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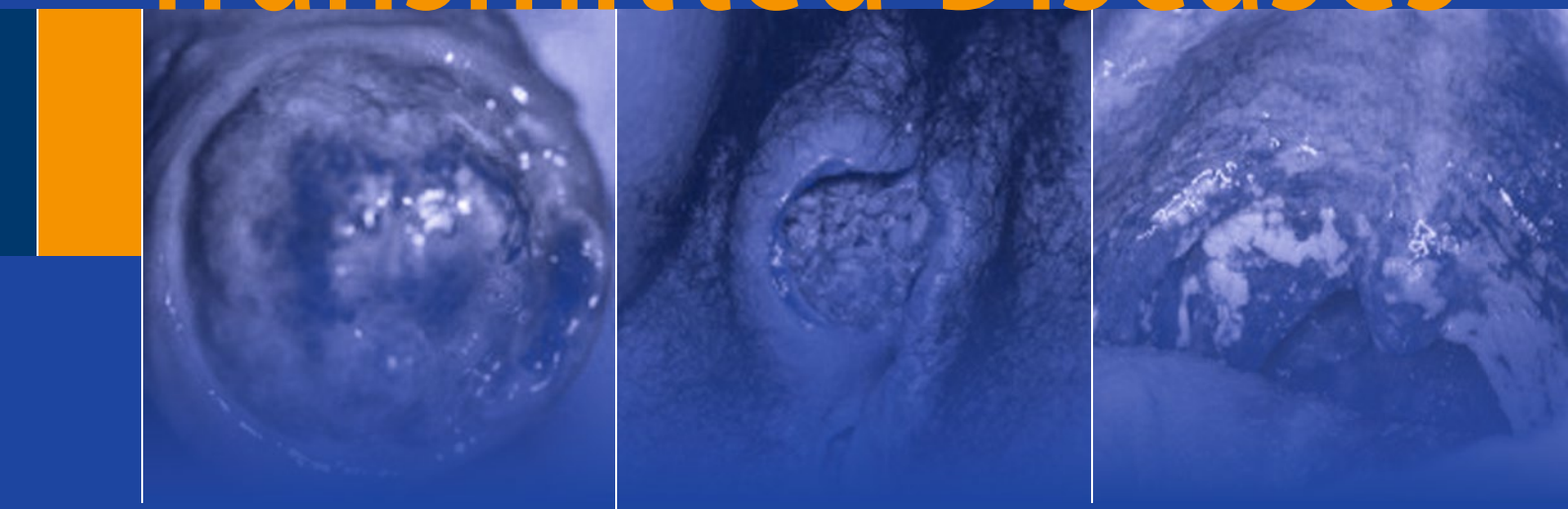

Clinical Aspects and Differential Diagnosis

Springer

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Translation from the Portuguese language edition: "Atlas de DST & Diagnóstico Diferencial" by Mauro Romero Leal Passos (ed), © Livraria e Editora Revinter LTDA, 2012. Original publication ISBN: 978-85-372-0406-1.

ISBN 978-3-319-57468-4 ISBN 978-3-319-57470-7 (eBook)
https://doi.org/10.1007/978-3-319-57470-7

Library of Congress Control Number: 2017953048

Printed on acid-free paper

This Springer imprint is published by Springer Nature
The registered company is Springer International Publishing AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Foreword

In these days of Internet with facial recognition tools spreading from airports to banks and social media with photo sharing apps, do we still need a bound paper reference book? Yes, we do! We need a solid academic book, easy to search, with good pictures and sound practical tips. Professor Mauro Romero Leal Passos and his team of Brazilian leading scientists have created such a reference book. The differential diagnosis of sexually transmitted diseases is an art combining questionnaire, risk evaluation, physical examination, laboratory tests selection as well as counseling. The physical examination is still the most important stepping stone to proper patient management. With so many diseases with features overlapping we need a solid reference book. We may be a few years before we can take a picture and wait few seconds for a diagnosis to come in through Internet but before it becomes a reality I do suggest you acquire Professor Mauro's reference book for your practice either in dermatology, venereology, urology, family medicine, or gynecology-obstetrics. Your management skills and your teaching will improve, your students will gain experience faster, and, even more important, the well-being of your patients will improve more rapidly.

Have a great reading and viewing.

Marc Steben
Québec National Public Health Institute,
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Preface

What a Professional Involved in STD Should Know

Treating STD/genital infections should consider immediate actions and should not be trivialized, for simpler the case may seem.

In latest epidemiological data published by the international literature, the syndromic approach on STD is not supported by the medical perspective with scientific evidence and etiologies' epidemiology involving the main syndromes. Nevertheless, there may be good results in specific situations in the short term.

We believe the main purpose of professionals working in any Science field is to treat other people the way they would like to be treated.

One fact is to treat a patient with a syndromic approach methodology in a specific situation. Another one is to consider the syndromic approach as the only STD assistance policy for the whole country, not valuing nor implementing specialized centers of public and/or private medical attention for the research and epidemiological surveillance on STD.

Considering that STD is not decreasing in the world and the naive actions-based approaches do not reveal solid and lasting progress. On the contrary, the numbers of STD cases advanced.

In 2000, the World Health Organization (WHO) estimated 340 million new cases of four curable STD per year (*Trichomoniasis* 172 million, *Chlamydia* 92 million, gonorrhea 62 million, syphilis 12 million).

In 2008, the same WHO showed other estimates: 498.8 million of same curable STD (*Trichomoniasis* 276.4 million, *Chlamydia* 105.7 million, gonorrhea 106.1 million, syphilis 10.6 million).

To make this situation more difficult, gonococcal strains resistant to multiple antibiotics, including quinolone, are practically a problem all over the world. Furthermore, we all know (or should know) that combating the antibiotics overuse is one of the main questions in the fight against antimicrobial resistance.

STD Fact Sheet, February 2013, from CDC—Incidence, Prevalence, and Cost of Sexually Transmitted Infections in the United States—reveals:

CDC's estimates of STI (USA, 2008):

- Annual new infections (incidence), 20 million dollars, USA, 2008.
- Total infections (prevalence), 110 billion dollars, USA, 2008.
- Total medical costs: 16 billion dollars, USA, 2010.

