

papules, as well as the lack of a history of epidemic occurrence. *Acne* is a chronic affection occurring in youths and young adults and is limited to the face, back and shoulders and presents papules, pustules and comedones. These are features which distinguish it from the pustular syphilide. *Impetigo contagiosa* runs a definite course, presents thin, curled-up crusts having the appearance of being stuck on, and is seen chiefly upon the face and fingers.

The Bullous or Pemphigoid Syphilide. The bullous or pemphigoid syphilide is very rare in acquired syphilis, less so in the hereditary form. It is a late manifestation and appears as discrete, superficial, flattened, dis-

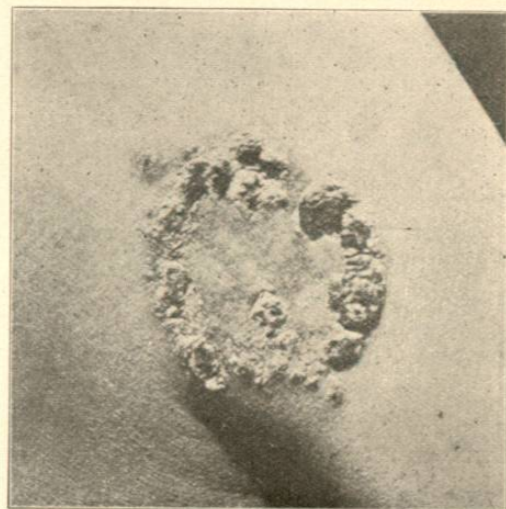


Fig. 98.—Pustulo-Crustaceous Syphilide (Ohmann-Dumesnil).

seminated bullæ, the contents of which is puriform and soon dries into thick, greenish-black, adherent crusts surrounded by a dark-red areola. The crust may be stratified and rupial, like that occurring with the large, flat, pustular syphilide. The crust covers a superficial erosion or deep ulcer, depending upon the general condition of the patient, the ulcers being deeper in debilitated subjects. It is a malignant type of syphilide and when healed will leave scarring and pigmentation in accordance with the character of the preceding ulceration.

Diagnosis. The diagnosis of the bullous syphilide is to be made from *ecthyma*. Ecthyma is much more acute and inflammatory, has shallower ulceration, its crusts rarely become rupial and it heals readily under non-specific treatment. *Pemphigus* is to be distinguished from the bullous syphilide by the cardinal features of the syphilide, history of infection, preference for the hands and feet, reddish-coppery areola around the blebs and permanent disappearance of the lesions under anti-syphilitic treatment.

The Tubercular Syphilide. The tubercular syphilide belongs to the later period of syphilis, is usually seen after the first year and may appear many years after the initial lesion. It is of limited extent and presents grouped nodules, rounded, firm, glistening, fleshy or slightly wrinkled and scaly. The color is at first pink then changes to a dull, coppery-red. The tubercles are deep-seated and from the size of a pea to that of a cherry and are often arranged in the form of circles complete or in segments which are formed by involution of centrally situated lesions. The groups are single or numerous, symmetrically disposed and are seen chiefly on the



Fig. 99.—Tertiary Ulcerative Syphilide (Unna).

forehead, back, shoulders and about the joints. Tubercles and groups may coalesce and spreading peripherally form serpiginous areas of considerable extent (*serpiginous tubercular syphilide*).

The tubercular syphilide is slow in its course and if unmolested will remain for years. The lesions disappear by resolution and absorption with the deposition of pigment and cicatricial tissue (*resolutive type*) or by ulceration (*ulcerative type*).

The ulcers may concern one group when they are clean-cut with steep

edges and a yellowish, gummy, sloughing floor; or several neighboring ulcerative lesions may coalesce and form serpiginous, crescentic areas of ulceration which show, by their outline, their derivation from smaller ulcers. Large, spreading tracts of infiltration are sometimes seen with raised, crusted or scaly margins, more or less widely distributed, or involving in one continuous sheet considerable areas of skin surface.

The ulcers give rise to but slight subjective symptoms and heal with smooth, pigmented, depressed scars.

