and deodorizing effects.

Very recently, pH-sensitive dye-indicators have been introduced. It seems possible that by making use of such indicators, cosmetic or therapeutic compounds can be made sensitive to the presence of pathogenic conditions of cutis and mucosa either before, during or after pharmacological local and general treatment.

In fact, such dyes could, for instance, be contained in a standard cosmetic detergent for external use only, and existing diseases or the therapeutic effectiveness of a medicine could be checked by verifying colour changes in the cleansing water.

**Deodorizing substances**

Personal detergents may contain limited doses of antimicrobials.

Compounds listed in the document VI of the EEC directive may be employed; such compounds are designed to act primarily as preservatives, some of which are also authorized as skin deodorants.

The most suitable are some formaldehyde, liberating agents, quaternary salts (particularly chlorhexidine) and polyphenol (usnic acid type).
On the other hand, halogenated diphenols are advised against by the manufacturing houses themselves (hexachlorophene, trichlorhydroxydiphenylether, halogenated compounds etc.).
The present trend is to reduce the use of antimicrobials to the lowest limit and to act odour by other methods: enzymatic diverters (triethylcitrate), smell-absorbers (ricinoleate zinc) and perfumed compounds with both deodorizing and bacteriostatic effect.

**Refreshing substances**

Sometimes essential oils are fragrant chemical bodies characterized by a particular chilling or refreshing effect are used instead of the perfumed compound: peppermint oil and menthol, eucalyptus and eucalyptol, thyme-oil and thymol etc.
The use of these mixtures is very appreciated in hot months. Their dosage is usually quite high (2%-3%), and this may cause irritation, especially if the detergent is applied directly on the vulvar area instead of being previously diluted with water.

**Anti-reddening substances**

However short the contact, substances with good decongestant effect may be used.
Saponins of butcher's broom, horse-chestnut and marigold, camomile flavonoids and mallow mucilages seem to be the most suitable ones.
Sometimes astringent substances both organic (hamamelis or retania tannins) and inorganic (aluminium salts) are employed. The use of extracts rich in flavonoids and essential oils is fairly widespread among herbalists; such extracts seem to have bacteriostatic, deodorizing and soothing effects.
Personal detergents are rarely solid or powered.

There are generally three types of detergents:
A) limpid very fluid
B) limpid semifluid (or gel)
C) opaque semifluid (or cream).
A standard bottle or pipe or - for more moderate quantities - a pumpe bottle may be used for applications. Personal detergents containing peppermint oil and eucalyptol in high doses are usually in a very fluid form. To solubilize such substances lauryl sulphate is not sufficient, and it is necessary to add both heteroglycols and specific solubilizers (e.g. ethoxylated ricinus-oil or ethoxylated alcohols). As a result of adding such solvents the system is made fluid.
Mixtures of alkylsulphates and betaines or betaines and amphoteric imidazolines - which in combination may make make-systems more viscous or even gel - are less fluid.
Personal detergents may be made opaque until they have a milky-creamy appearance - sometimes with pearly reflections - by addition of fatty substances which are insoluble in surfactants, for example, ethyleneglycol stearate, glycercyl stearate and similar materials.
Viscosity, limpid and opaque appearance, pH, possible colour, fragrance and frothing characterize and distinguish different personal detergents.
Functional components as listed above may also be added in these structures.
In such detergents optimum pH values usually range between 4 and 5 and are never above neutrality (pH 7).
Finally, the perfect personal care detergent must:
- be gentle
- be as close to physiologic pH (3.8-4.2) as possible
- have a lenient effect on mucosae
- have no selective disinfecting effect
- not dry the cuts
- attenuate unpleasant smells naturally
- be packaged practically and hygienically so as to remove pabulum, which may favour the
development of pathogenic germs, and also keep the vaginal mucosa and personal hygiene or make it more susceptible to infection, which may involve the development of Doederlein’s bacillus and also favor tissue metabolism. Furthermore it is important that sexual intercourse is made easier if the vagina is dry. This means that personal detergents are necessary for women to keep such an important organ as the vagina healthy without making use of hormones (which are easily absorbed by the mucosa and may give rise to systemic effects) or of antimycotic or antibacterial substances (their abuse may cause diminished local resistance to phlogosis, resulting in a real immunodepression of the organ).

Potential allergens contained in the products must be equally avoided, since it has been ascertained that many of the so-called “recidivous vaginal phlogoses” are caused by allergic reactivity to medicines. Vaginal and, even more, vulvar cosmetic treatment seems to be a completely new area to be investigated, on which there are no precise scientific references; one reason may be the lack of cooperation on this delicate subject between dermatologists and gynaecologists. The initiative taken in this congress to put together knowledge from different disciplines within the vast cosmetologic tradition may be very helpful in solving the numerous problems of this large branch of medicine.

References


sial climacteric; the workshop moderator’s reports presented at the 3rd International Congress on the menopause, held in Ostend, June 1981, under the auspices of the International Menopause Society. Lancaster MTP, p. 179.