Is it possible to imagine what the numbers for South Africa, Brazil, China, India, Russia would be? Just to name a few countries.

In July 9, 2014, during the "2014 STD Prevention Conference/CDC", Atlanta, USA, professor King K. Holmes, in a brilliant lecture entitled *Progress and challengers in the evolution of sexual health and STI prevention*, wrote the first phrase in his last presentation slide: *At First: Just need more and better diagnostic and treatment.*

He did not speak only to Americans; he did it to the entire world. Oddly enough, we are lacking basic actions of medicine in STD area.

Clinical sense, common sense, knowledge of epidemiology in this field (local and global), and individualized service related to a specific time have to be constant in every medical assistance. This is different from not seeking the better standards of medical care routinely. Guessing should be for activities such as theatre, cinema, joking among friends.

Therefore, It Should Not Be Postponed

- Excellent anamnesis.
- Satisfactory physical examination and complementary examinations.
- Counseling (on health education, being available to listen).
- Offering serology for syphilis, HIV, hepatitis markers especially anti-HBS, HBsAg and anti-HCV.
- Emphasizing the adherence to the treatment (supervised therapy in the query or make the medication available at the time of the appointment).
- Emphasizing the importance of appointment/examination/treatment of sexual partners.
- Emphasizing the importance of periodical physical examinations (gynecological/prostate).
- Emphasizing the importance of vaccine schemes available in the country (hepatitis A, hepatitis B, HPV).
- Knowing that medications can be acquired in case they are not available to patients during the appointment. And that the so-called generic medications do not always cost less.
- Providing condoms (male/female).
- Scheduling return to the medical appointment for control/review.
- Being available or provide appointment to sexual partners.
- Asking the patient, especially at the end of the anamnesis, the following question: Is there something I didn't ask or talked about that you would like to tell me?
- Notifying the cases to public health organizations for a proper epidemiological surveillance.
- Claiming, demanding the best human and technical resources available for a good medical care, whether public or private. Remember once again that our main objective is to treat everyone the way we ourselves would like to be treated.

Major Syndromes to Be Observed in STD/Genital Infections

- Genital ulcers (genital herpes, syphilis).
- Urethral discharge (gonorrhea, *Chlamydia*).
- Vaginal discharge (bacterial vaginosis, candidiasis, *Trichomoniasis*).
- Endocervicitis/pelvic pain (gonorrhea, *Chlamydia*).
- Testicular pain/swelling (gonorrhea, *Chlamydia*).
- Proctitis (gonorrhea, *Chlamydia*).
- Ophthalmia (gonorrhea, *Chlamydia*).

Notes

There may be more than one agent and/or more than one syndrome concomitantly.

Sometimes, a syndrome simulates another. For example, gonococcal ulcerated balanitis or cervical and/or vaginal wounds causing vaginal discharge.

Many genital changes, even some infectious diseases, do not configure STD.

More than 20% of genital ulcers, even employing good laboratory resources, are undiagnosed. Several cases are autoimmune diseases/unknown origin.

In many situations, systemic diseases can cause genital repercussions, with cutaneous and mucosal rush or genital ulcers.

Caution and good sense should be observed not to exaggerate the use of antibiotics, especially in associations.

The indiscriminate use of antibiotics is an important factor to be combated in order to reduce the microbial resistance to drugs.

Important

People with immunodeficiency (AIDS, malignant neoplasm, use of immunosuppressant) can have atypical and/or exaggerated responses to many infections. For these people, treatment may require increased dose and time of use, and even a change of the administration path of anti-infective medicament. Repeating the scheme and/or hospitalization is not unusual.

Women in their teens, in perimenopause, and young gay men are groups in which there has been a great progress in the incidence of HIV infection in several countries during the last years.

Vaginal discharge (due to inflammatory process or microbiota imbalance) exposes woman to great vulnerability to HIV (susceptibility increases in case she is seronegative) and transmission of the virus (transferability increases in case she is positive). Trivializing the medical care in these cases means trivializing the life quality of a community.

Sensitivity of a Laboratory Test

- Measures the test ability to detect an infection.
- Is the maximum concern about the population with a high prevalence of the disease, as it happens in the STD clinics.
- The sensitivity appraises the proportion of positive individuals among all infected patients.

Specificity of a Laboratory Test

- Measures the test's ability to properly exclude the uninfected individual. It is the maximum concern with the tests of the population with a low prevalence of the disease, as is the case of the family planning clinics and private clinics in general.
- The specificity appraises the proportion of individuals uninfected with negative test.

Reflection

Finally, the items we have been pointing out and divulging for a long time are the following:

When treating (attending) a person suspected STD, perhaps it is easier or more didactic to recommend **what Not to do**:

- A prejudiced attitude towards gender/sexuality, skin color, education, socioeconomic and cultural status, occupation, religious belief, place of habitation or birth.

- Provide diagnosis and treatments based on assumptions without verifying the epidemiological, laboratory and clinical data, because not all there is in the genitals is sexually transmitted. On the other hand, extragenital signs and symptoms can (co)exist with STD/HIV, especially syphilis, HPV.
- Not invite the patient to think about the attitude towards all situations involved nor provide basic information about the problem.
- A judge attitude (make a judgment of the patient and/or situations involving the case).
- Ignore all emotional and existential story involved in the case.
- Fail to make good use of the meeting with the patient to start/expand the process of health education/prevention of other damages to the health. For example, trying to get to know the vaccination status of the patient (hepatitis A, hepatitis B, HPV, flu).
- Avoid "being ashamed", postpone asking other colleagues' opinion about cases of chronic evolution, recidivism and resistant to treatments already made, especially, but not only, in situations where the diagnosis is not fully established. The well-being and the full recovery of the patient is fundamental. Not the "wisdom" of the doctor.
- Overvalue publications on cost-effectiveness. Generally, these studies are made in very different environments, usually public health units, where most professionals treat STD. Although the medical practice has a broad and collective vision, it is a custom/personal assistance. At least for us, to quantify the value (and welfare) of human beings (and their families) is a task that we are not able to perform. Neither our goal.
- The absolute majority of the actions that have caused (and still cause) great impact to a huge number of people start with a decision/personal attitude.
- We can mention as mere examples: discovery of the tuberculosis ***Bacillus***; the discovery of penicillin; proposal of a bill requiring the Federal Government of Brazil to ensure antiretroviral therapy in the public health system; free vaccination scheme against HPV, since 2007, for girls and women up to 26 years of age, and for boys, in 2014, by the Government of Australia.