A *vegetating* or *papillomatous* form sometimes develops from the tubercular as well as from the large, papular syphilide and is observed principally upon the scalp, nose and about the mouth, especially in negroes. The growth projects sharply upward in warty clusters, closely assembled

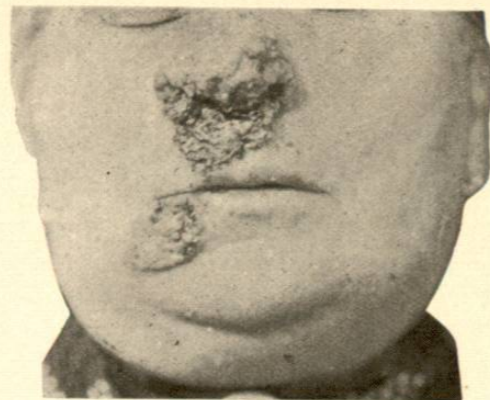


Fig. 100.—Gummatous Ulceration of Nose and Lip (Unna).

and discharges an offensive, yellowish, purulent secretion from the spaces between the masses.

Diagnosis of the Tubercular Syphilide. The diagnosis must be made from lupus vulgaris, epithelioma, tubercular leprosy. *Leprosy* shows thickening in the course of certain nerves, especially the ulnar at the elbow joint, the nodules are slow in evolution, the skin shows areas of anæsthesia and brown-pigmented patches. *Epithelioma* is a disease of middle-aged and elderly people; it is usually single; when ulcerated has an uneven floor with waxy, hard border and is painful. *Lupus* is slow in growth, the tubercle is softer, contains material like apple-butter, the ulcers are soft, punched out, and the cicatrices are uneven and puckered.

The Gummatous Syphilide. The gummatous syphilide is a late manifestation and shows itself as one or more, flat, rounded, usually painless tumors varying in size from a pea to a marble and situated in the subcutaneous tissue. They are at first freely movable and can be readily rolled between the fingers. The skin covering them is normal in color or reddened. Later in their course fluctuation can be detected, the skin becomes

adherent, breaks down and deep ulcers are formed which are wider at the base and have coppery-red borders. Occasionally instead of a definite tumor an infiltrated patch is formed which disintegrates and is converted into an ulcer. The ulcer heals and leaves a depressed permanent scar. The gumma may disperse without breaking down, but if uninfluenced by treatment tends to ulceration.

Gummatous syphilides show a preference for the lower extremities. The gummatous masses in the skin are similar to those found in the viscera and elsewhere in the body.

Gummatous syphilides may be distinguished from fibroid or fatty tumors, sebaceous cysts and furuncles by their course, duration, character of the resultant ulcer and their reaction to treatment.

SYPHILIS HEREDITARIA CUTIS.

A distinction must be made between infantile syphilis, which may be acquired, and hereditary syphilis, which is congenital and not limited to infancy. The former exhibits only such departures from the adult type of the disease as are occasioned by the age of the patient and the lowered resistance of the tissues.

Hereditary syphilis usually manifests itself in the first month of existence in the form of coryza, the nasal secretion accompanying it being thick, tenacious and so obstructing the nostrils as to interfere with nursing as well as breathing. This condition is called "snuffles." Involvement of the larynx with erythema or mucous patches causes a peculiar, toneless cry or complete aphonia. The infant loses flesh, becomes emaciated, pallid, cachectic, peevish and fretful and takes on the "old man" appearance. The skin is sallow, dirty-white, or dull, reddish and furfuraceous. Mucous patches and condylomata make their appearance in their characteristic localities.

The eruptive lesions of hereditary syphilis belong, as a rule, to the *macular*, *papular* and *bullous* types.

The *macular* or *erythematous syphilide* occurs in the first or second month after birth in the form of round or oval, variously-sized, bright or dark-red or ham-colored patches which disappear on pressure when recent. The spots or patches tend to coalesce and cover considerable areas of skin surface, especially about the mouth, buttocks, genitals, palms and soles. The skin frequently has a glazed, shining appearance and is infiltrated, of a yellowish-coppery tint, and covered irregularly with thin scales. Itching is absent.

The *papular syphilide* occurs usually combined with the macular. The lesions are not abundant, usually discrete and but little elevated. In situations subjected to pressure, warmth and moisture, they are readily converted into mucous patches and *condylomata lata*.

The *bullous syphilide* is much more common than in adults and occurs shortly after birth. Its favorite location is about the hands and feet. The

blebs are generally small in size and appear in crops. The contents is puriform and dries into a crust, which covers a superficially ulcerating surface. The subjects of bullous syphilide rarely survive more than two or three weeks.

Pustular and vesicular syphilides are occasionally encountered in hereditary syphilis, the former being more common.

