

characteristics of true tubercles, are often absent. Yet under other conditions the same parasites may produce nodules which in histological structure resemble ordinary tubercles very closely. In chickens, for instance, we learn from Woronoff and Sineff that the nodules produced by the bacillus pseudotuberculosis rodentium contain many giant cells. One must also not forget that in ordinary tuberculosis the nodules show remarkable differences in histological structure according to the age of the nodule and the number and virulence of the tubercle bacilli present. Tubercle bacilli also at times may produce chronic miliary abscesses. Since my attention has been called to this occurrence by some observations made while studying the ependyma of the ventricles of the brain in tuberculous meningitis ("Ueber Ependymveränderungen bei tuberculöser Meningitis," *Virch. Arch.*, cl., 1897, 305), I have seen chronic miliary abscesses produced by tubercle bacilli—and by tubercle bacilli alone without associated infections—quite frequently in other parts of the body in man and animals. In infections with the fungus coccidioides the simultaneous occurrence of "typical" tubercles and chronic miliary abscesses in the same organ, produced by the same parasite, is very bewildering; indeed one is finally forced to recognize that the difference between these two conditions is not a fundamental one—as a matter of fact, I have seen transitional forms of otherwise typical tubercles with central abscess cavity filled with pus cells,—and that whether the tissues respond in one way or the other depends only on the amount of irritation to which they are subjected. If the irritation is less marked, a "typical" tubercle develops; if it is more intense, a chronic miliary abscess is produced. It seems, therefore, that in spite of the variety of causes, and in spite of the varying appearance of the nodules under the microscope, it is advisable to group all these conditions which are closely akin to one another under one name, "pseudotuberculosis," provided we keep in mind that in so doing we use the word "tubercle" in its broadest sense for a nodule, without assuming anything too definite about its exact histological structure.

William Ophüls.

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PSEUDOTUMOR.—The term *pseudotumor* is applied to certain enlargements or swellings of non-neoplastic character which clinically present features by which they may be mistaken for true neoplasms. In the majority of cases such false tumors are found in the abdominal region. They may be produced by a great variety of causes. When the swelling cannot be constantly felt, but comes and goes, it may be designated as a *phantom tumor*. Such enlargements have no organic pathological foundation, and are dependent upon temporary conditions. On the other hand, enlargements or swellings of the abdominal organs due to organic disease may also simulate neoplasms; these conditions should be included under the designation of *pseudotumor* or *apparent tumor* proper. When caused by inflammatory masses of granulation tissue which later contract and disappear, the condition may be spoken of as *vanishing* or *disappearing tumor*.

Phantom tumors may be caused by a contraction of the abdominal muscles or by meteorism. Those caused by muscle contractions are found usually in the upper part of the abdomen. The right rectus near its costal margin is most frequently the part contracted, but the contraction may affect any segment or portion of the abdominal muscles. The contractions are often spasmodic. The entire rectus may be rigid. Usually, however, but a single segment is affected, the contraction being almost always unilateral. The patients are usually hysterical females who present marked stigmata of hysteria; there are usually coexisting constipation and enteroptosis. The contraction may sometimes be made to disappear in a hot bath; but in cases of marked hysteria anesthesia or hypnotic suggestion may be necessary for the differential diagnosis. The superficial character of the tumor, its flat, horizontal shape, slightly rounded and indistinct edges, etc., in connection with the stigmata of hysteria, make the diagnosis easy.

Phantom tumors, due to meteorism or localized distention of the intestines with gas, are of frequent occurrence in the same class of patients as described above, and are often found in connection with the muscle contraction. The character of the swelling, the percussion signs, etc., make the diagnosis easy. The swellings occur usually in the lower portion of the abdomen, particularly in the appendix region, and above the pubis. They are found frequently in women who either pretend or believe that they are pregnant (pseudocycosis). The associated stigmata of hysteria, and the characteristic physical signs render the diagnosis of slight difficulty.