Niterói, Rio de Janeiro, Brazil — Mauro Romero Leal Passos

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The Skin and Eruptives Lesions

1

1.1 Introduction

The skin is the largest organ of the human body, and corresponds to 15% of the body's weight. Although there are topographical variations, it is composed of three basic structures layered in the following order: hypodermis (subcutaneous layer), dermis and epidermis.

This covering tissue that bounds the individual of his environment has as vital functions the protection against external aggressions, the maintenance of fluids in the body, and the thermoregulation, besides playing an important sensorial role. Due to its great accessibility to inspection, unlike the viscera, the skin becomes one of the major components of the physical beauty providing self-esteem and social coexistence. Frequently, aesthetic changes cause inferiority feelings and unthinkable social discrimination to people for the rest of their lives.

This inspection easiness requires the knowledge of a number of skin changes related only to aesthetics, in order to differentiate them from those that actually bring harm to health.

The cutaneous integrity is fundamental so that the skin can properly put in practice its prevention function against the access of toxic agents, microorganisms and excess of ultraviolet radiation to the body, impede the loss of fluids, and protect against excess of temperature, mechanical forces and low-voltage electric current.

1.2 Skin Structure and Function (Fig. 1.1)

1.2.1 Epidermis

The epidermis is a stratified, keratinized, not vascularized pavement epithelium of ectodermal origin. The epidermis originates the following cutaneous attachments: pilosebaceous follicle, sudoriparous glands, hair, and nails. Its main functions are the relative impermeability, which prevents the free movement of fluids and molecules in both directions, the protection from the entry of microorganisms, as well as from excessive ultraviolet radiation and low-voltage electric power.

As it is not vascularized, the epidermis depends on the supply of nutrients through the dermis, with which establishes a relationship of interdependence.

The dermis basic element is the keratinocyte, which during its migration towards the surface undergoes a differentiation process, whose goal is the production of keratin. When the keratinocyte reaches the surface, it is transmuted into an inviable and anucleated cell full of keratin, which will then perform the main epidermic functions.

The epidermis is divided into four cell extracts, characterized by degrees of its keratinocytes differentiation and morphology. The nearest layer to the dermis is the basal layer, following towards the surface the spinous extract, the granulous and finally the corneal (Fig. 1.2).

M.R.L. Passos (ed.), *Atlas of Sexually Transmitted Diseases*, https://doi.org/10.1007/978-3-319-57470-7_1