Late manifestations of hereditary syphilis take the form of tubercular or gummatous lesions, and resemble the late syphilodermata of the acquired form. They are seen usually in individuals between the ages of fourteen and twenty-four, affect the face chiefly and are often highly destructive. They are found associated with keratitis, scars at the angles of the mouth, Hutchinsonian teeth and other stigmata of degeneration.

Etiology of Syphilis. The great majority of the cases of syphilis are acquired during the act of sexual intercourse. In a smaller class the infection is received through mediate or immediate, extra-genital channels. The validity of the claim for the *spirochata pallida* as the essential cause of syphilis has not as yet been established.

Treatment of Cutaneous Syphilis. The treatment of cutaneous syphilis is internal or specific, and local.

The internal, constitutional or specific treatment of syphilis should be inaugurated so soon as the diagnosis is established, and consists in the administration of mercury and the iodine salts, the former being customarily used in the earlier stages of the disease, the latter in the more remote or tertiary.

Mercury may be administered by the mouth, which is the usual method, in the form of the protoiodide, one-sixth to one-half a grain, three times a day, in pill form or compressed tablet; the biniodide, one-sixteenth of a grain; blue mass, two grains, or calomel, one grain to two grains.

Iron and other tonics are advantageously combined with the mercurial. The following formulas are recommended:

℞
Hydrarg. Protoiodid., gr. viij-x.
Ferri et Quinin. Citrat., ʒjss.
Ext. Hyoseyami, gr. vj.
M. Ft. Pil. No. xxx.
Sig. One three times a day.

Or:

℞
Hydrarg. Tannici, gr. xv.-xxx.
Quinin. Sulph., ʒj.
Ext. Hyoseyam., gr. vj.
M. Ft. Pil. No. xxx.
Sig. One three times a day.

The intramuscular method of administration is carried out by the injection, usually in the gluteal region or about the trochanter, of bichloride, one-twelfth to one-eighth of a grain, as in this formula:

℞
Hydrarg. Bichlorid., gr. xl.
Glycerin., ʒj.
Aq. Destil., ʒiij.
M. Dose twelve drops.

Or calomel one part, liquid vaseline twelve parts; or in the form of gray oil, which consists of mercury, twenty parts; liquid vaseline, forty parts; etherial tincture of benzoin, five parts may be used. The dose of the latter is one-half of a small (Pravaz) syringeful every ninth day.

The hypodermatic method is not popular in the United States. It is painful, and may cause abscesses. It is usually reserved for cases of malignant syphilis and threatened paralysis.

Mercury may be administered by the endermic or inunction method. The preparation usually employed is the unguentum hydrargyrum cinereum, or blue ointment. One ounce is divided into eight equal portions, and one portion is rubbed into the skin daily, a new surface being selected for each application, owing to the irritant effect of the mercury upon the skin.

The fumigation method is carried out by the volatilization of calomel. The patient is seated in a vapor bath cabinet, and the calomel, one dram, volatilized in a receptacle, placed over a gas burner or the flame of an alcohol lamp. Attendants should observe precautions against insalivation.

In using mercury the teeth should be put in good order, and the hygiene of the mouth insisted upon to minimize the risk of pyalism.

Mercury may be given in connection with one of the salts of iodine, the iodide of potash being the one in most general use. This constitutes the so-called "mixed" treatment and is employed preferably in the middle and later periods of syphilis. The following is a representative formula:

℞
Hydrarg. Bichlorid., gr. j.
Potas. Iodid., ʒij-v.
Tinct. Nucis Vomicae, ʒij.
Glycerin., ʒiij.
Aqua Menthae Pip. ad ʒiij.
M. Sig. Teaspoonful in water after each meal.

This is especially serviceable in gumma and nerve syphilis when rapidity of action is desired.

The later manifestations of syphilis are treated with an absorbable form of iodine, usually the iodide of potash. The iodide of strontium,

sodium, and calcium are also given. The iodide is administered in the form of a saturated solution, beginning with ten drops, well diluted in water or milk, and increased according to the exigencies of the individual case and the object to be attained.

An agreeable mode of giving the iodide is by placing five drops of the saturated solution in a small tumbler, adding fifteen drops of essence of pepsin and two ounces of warm milk. Allow this to cool and take as a rennet custard. Sherry wine may be added with advantage to the taste.

Iron, cod liver oil, the malt preparations and other tonic and reconstructive remedies are frequently required as auxiliaries to the treatment of syphilis.