Apparent tumors of the epigastrium are, according to Einhorn, of infrequent occurrence. He reports forty-two cases, eight occurring in men and thirty-four in women. The tumors presented in the epigastrium or in the left or right hypochondrium, and formed in the majority of cases smooth masses of the size of a hen's egg or a man's fist. They were frequently pulsating, could not always be distinctly felt, and on light percussion yielded a dull sound. They ran a long course, and there was usually a history of a long-continued malnutrition. The tumors remained unchanged or diminished in size. They were caused by prolapse of the left lobe of the liver, exposure and thickening of the abdominal aorta, hypertrophic conditions of the muscles of the abdominal walls, and probably adhesions around the lesser curvature of the stomach. If the tumor is caused by the prolapse of the left lobe of the liver, it is found usually in the median line below the ensiform; it is of large size and gives a dull tone on percussion. Between the dullness of the tumor and the ensiform there may be an area of tympanitic tone. If the tumor is the aorta, it is deep, usually about two inches long, and one to two thumbs in breadth, and pulsates. Hypertrophic conditions of the abdominal muscles are superficial, usually horizontal, and not globular, and are located at one side of the median line.

In very thin individuals the head of the pancreas may be felt and mistaken for a tumor. Likewise floating kidney, liver or spleen, rolled-up omentum, excessively fat mesentery, fecal impaction, distended urinary or gall bladder, tuberculous thickenings of omentum or mesentery, hydro- or pyosalpinx, cystic dilatation of the appendix, etc., may sometimes be regarded as presenting the clinical appearances of malignant tumors of these regions.

Inflammatory thickenings, tuberculous and syphilitic nodules, encapsulated hematoma, encysted parasites, infective granulomata of unknown origin, localized hypertrophy of muscle, local oedema, etc., are also often mistaken clinically for malignant tumors.

The term *pseudotumor* is also applied to the nodules of a chronic inflammatory nature caused by the experimental injection of blastomycetes and other fungi. Similar nodules may be produced by the introduction of foreign bodies or the injection of certain chemical substances into the tissues.

Disappearing tumors of the abdomen are usually the result of acute inflammatory tumors of the omentum, following appendicitis or salpingitis. The absorption of exudates and the contraction of the granulation tissue lead to the diminution in size or total disappearance of the tumor. Similar disappearing tumors occur in the skin, subcutaneous tissues, periosteum, and intermuscular connective tissue as the result of the formation of granulation tissue following trauma or hemorrhagic extravasation. These may sometimes be mistaken for sarcomata, both clinically and microscopically. The presence of numerous plasma cells, the character of the blood-vessels, and the general appearance of the granulation tissue are points upon which the differential diagnosis should be based. (See also *Omentum* and *Abdominal Tumors*.)
Aldred Scott Warthin.

PSITTACOSIS.—An infectious disease occurring in birds, particularly in parrots, and transmissible to man. The disease in parrots is of the nature of a chronic enteritis, characterized by diarrhoea, wasting, loss of appetite, and falling of feathers. In man the symptoms are those of a grave typhoid, with diarrhoea and a malignant atypical pneumonia. The disease may be transmitted directly from parrots to man or through intermediate objects, and, according to some observers, from man to man. The period of incubation is from seven to twelve days; the symptoms begin with malaise, epistaxis, and digestive disturbances, followed by bronchitis and pneumonia. The urine contains a small amount of albumin. There is high fever lasting for from three to four days, and falling by crisis. These symptoms then recur in this order several times, defervescence finally taking place by

lysis. During the attack the spleen is enlarged. Sometimes there may be seen a roseolar or petechial eruption. The disease lasts about thirty days. The mortality is about thirty-seven per cent. The prognosis is good if complications do not occur. In the majority of fatal cases, death is due to pneumonia.

Eberth in 1880, and Wolff in 1883, observed the occurrence of a fatal mycosis in parrots which had been imported in great number from the west coast of Africa during 1880. Transmission to man was not observed. In 1879 Ritter saw a house epidemic of severe pneumonia which he thought was referable to a contagion from parrots, or rather from the cages in which the birds had been transported. The clinical and anatomical picture of the disease was that of an atypical pneumonia. Similar cases were observed in 1882 by Ost, and by Wagner in 1883 and 1886. The disease was introduced into Paris in 1891 by some parrots from South America. In 1892 there was an epidemic of the disease in this city, in which fifty persons were affected. Cases of the disease were also observed in Paris during the next four years, and advantage was taken of the opportunity to study the disease closely. The relation of the disease in man to the affection of the parrot was clearly proved. Cases have been observed also in Italy and Germany.