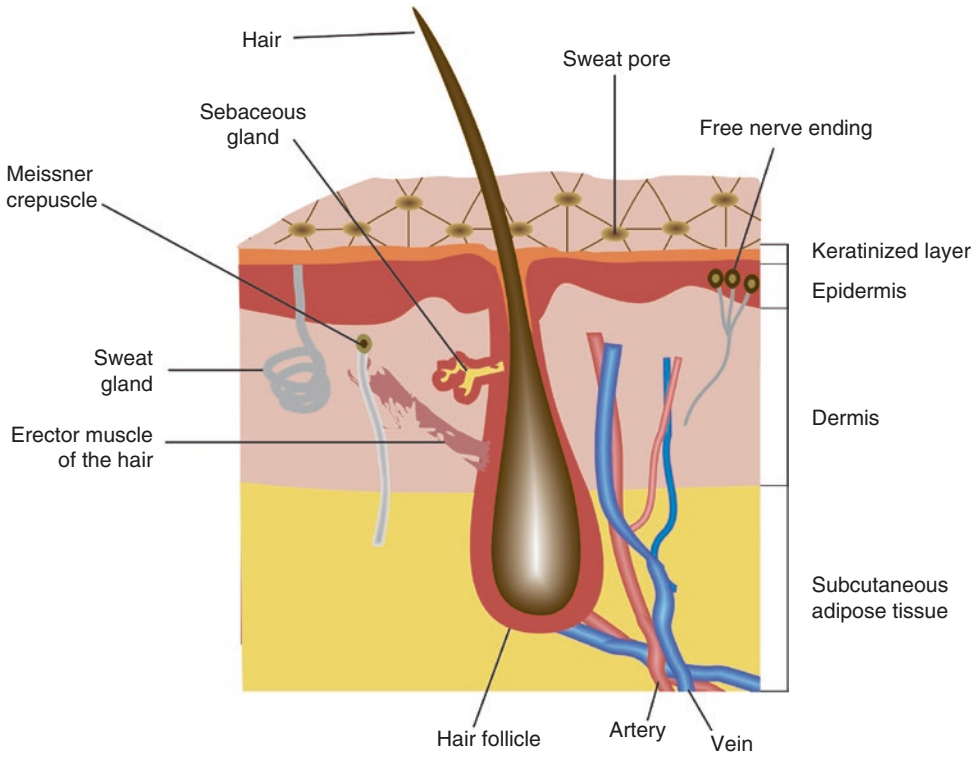

Fig. 1.1 Skin Structure and Function

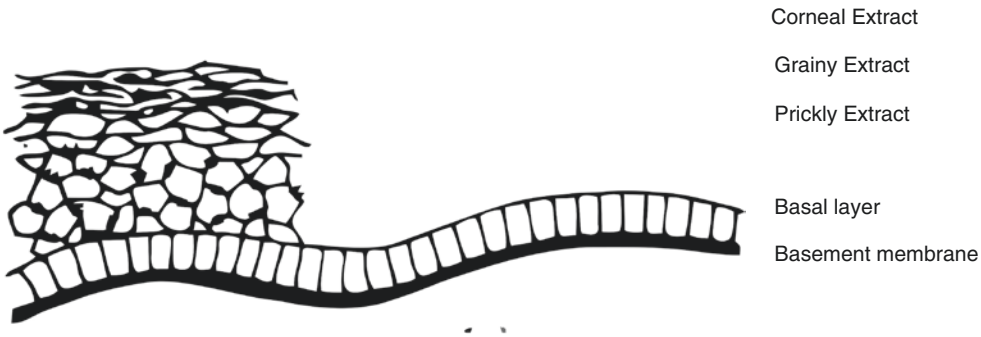

Fig. 1.2 Epidermis

1.2.1.1 Basal or Germinative Layer

As the cornea's cells are continuously removed, the maintenance of the epidermis depends on a permanent replacement of new cells. This replacement is promoted by the keratinocytes mitosis of the basal layer, which are little differentiated, and retain proliferative capacity. The basal layer is composed of a single layer of cylindrical cells, with the largest axis perpendicular to the dermoepidermal junction. In normal skin, around 10% of the basal cells are in mitosis. At any given time this percentage could increase depending on the physiological (repair) or pathological (e.g., psoriasis) needs.

1.2.1.2 Spinous Extract

It consists of several layers of polygonal keratinocytes under differentiation process. These are rich in cytoplasmic tonofilaments, grouped more compactly, as the cell progresses toward the surface. These tonofilaments are the precursors of keratin.

1.2.1.3 Granulous Extract

It consists of variables layers of flattened keratinocytes containing granules of keratohyalin associated with cytoplasmic tonofilaments. These granules seem to contribute to the formation of the cytoplasmic matrix of corneal cells.

1.2.1.4 Corneal Extract

It consists of 8–15 layers of flattened anucleated keratinocytes. The cytoplasm is completely filled with a very resistant and insoluble fibrous protein called keratin.

As it is the final product of the keracinocyte differentiation, the corneal extract is the main responsible for the protective functions of the epidermis. Although it is not completely impermeable, it is an excellent barrier to the movement of fluids, molecules and microorganisms, and any damage to its integrity harms this function extremely.

Its low water content is the unique and exclusive feature that raises difficulties to the establishment of microorganisms on the surface of the skin.

The epidermic extracellular space is extremely impermeable, allowing the nutrition of all epidermic layers, except the corneal extract. A water-soluble barrier is located in the boundary between the granulous and the corneal extract. This barrier is probably responsible for the abrupt transformation of the viable cornified cells in not viable ones, because it disables the nutritional supply to those cells located above it. The impermeable property of this region appears to be caused by two factors: a special substance secreted at this level and represented by Odland bodies or lamellar bodies, and a type of intercellular contact found only there, named *zonula occludens*, in which there is an intimate union between the adjacent cytoplasmic membranes.

There are still two other specialized types of epidermal intercellular contact: the gap junction and the desmosome. The gap junction sets a free traffic corridor between the adjacent cells and plays an important role in the differentiation of the epidermis as a whole; only missing in the corneal extract.

The demosomes are the main and most numerous types of epidermal intercellular contact. They occur in all layers, providing stability to the tissue. The hemidesmosomes occur between the basal cells and the basal lamina (Fig. 1.3).

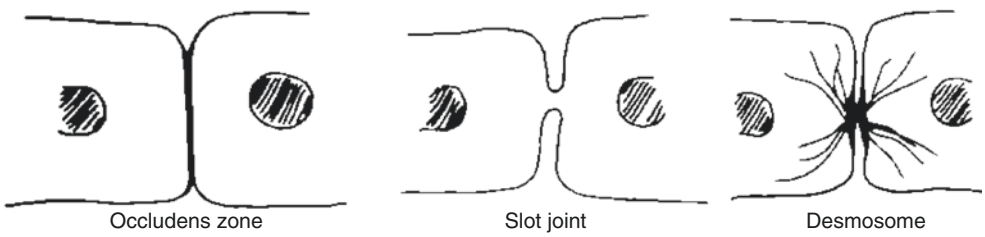

Fig. 1.3 Epidermal intercellular contacts

1.2.1.5 Dermoepidermic Junction

The dermoepidermic junction corresponds to the basal membrane in the optical microscopy. The electronic microscopy is a complex structure comprising the cytoplasmic membrane of the basal cells, the lucid blade (empty space), the basal lamina and the most superficial portion of the papillary dermis. Promoting adhesion between the basal cells and the basal lamina, are the hemidesmosomes, and between this and the dermis, the anchoring fibrils and microfibrills (Fig. 1.4).

The basal lamina has the following functions: ensure the dermoepidermic adherence, guide the migratory direction of keratinocytes to the surface and work as a system of pores of different sizes, allowing the quick passage of small molecules and making difficult the passage of larger molecules.

Fig. 1.4 Dermoepidermal junction

1.2.1.6 Other Epidermic Cellular Components

Non-keratinocytes cells of the epidermis are called clear cells, as they require special coloring to become evident. We will consider the melanocyte, the Langerhans cell and the Merkel cell.

Melanocyte

The melanocyte is a dendritic cell of neural crest origin (neuroectodermal) located between cells in the basal layer in an approximate proportion of one melanocyte to ten keratinocytes.

Its function is the synthesis of melanin obtained by the action of the enzyme tyrosinase on tyrosine. Melanin is stored in rounded cytoplasmic structures, the melanosomes, which are transferred to the adjacent keratinocytes via phagocytosis of dendritic cytoplasmic portions. Thus, the melanocyte functions as a unicellular exocrine gland.

Melanin is a brown pigment with photoprotection action. Racial variations of skin color depends on the quantity, size and morphology of the melanosome produced, as the melanocytes number and the melanin quality are basically the same.

The exposure to ultraviolet radiation increases the production of melanosome and its transference to the keratinocytes, causing skin pigmentation and providing greater protection against future exposures. White skins are more susceptible to harmful immediate action (burning) and late action (elastosis, keratosis, epitheliomas, melanomas) of this radiation.