There is no fixed rule for the duration of treatment. Each case presents individual requirements. Crocker's plan is recommended, and is as follows: Mercury is given for six weeks, then small doses of iodide of potash for a week or ten days. This alternation is maintained for six months at the end of which time, if there are no symptoms, no treatment is given for a month. Mercury is then resumed for six weeks. This plan is carried out for the first year. The second year he gives a mild mercurial course for six weeks, and iodide of potash for two or three weeks. Treatment is then suspended, to be reinstated as symptoms show themselves.

Local Treatment. Local treatment of cutaneous syphilis is important, and hastens the disappearance of the lesions. In the earlier stages mercury may be used in the form of a two to five per cent. ointment of the ammoniate, or ten per cent. of the oleate, or mercurial ointment full strength or with equal parts of oxide of zinc ointment. These preparations may be rubbed into the lesions. For mucous patches cauterization with lunar caustic is most effective. Dry calomel constitutes the best application for *condylomata lata*.

The local treatment of late syphilis of the skin embraces the same remedies applicable to the earlier stages. Iodoform or aristol are serviceable as dusting powders for ulcerative lesions. The mercury-carbolic plaster-muslin is useful in infiltrated patches, as well as in ulcers. Stelwagon recommends the following application for tertiary syphilides:

| | | |
|---|------------------------|---------------|
| ℞ | | |
| | Hydrarg. Bichlorid., | gr. iv-viiij. |
| | Acid. Carbolic., | ʒss. |
| | Glycerin., | ʒj. |
| | Aquæ ad, | ʒiv. |
| | M. Sig. For local use. | |

Where the skin is not broken, a combination of carbolic acid ʒj, tincture of iodine ʒij, bichloride of mercury gr. ij and water ʒii will be found useful.

Rebellious local lesions are often advantageously treated with other applications of a non-specific nature, combined with the mercurial.

Treatment of Hereditary Syphilis. In the treatment of hereditary or infantile syphilis mercury is given as calomel, one-tenth to one-half grain, three times a day; or hydrargyrum cum creta, one-half to two grains, three times a day or a solution of bichloride of mercury, grains two-and-a-half, to four ounces of water, one dram three times daily. Inunction is sometimes preferred, fifteen grains of mercurial ointment being rubbed in once daily, or a like quantity may be smeared upon a flannel binder and worn around the abdomen. Flannel pieces annointed with mercurial ointment may also be used in the form of a "chest protector," or as an in-sole. Late lesions require the use of iodide of potash, cod liver oil, syrup of iodide of iron or hydriodic acid.

Local treatment is similar to that appropriate to adults, but the preparations are weaker.

Prognosis. The prognosis of cutaneous lesions of acquired syphilis is good, most of them disappearing with more or less promptness under specific treatment. Relapses are not uncommon. Scarring follows the ulcerative syphilides.

Prognosis of hereditary syphilis is guarded. The younger the infant, the graver the prognosis.

TATTOO.

Definition and Description. Tattoo is a staining of the skin from being pricked with needles dipped in India ink, vermilion and other pigments, or by the introduction under the skin of charcoal or gunpowder. In the last named instance the grains of powder are usually blown into the skin as a result of the premature discharge of fireworks. The grains dissolve and stain the tissues.

Treatment. Electrolysis may be used to remove the stain, the negative needle being introduced under the skin and a current employed sufficient to cause vesication and crusting. Keyes' punch may be used for the same purpose, removing small bits of stained skin and tissue.

If the pigmented area (usually containing letters or emblems) is small, in the case of tattooage, it may be excised. Papoid has been suggested to digest out the stained tissue. It may be used in the following formula:

| | | |
|---|--|-----------|
| ℞ | | |
| | Papoid., | gr. ij. |
| | Aq. Destil., | ʒj. |
| | Glycerin., | ʒiij. |
| | Acid. Hydrochloric., | gtt. iij. |
| | M. Needles dipped in this solution are thrust into the stained skin. | |

Another plan is painting the surface with nitrate of silver (lunar caustic) or chloride of zinc, repeating the application as often as the eschar falls off, until the layer containing the pigment is reached and removed. A strong solution of hydrogen peroxide may be used with doubtful advantage.

TINEA FAVOSA.

Synonym: Favus.

Definition. Favus is an obstinate, contagious disease affecting both the hairy and non-hairy regions of the skin, and caused by the presence



Fig. 101.—Tinea Favosa.

of the *achorion Schönleini*. It is characterized by the formation of sulphur yellow, cup-like crusts (*scutula*) which, after long duration, produce atrophic baldness. The crusts vary in size from a pin-head to a pea or larger, are dry, friable and seen chiefly upon the scalp surrounding a hair.