According to Nocard, the cause of the disease is a specific bacillus resembling that of typhoid fever. The organism is short, rather thick, with rounded poles, is motile, and is a facultative aerobe. It does not stain with Gram's method, does not ferment sugar, does not coagulate milk, and does not form indol. The bacillus is very virulent; subcutaneous injections in rabbits, mice, and pigeons kill within from fourteen to forty-eight hours. In the Paris epidemic this bacillus was not found in the human body; but, three years later, Gilbert and Fournier found it in one case, in the heart blood of a woman dying from the disease. Palamidessi observed an infectious disease transmitted from parrots which he regarded as resembling chicken cholera. The organism obtained by him was regarded as identical with that observed by Nocard. Other observers have failed to find the Nocard bacillus; and Leichtenstern and others believe that the disease of the parrots known as psittacosis may be caused by various bacteria (staphylococcus, streptococcus, pneumococcus, colon bacillus, and proteus), and that house epidemics of atypical pneumonia in man may occur without such diseases of the parrot playing any etiological rôle therein. These writers, however, admit the probability of such a relation in certain cases, as in the Paris epidemic of 1892.

On the other hand, Nicolle reports an epidemic attacking eight persons (four dying), in which the Nocard bacillus could not be found; but the serum from these cases produced a typical agglutination of a culture of the bacillus furnished by Nocard, in dilutions of 1 to 50 and 1 to 60. The blood of one of the cases also agglutinated typhoid bacilli, although the patient had never had the disease.

Widal and Sicard claim that typhoid and psittacosis can be differentiated by the Widal reaction. In dilutions of 1 to 10 the reaction occurs with both; but the masses of psittacosis bacilli are smaller and more crowded. In dilutions of 1 to 40 there arrives a moment when the bacilli of psittacosis no longer react.

The bacteriology of psittacosis and the true relations of the parrot disease to the atypical pneumonia in man remain yet to be determined definitely. Further, it should be observed that in the popular mind psittacosis is regarded as a form of avian tuberculosis, and that cases have been reported of a supposed transmission of tuberculosis from the parrot to man, whence the origin of the error.
Aldred Scott Warthin.

PSOAS ABSCESS is a *cold abscess* located in the psoas muscle. The purulent material gains entrance into the muscle after destroying the vitality of a portion of the sheath by pressure and infiltration.

The iliac fascia which ensheaths the whole muscle con-

finer the pus and directs its course through the substance of the muscle, the result of such burrowing being extensive destruction of tissue. The infiltration may involve the muscle on either or both sides of the body. The purulent material may accumulate until the sheath becomes a mere pus sac with the lumbar plexus of nerves crossing its cavity, the muscular tissue being destroyed.

The cavity is irregular in shape, bulging laterally, and constricted, sometimes closed at the diaphragm and beneath Poupart's ligament.

An abscess resulting from tuberculosis of the bodies of the lower dorsal or upper lumbar vertebrae will, as a rule, perforate the psoas sheath.

The pyriform pus sac so formed lies along the sides of the dorsal vertebrae, this lateral position being determined by the presence of the anterior and posterior common ligaments.

When the source of the pus is situated above the diaphragm, its entrance into the psoas is facilitated by the intimate connection of the iliac fascia with the ligamentum arcuatum internum.

In the lumbar region the entrance of pus into the psoas is aided by the formation of pouches between the heads of origin of the muscle (body of the vertebra and intervertebral substance and front of the transverse process of the vertebra). These pus pouches rupture into the body of the muscle.

Abscesses resulting from tuberculosis of the sacrum, from sacro-iliac disease or from tuberculosis of the lumbar glands, may also perforate the sheath of the psoas muscle.

Rigidity or contraction of the affected psoas muscle and perhaps neuralgia of the anterior crural nerve are the most frequent symptoms. The contraction of the muscle may lead to great deformity, demanding weight-and-pulley extension, or even tenotomy for its correction.

Frequently the distended psoas sheath can be detected by palpation, and if the pus has reached Scarpa's triangle it can be pressed up and down under Poupart's ligament, following the course of the psoas muscle.