Melanocytes are still susceptible to MSH (Melanocyte Stimulating Hormone), as well as to sex hormones, to inflammatory agents and to vitamin D produced in the epidermis.

Langerhans Cell

Is a dendritic cell situated in the basal and granulous layers, containing cytoplasmic granules in the form of a racket. Also originated in the bone marrow, performs an important immune function, presenting the antigen to dermal lymphocytes.

Merkel Cell

It is found in the basal layer of the skin of the fingers, lips, gums and palate, playing a mechanoreceptor sensorial function.

1.2.1.7 Cuttaneous Attachments

Pilosebaceous Follicle

Structure formed by the hair follicle, sebaceous gland, and hair erection muscle.

Hair Follicle

The hair follicle is distributed throughout the skin except in the palmoplantar regions. It is formed in the embryonic life by invagination of the keratinocytes. In the hair follicle ends the sebaceous gland duct, and in certain regions (axilla and genital region) the duct of the apocrine sweat glands also. All these structures are located in the deep dermis.

The hair presents three cyclical and permanent stages: anagen, catagen and telogen, corresponding respectively to growth, regression and resting of the follicle. The growth speed varies according to different parts of the body.

Much more than the aesthetic and the sensorial function, the hair is important for the protection from solar radiation, thermal homeostasis and tissue repair, acting as true reservoir of epidermal stem cells.

Sebaceous Gland

This gland originates in a protuberance of the hair follicle. Vary in number, size, and activity in the parts of the body. Under action of testosterone becomes active from puberty. Their secretion (sebum) is basically composed of liquids, which, together with the lipids derived from the corneal layer, will form the lipid mantle, which is a factor of impermeability (hydrophobic) and antisepticing.

Apocrine Sebaceous Gland

Derives from the same invagination germinal layer, which gives rise to the hair follicle. It is an androgen-dependent scent gland present only in the axillary, genital and periareolar areas, whose secretion is metabolized by the skin saprophytic bacteria, producing characteristic odour that functions as a social and sexual attraction.

Erector Hair Muscle

Smooth muscle positioned at the top of the dermis inside the hair follicle.

Eccrine Sudoriparous Glands

These glands, formed by epidermal sprouting, are distributed throughout the skin. The greater concentrations areas are located in the palmoplantar regions. They are located in the deep dermis and flow directly on the surface of the skin. Their number varies from two to four million, and its total mass is equivalent to a kidney's. An individual can secrete up to 10 L of sweat per day.

Its basic and vital function is the thermoregulation obtained through the sweat evaporation with the consequent cooling of the cutaneous surface.

The composition of the secretion includes water, sodium, calcium, magnesium, iodine, phosphorus, sulfur, iron, zinc, manganese, mercury, urea, amino acids, albumin, types IgA, IgG and IgD alfa globulins and immunoglobulins. However, the serum metabolites depuration is fully held by the kidneys and is not considered a vital function of these glands.

1.2.2 Dermis

The dermis is a soft connective tissue, richly vascularised and innervated. The cellular elements of the normal dermis are the following: fibroblasts (dermal fibres' producers), mast cells, histiocytes, dendritic cells and a small number of lymphocytes. The extracellular matrix is composed of fiber proteins (collagen and elastic fibers) and the essential substance (*proteoglycans*).

It is divided into papillary dermis or superficial (composed of thin collagen fibers arranged vertically), deep or reticular (thick collagen fibers, grouped in dense bundles horizontally compressed), and adventitial (around vessels and attachments).

The dermis performs a protection function against mechanical aggressions due to its viscoelastic property, providing the resistance to tensions and pressures, and becoming recomposed after these movements. Due to this vascular power, it plays an important thermoregulatory role. It has a close relationship with the epidermis, suppressing its nutritional, hormonal, nervous factors, and others.

1.2.3 Hypodermis

The subcutaneous tissue, or hypodermis, is composed of adipocytes' lobules, limited by septa of collagen fibers, which accommodate vessels and nerves. It performs protections functions against mechanical force (pressure) and loss of heat as well, besides storing calories.

1.2.4 Nails

Nails are cytokeratin structures covering the distal phalanges, originated in the nail matrix. Other nails components are the following: eponychium, nail plate, nail bed and hyponychium. Their main function is to protect the ends of the fingers and toes against traumas, keeping the touch of the fingers. It also plays an important role in aesthetics of the hands and feet, particularly for women.

It is a structure of several changes caused by local and systemic diseases, sometimes assisting in the diagnosis conclusion.

1.3 Dematological Diagnosis

The great difficulty of the dermatological diagnosis arises from the small number of possible clinics manifestations due to a wide variety of pathological conditions. However, an accurate analysis of the individual lesions, the arrangement between them, its distribution through the integument associated with systemic manifestations and history, are often enough to the correct diagnostic conclusion. When it does not occur, we make use of the laboratory resources.

The dermatological exam training is like learning to read, and depends on basic theoretical knowledge and a lot of practice.

The dermatological examination routine must always obey the following anamnesis rules: patient identification (full name, age or date of birth, color, marital status, birthplace, and occupation), main complaint, history of present illness, past medical history (including drugs of regular or sporadic use), physiological and pathological history, family background and social history (and also considering conditions of housing, travelling, etc.).

Starting with the observation of the general state of the patient, the examination of the skin, mucous membranes and nails, carried out with the patient preferably entirely naked and under good light conditions. At first, the patient should be inspected at some distance, and considered the distribution of injuries and extension of the manifestation; subsequently examination of the injuries in detail, the type of the lesion, its color, shape and size, arrangement, distribution, and finally, palpation of the consistency, temperature and humidity.

After the physical examination, we can retake the history of the present or pathological disease, and with a diagnostic suspicion already formed, treat it. The following must be necessarily questioned: time and evolution of the disease, subjective symptoms (pruritus, pain sensitivity, etc.), drugs used, description of the initial injury, triggering or aggravating factors and systemic symptoms.