Symptoms. Favus begins as a slightly scaly, erythematous spot, usually upon the scalp and is caused by the entrance of the *achorion* into the hair follicle. This is soon followed by exudation, which dries into a

disc, and is pierced by a hair. The disc enlarges peripherally, the border becomes elevated, the centre depressed and forms a cup or saucer-shaped mass characteristic of the favus crusts. The cups join by their edges and produce a honey-comb appearance, hence the name, *favus*, a honey-comb.

The cup or saucer-shaped crust is called the *scutulum* and is composed of dried secretion, pus and cell debris. The scutulum may be raised up and slipped along the hair. The skin beneath is found glistening, reddened, sometimes superficially suppurating and atrophied. After a time the honey-comb character of the scutula groups is lost, and an irregular mass of yellowish, thick, mortar-like crusts is found having a mousy odor or one resembling that of cat's urine or wet straw. If the crusts remain undisturbed for a long time the surface upon which they rest becomes sunken and atrophied and if upon the scalp, patchy baldness

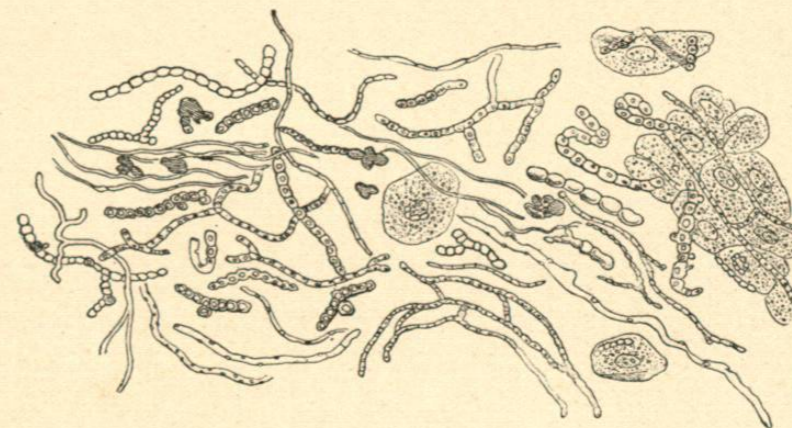


Fig. 102.—Fungus Elements of a Favus Scutulum (Schamberg).

results. The hairs themselves lose their polish, become brittle and inclined to fall out.

Favus usually affects the scalp and is rare upon the bearded face. The smooth regions of the general surface are much less frequently concerned. When situated in these localities the disease presents the same general features as are exhibited upon the scalp. The nails may be involved and, very rarely, the mucous membranes.

Favus is a slowly progressive and very persistent disease.

Etiology. Favus occurs chiefly in children, and when in adults rarely persists beyond the thirtieth year. It is a rare disease in this country and the cases seen are usually imported. It is due to the invasion of the skin by the *achorion Schönleini* of which Unna has described nine different varieties.

It is held by some observers that the achorion responsible for favus of the general surface is a different parasite from that causing favus of the scalp.

The disease is contagious, and may be transmitted to man from cats, dogs and other animals.

Diagnosis. The sulphur yellow crust pierced by a hair and having a mousy odor, occurring with loss of hair, atrophic patches, with a history of similar cases in the family or emigration from a favous locality, are peculiarities of favus and occur in no other disease. The fungi of the achorion may be found by microscopic examination of the scutula and hairs.

Pathology. To discover the parasite the crust is broken up, moistened with liquor potassæ and examined with an objective magnifying about one hundred diameters. The threads (*mycelia*) and spores (*conidia*) of the fungus may be readily detected.

The mycelia are slender tubes, for the most part moniliform in arrangement though some are smooth-bordered and without septa. The conidia are round or irregular and nucleated. The fungus gains entrance into the hair follicle along the hair shaft and penetrates between its layers. Accumulation of fungi splits the hair and loosens it from its attachment so that it easily comes away. In favus of the general surface, the fungi are found between the epidermal layers, spreading out in all directions. In the nail the situation is similar to that in the hair shaft. In addition to mycelia and conidia the scutulum is composed of degenerated epithelial cells and sebaceous gland secretion. It is built up more rapidly at the sides than at the centre, producing the characteristic cup shape. Pressure of the crust upon the cells of the rete and the subjacent tissue, causes an atrophy with the production of smooth, bald scars.