This is the usual course taken by the pus, which is directed by the sheath toward the insertion of the psoas and iliacus muscles; but it may burrow farther, pointing lower down on the limb.

The pus on reaching Poupart's ligament may enter the iliacus muscle, or may leave the psoas sheath along its external border and burrow to the surface in the loin; or it may invade the gluteal or the ischio-rectal region.

The direction taken by the abscess is determined by the usual position of the body. If the dorsal position is most constant, the pus may point in the loin or may even sink upward into the pleural cavity. Other organs and tissues are occasionally invaded, and the pus may open into the lungs, bladder, intestines, blood-vessels, or peritoneum.

An early diagnosis will often allow of a successful operation through an incision in the loin. The abscess cavity should be made aseptic and any diseased bone scraped away. The drainage must be free and into an antiseptic and elastic dressing.

Curetting the sac wall should not be attempted unless the whole cavity is accessible.

Although a large collection of pus may become cheesy or encapsulated, yet its presence is a possible focus for the development of miliary tuberculosis or cerebro-spinal meningitis. Then, besides, it is a well-known fact that amyloid changes are likely to take place in the viscera when suppuration continues for a prolonged period. Consequently, early operative interference is to be recommended in the hope that it may prevent the development of such changes in the viscera.

When the pus approaches the surface, especially in the groin where antiseptic treatment is difficult, and when the sac is known to be large, aspiration is to be preferred to incision and drainage. The trocar should be passed in a slanting direction, piercing the tissues about an inch before entering the pus sac. The lumen of the trocar

should be frequently cleaned with a plunger or wire hook, as the pus contains much semi-solid necrotic granulation tissue, cheesy matter, and often small particles of bone.

After the sac has been washed out with a weak boracic-acid or tincture-of-iodine solution, it should be injected with twenty or thirty grains of iodoform dissolved in ether or suspended in glycerin.

The trocar should then be withdrawn, its retiring point being followed by the finger from the sac to the exit so as to prevent the entrance of any purulent material into its track. The wound should then be sealed with collodion.

During the process of aspiration and flushing of the abscess cavity the entrance of air must be prevented by pressure upon the sac. The quantity of flushing fluid should not exceed that of the pus withdrawn. Compresses should be applied in such a way as to insure the apposition of the walls of the sac, in order to promote healing and to lessen the oozing of serum or blood because of the diminished pressure within the cavity.

Aspiration aseptically performed gives good results, although it may require to be repeated several times. The pus becomes more viscid, and the semi-solid masses of necrosed tissue and fibrin disappear as the healing progresses.

If the abscess has opened spontaneously it should be protected with dressings which promote drainage by capillarity, such as jute or lambs' wool. At each daily dressing two grains of carbolic acid in about fifty parts of water should be injected into the sinus.

The treatment may extend over weeks or months, but the danger from infection becomes less as healthy granulations form in the cavity. Sometimes a counter opening becomes necessary in order to allow of better drainage and more thorough disinfection of the sac.

Pus from an inflamed appendix, a perinephritic abscess, or an empyema may invade the psoas muscle, but a study of the constitutional disturbances will facilitate the differential diagnosis in such cases. The differential diagnosis of diffuse abdominal aneurism may be made by its impulse and perhaps bruit.

The diagnosis from iliac abscess rests chiefly on the age of the patient, for psoas abscess occurs generally in the young with tuberculous history, and iliac abscess in the adult.

The impulse transmitted to the swelling by coughing must be carefully distinguished from that present in hernia; a diagnosis may be made by observing the manner in which the tumor can be reduced and in which it reappears after reduction, and also by the fulness of the iliac fossa, apparent on palpation.

Varicose veins, cysts, undescended testicle, and glandular swellings in Scarpa's triangle must also be differentiated.

Jasper J. Garmany.