Finally, we can use semiology (sensitivity test, etc.) and laboratory resources, such as specific dermatology procedures (dermatoscopy, biopsy, microbiology, etc.), and the usual (CBC, etc.).

1.3.1 Dermatologic Semiology

The eruptive elements, or cutaneous efflorescence, or elementary lesions can be classified according to the type of injury, shape, arrangement and distribution.

1.3.1.1 According to Type of Lesion

Several classifications of the eruptive elements have already been identified. The most used are the Schulmann's with some changes, as it is didactic and easy to understand.

We can group them into six types, as follows:

- Color-changing lesions.
- Solid lesions.
- Liquid content lesions.
- Lesion with cutaneous thickness change.
- Lesions with continuity solutions.
- Senile lesions.

Color-Changing Lesions (Fig. 1.5)

It is an exclusive change of the skin color, without the modification in the relief or in the consistency of the skin. When the change is limited to an area it is called macula or stain, and receives various names when the process is widespread.

1. Stain
   The origin can be vascular, transitory or permanent, or by pigment deposition.
   (a) Transitory Vascular Stains
   - Erythema: various shades of red due to vasodilatation. Characteristically disappears through vitro pressure. There are several subtypes:
   - Cyanosis: purple, reduced hemoglobin, consequent to the venous congestion.
   - Enanthema: erythema located in the mucous membranes.
   - Exanthema: generalized erythem.
   - Erythrodermia: universal erythema involving all the skin and often accompanied by exfoliation.

   (b) Permanent Vascular Stain
   - Angioma: red, flat, disappears through vitropressure, caused by vascular neoformation.
   - Anemic Nevus: permanent pale.
   - Telangiectasia: linear, capillary vasodilation.

   (c) Blood Stains
   Also called purpura, occurs by extravasation of vases erythrocytes of reddish-violet to purple colour, does not disappears through vitropressure.
   - Petechiae: pinpoint.
   - Wound: bigger, in sheet.
   - Víbice: linear.

   (d) Pigmentary Stains
   Naturaly related to the concentration of melanin in the skin. However, it may occur due to the deposition of other endogenous pigments (e.g. bilirubin) or exogenous (e.g. carotene, tattoo, etc.), causing different colorations related to the provocative element.
   - Hypocromic: whitish due to melanin reduction.
   - Achromic: porcelain-like, melanin absence.
   - Hypercromic: excess of melanin or other pigment.

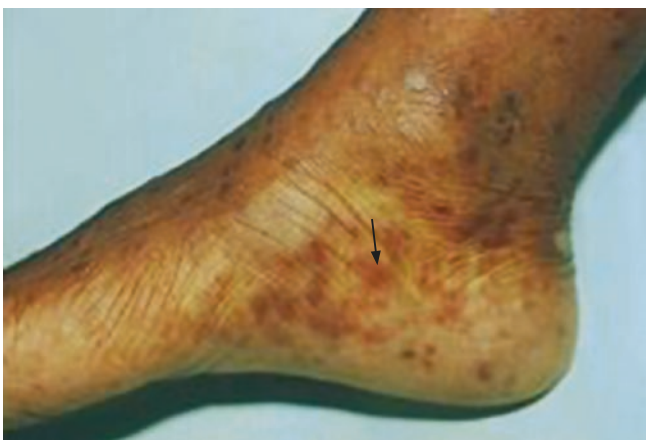

Fig. 1.5 Eruptive lesion with color change—erythematous spots (syphilitic roseola)

Solid Lesions

(a) Papule Fig. 1.6
- Smaller than 1 cm.

(b) Plaque
- Less than 1 cm, with a diameter greater than 1 cm. Often it is a consequence of the confluence of papules.

(c) Nodule (Fig. 1.7)
- May show or not important changes of the protuberance, in general more palpable than visible, limited, with a diameter between 1 and 3 cm.

(d) Nodosity or Tumor
- Limited, with changes of the protuberance or not, bigger than 3 cm in diameter. Normally used for neoplastic lesions.

(e) Gumma
- Nodule that evolves with infiltration, softening, fistulization, ulceration and scarring.

(f) Vegetation/Condylomatous (Fig. 1.8)
- Papule or plaque consisting of small, multiple and grouped elevations.

(g) Urtiga (seropapule)
- It is the typical lesion of urticaria, consequent to dermal edema, high, flat and characteristically evanescent, disappearing in a few hours.

(h) Verrucosity (Fig. 1.9)
- Papule or plaque with hardened surface due to the peculiar increase of the corneal layer.

(i) Tubercle
- Papule or nodule, which usually progresses and leaves a scar.

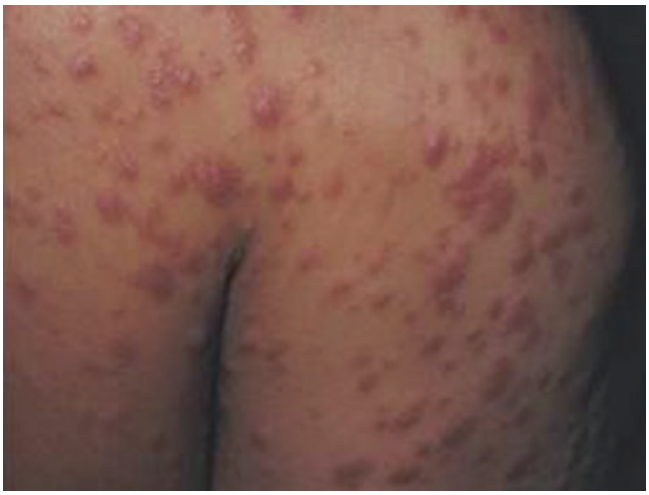

Fig. 1.6 Eruptive lesion, solid lesions—papule (secondary syphilitic)