Treatment. The crusts are removed and the hair epilated for some distance beyond the border of the patch. Carbolized glycerine is then applied to the whole scalp and washed off in the morning. Parasiticides are then used, such as one of the following: oleate of mercury, ten per cent.; ammoniate of mercury, five to ten per cent.; sulphur, resorcin or salicylic acid. Chrysarobin in alcohol, five per cent., may be cautiously applied. Formalin has been recommended but is painful.

The X-rays have been endorsed as curative and to produce an effect must be pushed to the point of causing the hair to fall.

Favus of the general surface is treated in the same manner as ringworm of the body, but the remedies employed are used in weaker proportion. The crusts must always be removed before the parasiticide is applied. Favus of the nail requires the use of antiparasitic remedies, such as the hyposulphite of soda, salicylic acid or a finger bath of bichloride of mercury, five grains to the ounce.

TINEA IMBRICATA.

Synonyms: Tokelau, Chinese or Burmese Ringworm.

Definition and Description. Tinea imbricata is a disease of tropical countries. It is contagious, due to a vegetable parasite and exhibits annular, crescentic, scaly lesions.

Tinea imbricata resembles ichthyosis, but the scales are arranged in concentric circles like a piece of stout cardboard cut on the surface in circles with feathered edges. The rings are about one-fourth inch apart.

Dr. Patrick Manson describes the disease as follows (T. McCall Anderson's *Diseases of the Skin*, p. 597): "After an incubation period of nine days the fungus has multiplied sufficiently to elevate the epidermis under which it is growing and form a brown mass between it and the corium. When this has attained a diameter of three-eighths inch, the epidermis in the centre gives way but, as it is still organically continuous with the sound skin at its margin, it is not completely shed but remains as a fringe around the central hole. By friction and other means, the free edge of the scale is from time to time removed and the brown central fungus and the tissues it is mixed with, now no longer protected by the closely adhering epidermis, are rubbed off as far as the attachment of the scale and the exposed corium appears pale. Just beyond this point the advancing fungus shows through the epidermis as a brown rim, perhaps very slightly elevated, about one-sixteenth inch in breadth. When the ring thus formed has attained a diameter of one-twelfth inch, a brown patch is seen to be forming at its centre. This in its turn also cracks the young epidermis over it and a second ring is formed inside the first which it follows in its extension. A third brown central patch is formed in the centre of the second circle and behaves in exactly the same manner, and so on with a fourth, fifth and never-ending series of concentric rings."

The affection is highly contagious. It may cover the entire surface of the body, advancing at the rate of one-fourth inch weekly. As a rule the hairy regions are not involved.

Tinea imbricata is limited to certain parts of Asia, the Pacific Islands and the Malay Archipelago. It is due to the tinea imbricata which differs from the tinea trichophytina in being more abundant in mycelium and showing smaller and less numerous spores.

The treatment is that of ringworm of the body.

TINEA TRICHOPHYTINA.

Synonyms: Trichophytosis, Ringworm.

Definition. Ringworm is a contagious affection of the skin due to the trichophyton fungus.

Varieties. There are three varieties of ringworm. 1. *Tinea Circinata*, or *Trichophytosis corporis*, Ringworm of the body. 2. *Tinea Tonsurans*, or *Trichophytosis Capitis*, Ringworm of the scalp. 3. *Tinea Sycosis*, *Trichophytosis Barbæ*, Ringworm of the beard.

1. *Tinea Circinata*. Ringworm of the body begins in one or more sharply defined, rounded or irregular, slightly scaly, hyperæmic spots or patches. The lesion spreads peripherally, tends to clear in the centre, is distinctly ring-form and slightly scaly. Minute papules and vesicles surround the lesion. The patches are coin-sized, the margins red and elevated, the centre paler and showing branny desquamation. Occasionally the ring-form is not manifest but a circular patch uniformly affected, is present. Two or more patches are usually seen and by joining edges may produce gyrate figures and cover extensive areas. The patches remain stationary or undergo involution and disappear. Itching is slight. The face, neck and hands are the usual seats of the eruption but it may be widely disseminated.

Tinea Cruris (eczema marginatum). The affection is here located on the opposing faces of the thighs, or about the genitals and anus. The patches show a raised red border, very sharply defined, and are crusted or scaly. The patch spreads backward from the cruro-scrotal or cruro-vulval region, continuously or interruptedly, to the perineum, buttocks, and forward over the pubes. The axilla may be similarly affected. Itching is often marked and the lesions may be the seat of considerable inflammation, or the affection may be combined with eczema.

