

The Evolution of Medical Science and Dermatology

From the magical interpretation of disease and the doctrine of humours to experimental research on etiology and immunopathology, the evolution of medical science, including dermatology, was slow until the beginning of the 20th century and then accelerated rapidly (Tilles and Wallach).

The introduction of microscopy in the XVII century boosted investigation of certain diseases.

One may smile at the long labours of medicine and the concepts of disease from the beginning of mankind until the present, but it is easy to understand. From "instinctive medicine", by which the first men healed themselves, as animals still do when they spontaneously look for drugs, medical science progressed with the other cultural, ideological and technological achievements of mankind. It took more than four centuries to discover the agent causing syphilis (1905), whereas in recent times only three years passed from the identification of AIDS to the isolation of the virus, even if the existence of only one factor determining the disease is still under debate.

Technology has considerably developed and accelerated scientific research, but an important contribution must be credited to conceptualists and keen observers of the past, as "anything a man touches has something of the man who touched it before" (Scarna).

The first documents mentioning skin diseases - Ebers's papyrus (2000 B.C.), Sanskrit writings and the Bible (1000-800 B.C.) - are very vague and it is difficult to give them indisputable nosological attributions.

It was the Greek culture that brought about more significant dermatological references. In that period, the first profound observer of matters concerning the skin was Empedocles of Agrigento (Sicily, 500-440 B.C.). He guessed

the skin-breathing theory which replaced the lung theory and was demonstrated 24 centuries later by Lazzaro Spallanzani (Bellini).

Hippocrates (born in Cos, in Dodecanese, around 460 B.C.) described dermatoses as idiopathic and symptomatic, and terms like "erythemata, exanthemata, phlyctena, lichen" firstly appeared.

Aulus Cornelius Celsus (25/30 B.C. - 45/50 A.C.) linked scound to the scalp, Pliny the Elder (23-79 A.C.) identified herpes zoster and mentagra (chin sycosis), Avicenna (Abu Ali Al Hussein Abdullah Ebn Sina, 980-1037) described "albarras nigra" (ichthyosis).

The institution of Universities (XIII century), the freedom to engage in anatomical dissection and the invention of the press (XV century) helped the deepening and dissemination of medical science. Present-day dermatology has its roots at the end of the XVIII century and developed in Europe and throughout the world from the XIX century onwards. Vincenzo Chiarugi (1759-1820) started teaching a course on "Sordid skin diseases and mind disorders" in Florence in 1778, and wrote an essay on "Sordid Skin Diseases" in 1799.

In Italy, the first autonomous Chair of Dermatology was assigned to Casimiro Manassei, at the University of Naples, in 1859.

Terminology of Acne and Diseases

The naming of disease was useful to designate the major morphological and subjective features. Many diseases are referred to by the names of the researcher who first identified them or even of illustrious patients (Job's disease for leprosy; Socratic nose for Socrates's saddle-nose, St. Lazarus's disease for the ulcers covering his body), of mythological figures (Syphilus's disease, for syphilis - according to others from the Greek terms "siflos" meaning

filthy; "bacchia", face redness, from Bacchus, of wine) of cities, regions and rivers (Button of Aleppus, Baghdad, Damascus, etc, for skin leishamianiasis; Naples disease or French disease for syphilis, Asturias disease for scabies, Crimean disease for Cossack leprosy), of Saints giving protection from the disease (St. Damian for erysipelas, St. Anthony for herpes zoster), of fruits and legumes with morphological reference (date sickness and fake lupin for skin leishamianiasis) etc. (Cipriani).

Usually, nosological denomination is linked to Greek or Latin. Therefore, the etymological study of the scientific terms suggests the explanation of the reference to the disease. However, the connection between the terms and the disease is not always clear. In fact, it is difficult

to trace back to the period when the term was firstly used and the meaning given to it and, furthermore, with the passing of time, the word has been distorted and differs from its original form.