PSORIASIS.—Psoriasis is a disease of the skin which possesses three characteristics that should render its diagnosis easy. These are: 1. The formation of dry, papery, thin, silvery-gray scales, mica-like in their arrangement, and as a rule easily detached, is a constant phenomenon. 2. Dryness is an absolute characteristic of the disease at all stages and in every situation. There is never, in a pure type of the affection, the slightest moisture, greasiness, or tendency to ulceration. 3. The development of points or discs of a color varying from pale red to a red of a brighter hue, and showing a certain degree of inflammatory thickening—sometimes quite marked, but usually only moderate or slight—is another characteristic of the disease. These lesions are always well defined at their borders and tend to enlarge peripherally, sometimes with evidence of greater activity at the border than in the centre. Contiguous lesions often meet, forming irregular, map-like figures, the points of confluence becoming like the centre of the original patch or disc.

At the onset of the disease there is noticed, commonly at some part of the surface of the body where the skin is

thicker than elsewhere, a well-defined spot or patch of a pale red color (but of a somewhat brighter red in an acute outbreak of the disease) and of variable size (from the head of a pin to a half-dime silver piece). At the affected spot the skin is a little thickened, and its surface consists of one or two layers of thin, dry, easily removable scales which are quite small in proportion to the size of the lesion. This lesion gradually enlarges—as a rule, symmetrically—and in the part newly involved the characteristic slight thickening of the skin and the formation of loosely attached scales may be observed. When the loose scales are removed it will be seen that the natural lines of the skin, which under normal conditions are quite faint, are now accentuated by the up-raising of the intermediate areas through the products of inflammation. When the lesion attains the full limit of its growth, it may be as large as a silver half-dollar and of about the same thickness. Through coalescence two or three adjacent lesions may eventually form quite a large area, of irregular shape. I have known an apparently single lesion, on the extensor surface of the forearm, to attain an area of about four by six inches. At no time in the course of its development did this patch fail to show the pathological alterations which are so characteristic of the affection and which have already been enumerated.

If the scales are allowed to accumulate they form dry, mortar-like masses. In some cases the central parts of the large lesions will remain relatively quiescent for a considerable period of time; the thickening process and the formation of scales being confined to a narrow border (from one-twelfth to one-fourth of an inch wide).

"Punctate hemorrhage" constitutes another and thoroughly characteristic distinguishing feature of the disease. If, in the younger or thinner lesions, the scales are removed down to and including the basal layer, bleeding will take place from a number of isolated spots, not larger than the point of a pin and corresponding to inflamed papillae, the blood-vessels of which have been torn.

Upon the scalp, when covered with the natural growth of hair, the disease presents an appearance somewhat different from that which it generally does on other parts of the body. There is less infiltration, as a rule, although quite characteristic discs and patches, like those observed on other parts of the body, may occur. The scaling is often excessive, forming piled-up masses of the dry, silvery, papery, and quite easily removable scales. Along the margin of the hairy region, especially on the forehead, there often appears a gyrate band of the disease, one-half of it being located on the hairy surface and the other half on the natural skin surface. Then again, in other cases, the disease develops in the skin of the forehead and extends to a greater or less extent upon the hairy surface of the scalp. In this extended area of the disease the affected skin is red and slightly thick-

ened, and upon it are seated the irrepressible dry, gray scales.

Wherever the disease assumes a somewhat acute character there we may be sure of finding more marked redness and a more rapid formation of scales of varying size, but always of marked thinness.

Although itching is not a characteristic symptom of psoriasis, my records show that it was present in some degree in nearly all my cases. In some of these cases the symptom appeared in connection with an acute outbreak of the disease—either simultaneously with or just preceding the outbreak,—but in others it appeared to be due simply to the accumulation of scales.

While it is generally held that the disease shows a predilection for the regions of the knees and elbows, my own experience does not give any very strong support to this belief. It certainly has a preference for the scalp and for the extensor or thick-skin surfaces, but in a general outbreak the disease respects no limits. In one case, for example, its manifestations were to be seen on practically every part of the surface of the body save the scrotum and feet.

Exfoliative dermatitis may occur as the result of an acute outbreak of psoriasis, the entire skin being involved in the attack. Such an attack is characterized by general redness of the skin (although there may be free or partially free areas) and by the rapid and constant formation and throwing off of paper-like, thin, dry scales; often surprising quantities being exfoliated in a day. The skin is not

much thickened, the redness varies from a bright red to a red of a dull lustre, and the inflammatory action is of moderate degree. Itching in some measure may be present. These extensive outbreaks usually subside, thus differing from pityriasis rubra, which ends only with loss of hair and nails, wasting away, involvement of vital organs, and, finally, death.