Tinea Trichophytina Unguium (Onychomycosis, Ringworm of the nail). The fungus of ringworm may invade the nail, one or more. The nail becomes thickened, lustreless, shows distorted growth and is soft and brittle. The fungi are found between the layers of the nail plate. Ringworm of the nail usually coexists with ringworm elsewhere.

Diagnosis. Eczema of the cruro-genital region is not so sharply defined in its patches as ringworm. The patch is not uniformly diseased, fades into the normal skin and is accompanied by more or less exudation. There are no fungi in the scales. *Pityriasis rosea* is never a crusted affection, the eruption is more disseminated, in separate rings, often shows a "herald patch", and tends to spontaneous cure. *Seborrhæic eczema* presents irregular patches on the hairy surfaces, the scales are yellowish and the skin is greasy and there are also no fungi. *Psoriasis* shows preference for knees, elbows and scalp. It is widely disseminated and displays large, thin, abundant, adherent, papery scales. The *annular syphilide* is more infiltrated and often exhibits a geometrically perfect circle.

2. *Tinea Tonsurans* (Trichophytosis Capitis, Ringworm of the Scalp). This variety of ringworm is limited to children under the age of puberty and begins upon the scalp as a vesicle or a small, rounded, scaly patch. The lesion spreads centrifugally and forms a coin-sized or larger, discrete, sharply defined, slate-colored or slightly reddened, scaly patch. The hair follicles are invaded and a considerable number of hairs on the patch fall off and reveal prominent follicular points; the hairs left are dry, brittle and breaking, show a brush-like stump. Small patches may coalesce and

produce greater ones so that a large portion of the scalp becomes covered. The border is then wavy and loses its circular outline. The patches may remain stationary, discrete and widely separated. The parietal region and the vertex are the seats of predilection, the neck, face and shoulders not uncommonly show small scaly patches. A variable degree of itching is present.

The disease is chronic, obstinate, and, if untreated, will continue until



Fig. 103.—*Tinea Tonsurans* (Ohmann-Dumesnil).

the patient has reached the age of puberty, when it spontaneously disappears.

It is due to the *microsporon Audouini*, the commonest variety of the ringworm fungus.

A variation from the ordinary type of ringworm of the scalp is occasionally observed in the form of a single, circular, scaly, red patch with small vesicles and papules around its border. The patch swells, becomes elevated above the *niveau*, soft, tender and boggy. The hair falls out and a sticky, puriform discharge comes from the follicles. The glands of the neck are swollen.

This condition is known as *kerion* and is apt to be followed by permanent loss of hair. It is due to the *megalosporon ectothrix*.

Other varieties are *disseminated* ringworm and *bald* ringworm. The former is characterized by a diffuse scaliness of the scalp. The hair appears to be unaffected but close examination will reveal the presence of the characteristic broken, brush-like stumps of hairs which indicate the nature of the disease. In the bald variety, the disease begins as in ordinary ringworm, the hair falls out in a circular patch, leaving the surface smooth and bare as in alopecia areata and covered with black dots, the extremities of hairs broken off at the level of the skin. The characteristic brush-like, broken hairs will be found around the margin of the patch and will lead to a recognition of ringworm.