It is not easy to list the terms relating to what is meant by acne today though the disease appears to have been studied since long ago. (Delaberge et al.). The difficulty is due to the unclear definitions of dermatoses given for many centuries and the multiple uses of any single term. In the beginning, each term was used to designate more than one vaguely related pathological form; subsequently authors often used the term to designate single forms. Moreover, the same term may refer to quite different dermatoses because, at the time, it was difficult to make differential diagnoses. On the other hand, the same

Table I

Synonyms of acne

1) Italian and foreign synonymy

ACNE - Italian and Spanish

BOURGEONS, SAPHIR, BOUTON, COUPEROSE, MENTAGRE - French

AXNE, ZENION JONTHOS, - Greek

VARUS - Latin

STONEPOCK MAGGOT, PIMPLE WHELKS - English

FINEN, BOTHGESICT - German

VINEN, STEENPUISTJES - Dutch

2) Chronological synonymy

AXNE - Aezio

VARUS - Sennert, Linneo, Sagar.

BACCHIA, GUTTA ROSEA vel ROSACEA - Linn.

PSYDRACIA ACNE - Sauv.

JONTHUS VARUS ET CORYMBIFER - Young

PHYMAFACIEI, PHYMA WASI - Good.

HERPES PUSTULEUSE - Alibert.

ACNE, MENTAGRE, COUPEROSE - Biett, Cazenave et Schedel, Guibert, Rayer

According to: Delaberge, Monneret e Fleury: Compendium of Practical Medicine, 1954

Willan's authority in 1080. In 1832, Alibert re-instated the Latin term "varus", but to no purpose.

Willan and his follower Bateman identified four kinds of acne: simplex, pointed, hardened and rosacea. In 1842 Wilson made a clear distinction between acne simplex and acne rosacea.

Other special clinical variants (acne necrotica, conglobata, flemmonosa, cystica, keloid acne) and chemically induced acne-like rashes (e.g. by chloride, bromide, iodide, mineral oils such as grease and tar) have been added to so-called acne vulgaris, connecting each species to its specific causation.

Development of etiological concepts and Acne Treatment

As Bazzi points out, a first period, from the ancient Greek time to the 1850's, is ruled by the Hippocratic humoral doctrine based on the influence of blood, phlegm, yellow bile and black bile or actrabile.

During the second period, from 1842 with Simon up to the earliest 1900's, the parasite theory (Simon's *Acarus follicolorum*, Wilson's *Entozoon follicolorum*, Gervais's *Simonea follicolorum*) prevailed.

In the third period, the XX century, attention has been drawn to genetic factors (race and familial heretability), age and sex, sebum production and acid fat metabolism (lipasis), androgenic hormones, rash media, the lack of vitamins (vitamin A), the influence of complementary (food, environmental, professional, mental) factors, and to the bacteriological and biochemical role of *Propionibacterium acnes*, *Staphylococcus epidermidis* and *Pityrosporum ovalis*.

This led to the classification of several clinical, morphological and pathogenic species, with different therapeutic implications.

1600 years ago Marcellus, Theodore I's (Hecht)

physician, suggested a simple care: "Glare at a falling star and, at the very same time the star is still falling from the sky, cover boils with a cloth or anything else to hand. Whilst the star is falling from the sky, boils will fall from your body, yet you must pay special attention not to touch them barehanded or they will pass on your hand".

This is a case of magic and psychological medicine, but it is not to be wondered at since similar suggestions still appear successful for warts and exhaustive explanations of their mechanism are given by neuroendocrine-immunologists.

Buchan suggested that great care must be exercised in the therapy of chronic and refractory forms. He proposed the sole use of palliatives, since "assuming a cure exists, this will surely involve some danger" ensuing from likely internal complications. Copland (cited in Delaberge's dictionary) also warned about curing acne that "can sometimes be placed amongst the diseases that are dangerous to heal. This circumstance caused stomach, intestine, breast and head diseases, which surrendered to the influence of skin diseases. Such distinctive accidents are very frequent after the retropulsion of other eruptive diseases".

Actually, such statements, although seemingly funny, are the basis for some modern psychosomatic theories, specifically related to acne and psoriasis. It is, incidentally, worth considering the popular theory claiming that acne is to be "led out", thus being thought of as "youthful outlet".

Aporti reported that "sometimes acne fades out at once, to extend for sure to internal organs; then the patient's life is more or less endangered."

However, Alibert was rather doubtful. He believed "medical helplessness to have led to the false idea of acne as a natural and healthy depuration, thus being dangerous to fight back." Researchers claimed that continuing and intense studying moods and fright, wrath, daily

troubles (Aporti), some sad passions, a lively spiritual pain (Delaberge et al.), lively emotional affections, tasks requiring mental concentration and a heavy blood flow to the head (Rayer); unrestrained spiritual toil or pain (Buchan); excessive mental or physical work (Aporti); as well as a sedentary and idle life seem to favour acne (Delaberge et al.). Also arthritis and lymphatic disorder (Bazin), goitre and scurvy (Buchan), pregnancy and menstruation (Chiarugi), cold and wet climates (Aporti) can favour acne.