Psoriasis has been called a disease of the healthy. While this is to some extent true, my observation leads me to amend this statement by saying that the people who have it are in as good average health as their less afflicted fellows, while some of them even deserve the appellation of robust.

I have been unable to trace this disease to heredity, and have seen but slight evidence in favor of the belief that it affects the members of certain families. It develops, according to my experience, in the more vigorous years of life—that is, from infancy to middle age; my cases being mostly adults and under the middle decennium of life. The duration of the disease in these cases has varied from a short time to a period of a few years. Furthermore, males have preponderated over females in the proportion of two to one. On the other hand, it must be remembered that psoriasis is quite a rare disease in this latitude, and that there have been too few cases to justify us in formulating any statistics.

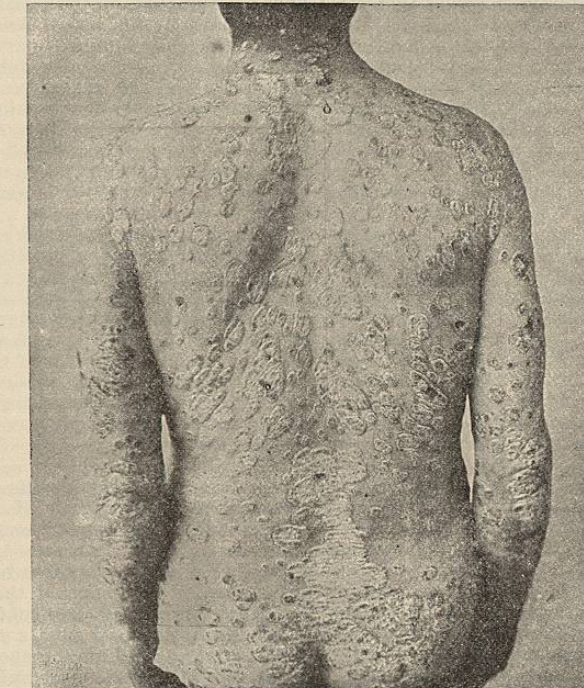


FIG. 3895.—Psoriasis. (From the collection of photographs of skin diseases belonging to Dr. John A. Fordyce, of New York.)

Prosperity and poverty, sobriety and intemperance, cleanliness and filth, seem to exert no appreciable influence in warding off the disease or in favoring its development. These influences, however, when once the disease has become established, may turn its further course toward the better or toward the worse.

The disease does not appear to have any depressing influence upon the general health. Often it constitutes simply a bodily discomfort, with perhaps, in addition, a certain amount of mental worry consequent upon its presence.

ETIOLOGY.—As to the cause of psoriasis, we know nothing positively. There are many theories. In some respects the disease behaves as if it were due to germ influence, the manifestations resembling somewhat those of an exaggerated action of the ringworm fungi—as, for example, the peripheral extension, the frequent clearing up at the centre, and the persistent activity at the border. Psoriasis presents a further resemblance to a parasitic disease in the character of its relapses; it being an easy matter to ascribe them to re-infection from small uncurd points, such as can always be found on some part of the body.

COURSE OF THE DISEASE.—Recurrences are the rule; often the central parts of the pale patches left after the subsidence of an outbreak are the sites of a new eruption. These relapses often occur immediately or very soon after the subsidence of an acute outbreak. It is probable that a person affected with psoriasis is never absolutely free from the disease after the first onset. I have been able to follow one such case for a period of over ten years—that is, from the time when the patient was only three and a half years of age to that when he was fourteen years old. It is interesting to note that this patient has always been strong and robust and that he has been in no way retarded in his development.

DIAGNOSIS.—The diagnosis of psoriasis should offer little difficulty, if the features already described are kept in mind. In the following paragraphs I will mention briefly the characteristics which should enable the physician to distinguish it from the various affections with which it is most likely to be confounded.

Dry seborrhœa of the scalp shows little if any inflammation or thickening. The scales in this affection are smaller than those observed in psoriasis, and if they are present in a mass the latter is usually more friable; often, too, these scales form sheaths around the hairs at their insertion in the follicles. Removal of the masses of scales may show a reddening beneath and a slight moisture.