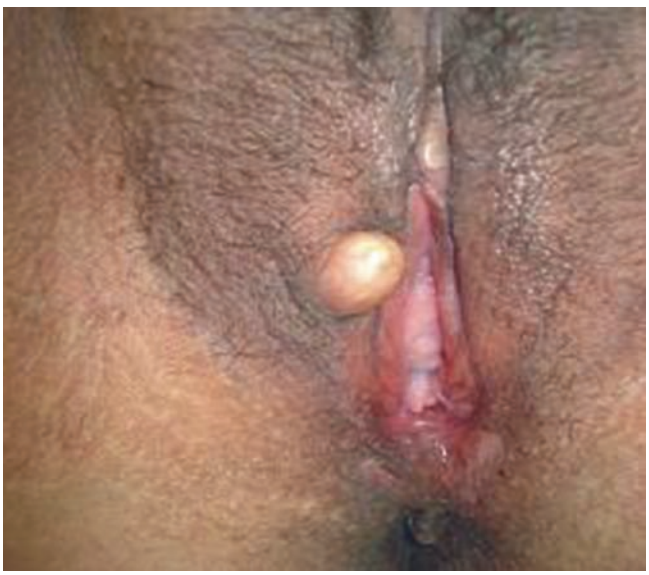

Fig. 1.7 Solid eruptive lesion, nodule (cystic inclusion)

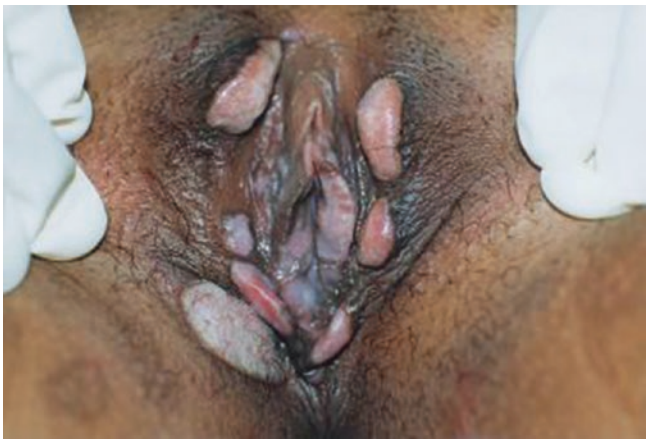

Fig. 1.8 Eruptive lesion, solid lesions, vegetation/condylomatous aspect (flat condyloma, secondary syphilis)

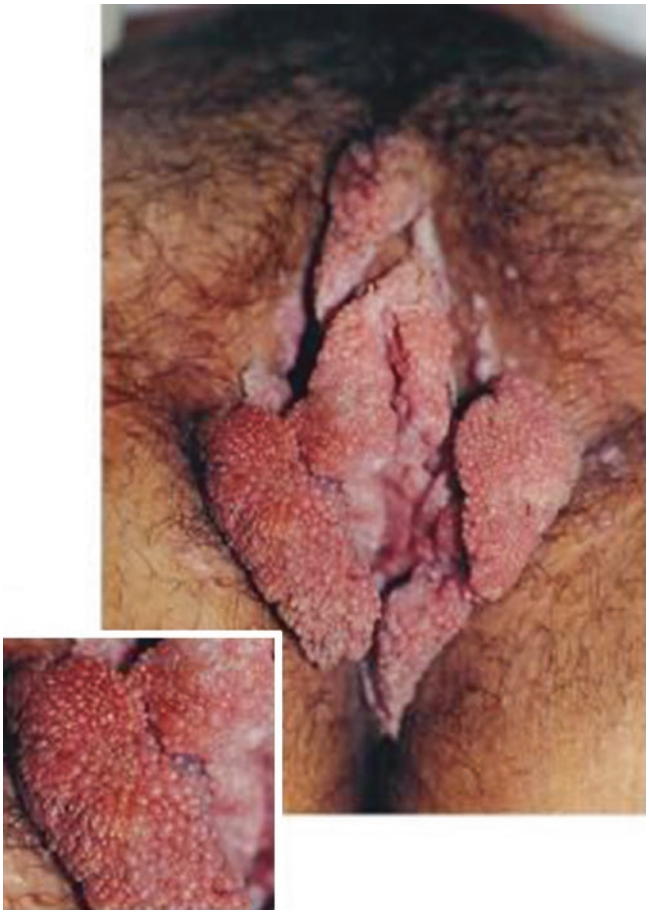

Fig. 1.9 Eruptive lesion, solid lesions, verrucous aspect(condyloma acuminata— HPV)

Liquid Content Lesions

(a) Vesicles (Fig. 1.10)
- Liquid accumulation up to 0.5 cm in diameter.

(b) Bubble
- Liquid accumulation over 0.5 cm in diameter.

(c) Pustule (Fig. 1.11)
- Superficial purulent accumulation smaller than 0.5 cm in diameter.

(d) Abscess (Fig. 1.12)
- Deep purulent accumulation.

(e) Hematoma
- Blood accumulation.

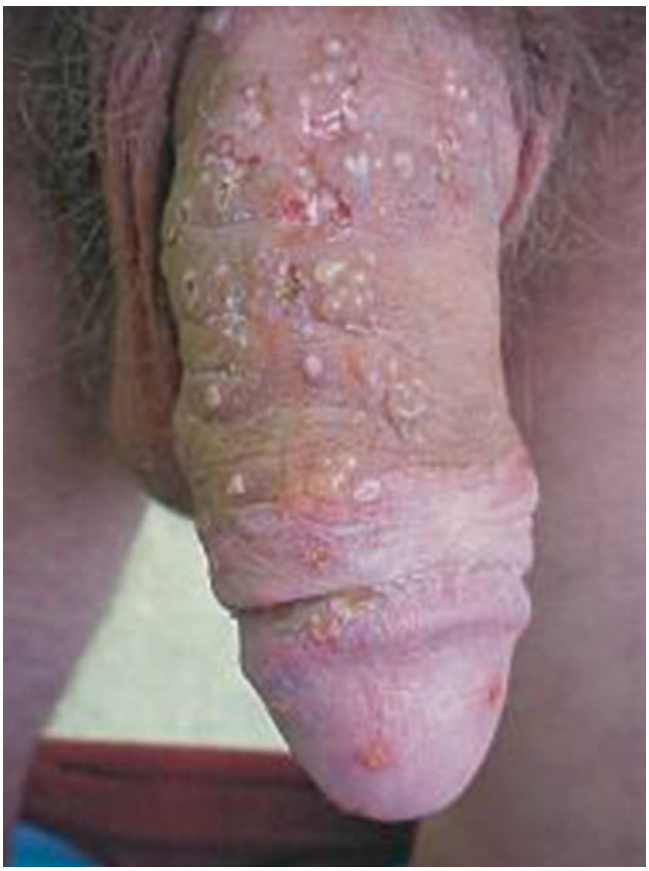

Fig. 1.10 Eruptive lesion of liquid content, vesicles (genital herpes)