So can any dissoluteness like sensual pleasures (Buchan), intemperance and youthful addiction to the fatal habit of onanism (Delaberge et al., Besnier and Doyon).

However, Hardy linked acne to sexual abstinence, so that the French called acne in the young who were unaccustomed to the pleasures of love as "wisdom buttons".

Everybody acknowledged the influence of dietary errors: sour and salty foods, pepper, spices, coffee, chocolate, wine, spirits (Buchan) and beer (Chiarugi). yet, Buchan acknowledged that "people exist whose behaviour is blameless and regular even on food and yet are affected".

External causes include cosmetics: "it seems undoubted that creams and red lead that women use to tan or smooth their skin help pimples to rise as they clog pores and suppress transpiration".(Buchan).

Patients are counselled to arm themselves with constancy, to be compliant and not give in to vain hopes, while physicians are recommended to persevere.

The suggested treatments consist of "a diet poor in nutrients: white meat, fresh vegetables, dairy products, vegetable jellies, water-rich and laxative fruit" (Delaberge et al.); soups, young animal meat, sole or wine-hued water during meals (Buchan).

In addition, dry, pure (Migne) and fresh (Rayer) air.

For systemic treatments, absolute preference is given to bleedings and leeches for local effects

in proximity of the affected parts "in order to free skin tissues from blood in excess, or on peripheral parts to obtain a local fluxion".

Rayer claimed that foot bleeding and leeches applied behind ears or on temples and nose lobes usually succeed (Ambrogio Pareo suggested broad bleeding, from the basilic, front and nose veins; many leeches will be attached to the face at then same time, and cupping glasses sacrificed on shoulders).

If related to lack of menstruation and a haemorrhoids, leeches will be posted on vulva and anus correspondingly to the time of such periodical evacuations".

In order to attract blood to the feet, Buchan suggested plunging the legs in hot water over cycles of eight days followed by eight day of rest. Patients were counselled to avoid cold feet, causing blood to flow to the head, and to cover the head with a light hat (Devreaux).

Frequently, the oldest local remedies included turpentine, vinegar, soap and myrrh-based liniments (Rayer). In order to force chronic eruptions of pimples to an acute stage, caustics such as hydrochloric acid and pure silver nitrate (lunar caustic) were used, such that "any misuse caused face skin to be externally and deeply ruined with scars disfiguring the patient's physiognomy more than the disease itself (Aporti).

Ammonium chloride, mercuric sulphide, sulphur, iodide and calcium oxide based ointments were used or "ill parts were covered with a cantharidine powder-based vesicant up to provoking strong pain and deep tegumental injuries whose traces could hardly be destroyed" (Delaberge et al.).

Alibert reported that, "Men of great dignity called many physicians of different worth from Egypt to Rome and paid enormous amounts to be healed. Pamphylus was among them. He gained special distinction and great fame for his vesicant that he used to apply with extraordinary success. History has it that he soon gained considerable fortune; but wrecking scars

resulted from his remedy which could not be deleted”.

Correctly, Rayer warned that “less painful, dangerous but equally effective remedies” existed, though he acknowledged that vesicants could lead to brilliant results.

Rayer was surely stricken by the effects noted on one of his patients: After three of four hours using the vesicant she felt her bladder heating, her matrix neck swelling and stinging, and vomited, passed and went restlessly, moving all around as if on fire, seemingly insane and feverish”. But, finally, Rayer reported - the lady “back home, was married off, had nice children and lives without anyone realized she had her face scarred.”

However chemical peeling with dilute

trichloroacetic acid and cauterization by carbon dioxide cryotherapy at not very low temperature are still brilliantly successful.

At the end of this presentation on the history of dermatology it can be stated that although scientific investigations have greatly deepened our knowledge at the pathology it is possible to claim that many theories developed in the past are still valid and acne is not yet fully understood.

As several factors participate in the clinical manifestations and there are numerous morphological components of the disease, therapeutic approaches still differ and their results are inconstant.

The mystery of acne remains, and is a source of ever new observations.

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