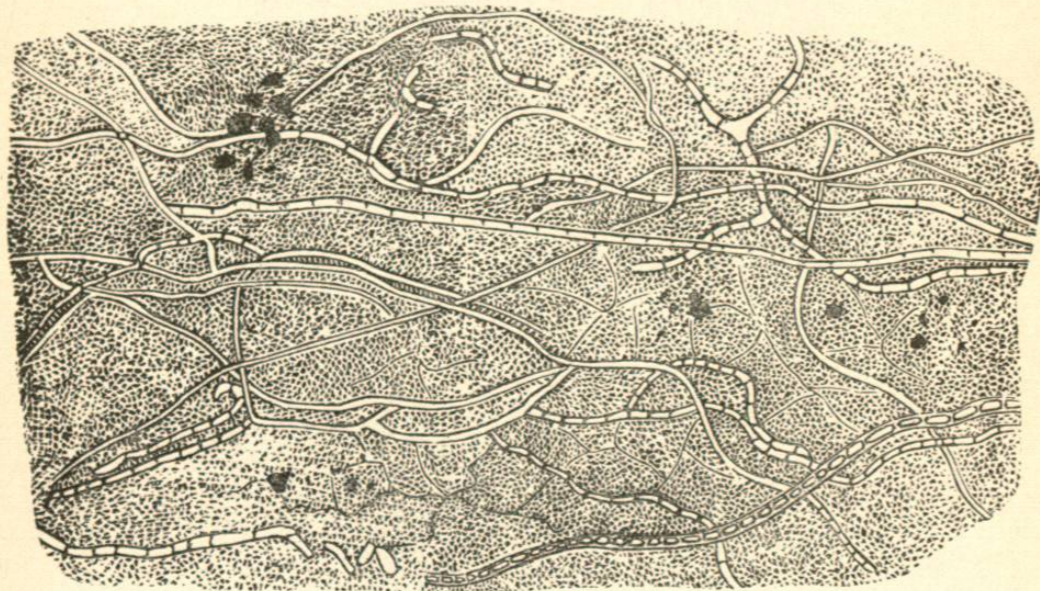


Fig. 104.—Trichophyton Tonsurans (Eichhorst). (Filatov-Earle).

Diagnosis. Tinea tonsurans is to be distinguished from alopecia areata, favus, eczema and folliculitis decalvans. The patches of *alopecia areata* occur suddenly, the surface is smooth, free from scales and normal in color. The affection is by no means limited to children. *Favus* is recognized by the sulphur-yellow, cup-shaped crust. It does not occur in distinct patches and atrophic changes in the skin beneath the crusts are common. *Scaly eczema* and *dry seborrhœa* closely resemble the disseminated type of ringworm of the scalp but are to be distinguished from it by the absence of broken hairs. *Folliculitis decalvans* is a comparatively rare affection and occurs in adults. The hairs are not broken and patches of permanent baldness result. In any instance, the discovery of the ringworm fungus upon microscopic examination of the hair and scales will clear up the diagnosis.

Tinea Barbæ (Trichophytosis Barbæ, Tinea Sycosis, Ringworm of the Beard, Barber's Itch). When the fungus of ringworm invades the hair of the beard, it manifests itself, as a rule, upon the chin, the upper lip usually escaping, in the form of one or more circular, scaly, slightly reddened patches surrounded by minute vesico-papules. The hairs become broken and partially shed. The patch broadens to reach the size of a silver dollar. When established, it may remain stationary without material change, spread to contiguous hairy surfaces or deepen into the severer grade. The last-named event marks the invasion of the hair follicles. Papules and pustules appear upon the lesion or lesions and upon the intervening skin. The patch becomes salient, nodular, dark-blue or lilac in color. The hairs are loosened and stand in little wells of pus. Dried exudation forms a crust which when removed reveals the skin beneath denuded and covered with a glairy, sticky secretion and the follicular openings gaping and inflamed. This constitutes a fancied resemblance to the cut half of a fresh fig and the term *tinea sycosis* is applied from the Greek *sukon*, a fig. A variable degree of itching and burning are present. The suppurative process may destroy the hair follicles and leave scarred surfaces upon which the hair no longer grows.

A *disseminated* form of ringworm of the beard is sometimes seen, exhibiting scattered groups of infected hairs. This represents an intermediate stage between the milder and more severe types of the disease.

Tinea barbæ is caused by the *trichophyton megalosporon ectothrix*.

Diagnosis. The diagnosis of ringworm of the beard must be made from *non-parasitic sycosis*. In this affection, the upper lip is first concerned, the lesions are symmetrical, the pustules are superficially situated and pierced by hairs and the nodular masses seen in ringworm as a rule are absent. *Eczema* of the beard is accompanied by serous oozing, the hairs are not broken or loosened and itching is more marked.

Etiology. Until recently it was believed that all forms of ringworm were due to the same fungus. At present three varieties of trichophyton are recognized, the *microsporon Audouini*, or small-spored trichophyton, which affects the scalp, principally in children; the *trichophyton megalosporon endothrix* and *ectothrix*, so called from the large-spored fungus occurring within the hair and without and around the hair. This variety is held responsible for ringworm of the body, beard and nails.

Ringworm is contagious and may be transmitted from one individual to another and from lower animals, cats, dogs, rats. It is probable that trichophyta exist in mouldy vegetable substances.

Children are alone affected with ringworm of the scalp, the affection in this instance being conveyed by direct contact or by means of brushes, hats and the like.

Ringworm of the beard is usually acquired through the medium of the barber's shop.