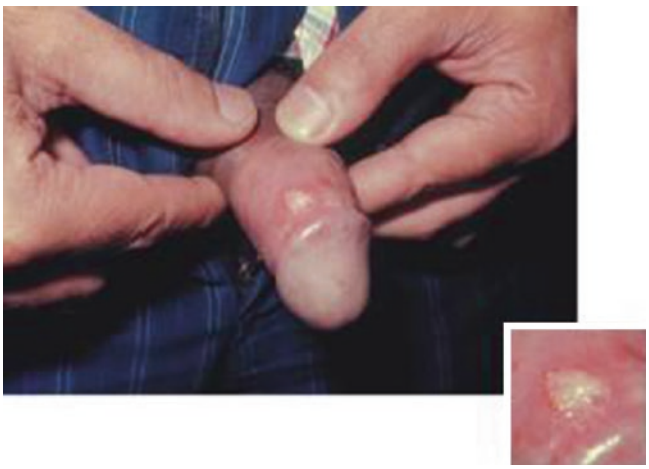

Fig. 1.11 Eruptive lesion of liquid content, pustule (genital herpes)

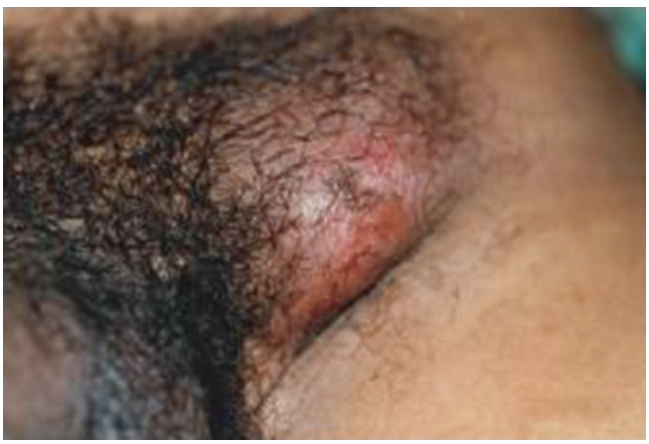

Fig. 1.12 Eruptive lesion of liquid content, abscess (lymphogranuloma venereum)

Lesions with Cutaneous Thickness Change

(a) Keratosis
- Thickness due to the increase of the corneal layer, dense and inelastic.

(b) Lichenification
- Increase of epidermal thickness with accentuation of the skin grooves.

(c) Infiltration (Fig. 1.13)
- Resulting from the dermal cell infiltrate, presents increase of the skin consistency with a decrease of its natural groove.

(d) Esclerosis
- Increase of skin consistency, which becomes inelastic due to collagen changes.

(e) Atrophy (Fig. 1.14)
- Can be epidermic, dermic, or hypodermic; it the first one, the epidermis is thin and transparent, while in the others there is a depression of the skin.

(f) Scar
- Residual element of a pathological process. May be atrophic, hypertrophic, or keloidal, where grooves, pores and hair are absent.

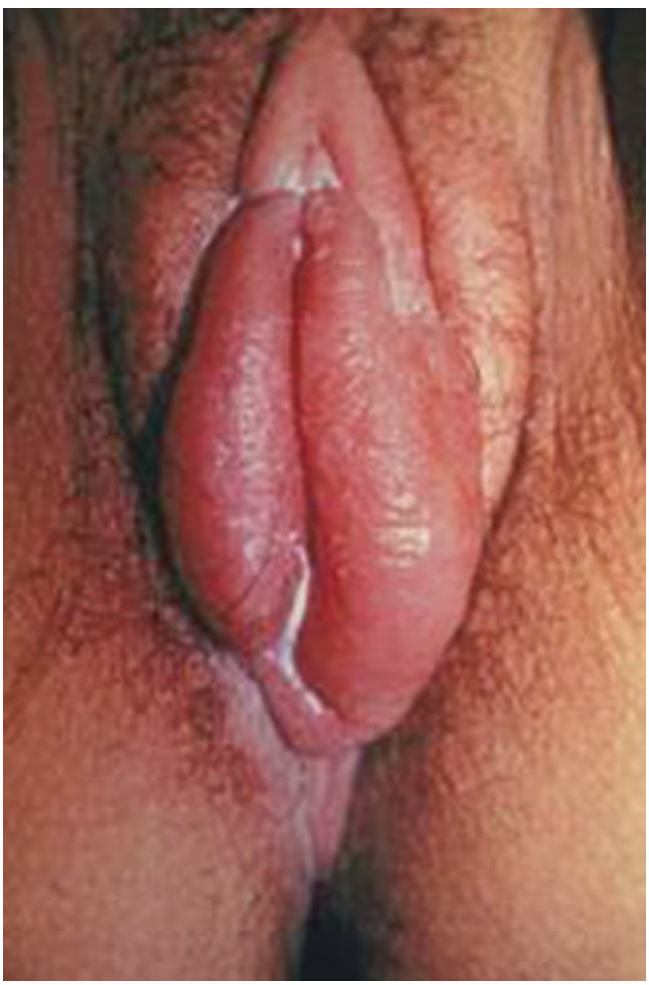

Fig. 1.13 Eruptive lesion with changes in cutaneous thickness, infiltration (swelling in vulvitis due to candidiasis)