Seborrhœic eczema of the scalp usually shows fewer scales; if there are patches they are thinner and slightly moist, and the scales are greasy. When the disease extends from the scalp upon the forehead it may resemble psoriasis, but there is little infiltration, the scales are not dry and papery, and the inflamed surface presents a somewhat more moist appearance.

Syphilis of the scalp may show the so-called corona or frontal extension. The color is, however, of a deeper shade, the infiltration more marked, and the scales are smaller, more adherent, less papery looking, and less abundant. Syphilitic patches on the scalp lack the features which have already been described as characteristic of psoriasis.

Ringworm of the scalp is dry, scaly, not infiltrated in any marked degree, has fewer, finer scales, and shows a well-marked, not greatly elevated border which bears evidence of slight exudation. The hairs in the patch are broken or lustreless from the growth of the micro-organism.

Eczema of the scalp does not occur in the form of sharply limited patches; then, besides, there is a peculiar stiffening and thickening of the parts affected, and there is either a frank, sticky exudation upon the surface or there are points and lines of broken epidermis where the exudation is just beginning to break forth. Upon drying, the exudation assumes the form of gummy, brownish, or yellowish crusts.

Seborrhœic eczema on the body shows scarcely any

infiltration, the scales are few and often greasy, and the affected surface has not the absolute dryness of psoriasis.

Syphilitic patches of the dryest form, when located elsewhere than on the scalp, often show a tint of lividity, and they have a less regular shape than the patches of psoriasis; the scales also are smaller and less plentiful, and they are formed at a less rapid rate than in the latter disease.

In none of the diseases enumerated above can the punctate hemorrhage be produced.

When compared with psoriasis even the dryest eczema of the body shows less symmetry of lesions, more thickening, a less well-defined border, fewer scales, and these not like the scales of psoriasis. Furthermore, the patches have a stiffer look and feel, and itching is more marked.

Ringworm of the body shows fewer scales, and less, if any, thickening of the part affected. On the other hand, the lesion has a sharply defined border, which appears to be the seat of an exudative inflammation. At the centre of the lesion the skin is generally found to be nearly free from inflammatory action.

When psoriasis is associated with other morbid conditions of the skin the physician will have to base his diagnosis upon the presence of certain features which are characteristic of this disease.

PROGNOSIS.—The prognosis of psoriasis is unfavorable as regards a cure, and doubtful as regards the removal of the eruption. In all my experience I have seen but one case of psoriasis—at least so diagnosed—in which recovery was perfect; but even in this case it is not perfectly clear that an error in diagnosis may not have been made, for upon reading my notes of the case again at the present time I find that it may possibly have been one of a slightly atypical seborrhœic eczema. Recovery followed the use of treatment administered on the supposition that the case was one of psoriasis. This patient was a woman in good circumstances who died of alcoholism.

It is best to promise a patient with psoriasis nothing more than a certain amount of relief.

TREATMENT.—The treatment of psoriasis is both external and internal, the former being the more efficacious of the two. Arsenic has been for years the chief reliance in the internal treatment of the disease, it being often pushed to large dosage and continued for long periods of time. Its effects show such a mixture of good and evil that I seriously question whether the benefits of the remedy are not more than offset by its disadvantages. Some people reach the limit of tolerance (conjunctival irritation, puffiness of lids, gastric irritation) very early. If they escape these, they may, under a long-continued use of the drug, acquire other dermatoses scarcely preferable to psoriasis. However, it is well to give arsenic a trial, but only in cases in which there is but a small degree of cutaneous irritation. It is usually employed in the form of Fowler's solution (liquor potass. arsenit.); the dose being, for an adult, five drops after each meal. This dose should be gradually increased (an additional drop at the end of every twenty-four hours) until the limit of tolerance is reached.

Another arsenical preparation is what is called "Asiatic pills," the formula for which is as follows: \mathcal{R} Acid. arsenios., gr. i.; piper. nigris, gr. xx.; pil. mas. q.s. M. ft. pill. xx. Sig.: Begin with one after each meal; increase by one every day. As a result of taking these pills, some patients have complained of stomachic irritation which they, quite reasonably, attributed to the black pepper, this irritation preventing in itself the object sought—viz., to obviate irritation by the arsenic.

Iodide of potassium administered in large doses has acquired considerable renown as a means of relief for psoriasis, but my experience with this drug has been of such a discouraging character that I have given it up in the treatment of this disease.

Thyroid extract, in the form of tablets (gr. ij.-x. t. i. d.), has seemed, by actual comparison with other remedies, to be decidedly beneficial; it constitutes, perhaps, our best remedy for use internally in the treatment of psoriasis. This opinion is at variance with that of excel-

lent authorities, but is entirely sustained by my observation. All depends upon obtaining the pure, and therefore not inert, substance. As thyroid extract is capable of inducing depression of the heart's action and possibly dizziness, the dose must be small at first, the effect watched, and it may even be necessary to attempt to neutralize these effects by the administration of strychnine.

As is self-evident, the patient's general condition must be kept at its best by such internal treatment as the symptoms may require, just as if there were no psoriasis.

Faithful following of directions as to external treatment, while onerous, must be required. The first requisite is the removal of scales to permit the action of remedies. Naturally, the treatment generally outlined below is to be much modified if the skin is found to be abnormally irritable.

Hot baths at night, in combination with the liberal use of soap, greatly assist in removing the scales. Sapo viridis may be used in full strength for removing scales, or an alcoholic solution (sap. vir., \mathcal{Z} ij.; alcohol, \mathcal{Z} i.) may be employed; but any strong soap will do quite as well. As alkalies exert a special effect upon epidermic scales it is easy to understand the beneficial action of soaps in removing them in psoriasis. Hot tar baths or tar well rubbed into the patches before an ordinary hot bath is taken will often be found helpful.

To aid in the removal of accumulated scales from the scalp, it is advisable to apply freely a mixture containing salicylic acid and olive oil in the proportion of one part of the former to eight of the latter. After the mixture has been well rubbed in, it should be allowed to soak into the parts for some time before it is finally washed away. The addition of formalin to this mixture (two and a half minims to each ounce) seems to heighten its beneficial effect. If a milder application is desired, the addition of twenty grains of salicylic acid to one ounce of simple ointment will be found to answer satisfactorily.

In my own experience with the treatment of psoriasis of the scalp, the ammoniate of mercury, preferably in salve form, has proven the most useful remedy. The following are some of the formulæ used: (1) \mathcal{R} Hg. ammoniat., \mathcal{Z} ss.-i.; Ung. simp. (seu. Ung. aq. ros.), \mathcal{Z} i. M. Rub well in at night. (2) \mathcal{R} Ung. hg. ammon., ol. oliv., $\mathcal{a}\mathcal{a}$ \mathcal{Z} ss. M. Sig.: Use at night. If there is not much irritation, Ung. hg. ammon. (U. S. P.) may also be used.

These mercurial preparations can be employed only on a limited portion of the general cutaneous surface, as there is always some risk of inducing salivation if the drug is too extensively applied.

I have used the following, but it produced slight ptyalism: \mathcal{R} Hg. ammon., gr. xl.; acid. salicyl., \mathcal{Z} i.; Ung. zn. ox., \mathcal{Z} i. M. Sig.: Apply well morning and night. This ointment may be considered perfectly safe if it is applied over a limited area.

When there is a more general involvement of the skin, chrysarobin in salve form is the best local remedy. Chrysarobin acid is much weaker in its action, and I have abandoned its use. Chrysarobin usually exerts its best action when its characteristic dermatitis is produced. Under its action the skin becomes deep red, almost lilac in color, hot, and itches. The subsiding, clearing patches stand out as gray-white and uninfamed upon this reddened surface. The proneness of chrysarobin to cause irritation precludes its use on the scalp or face, for fear that this irritation may involve the eyes.

The most useful salve is the following: \mathcal{R} Chrysarobin, \mathcal{Z} ss.-ij.; Ung. zn. ox., \mathcal{Z} i. M. Sig.: Rub well in patches freed of scales at night—leave some on. To this may be added acid. salicylic., \mathcal{Z} ss.-i., which often increases its effect.

The varnishes so frequently employed in affections of the skin seem to interfere with the action of the drugs contained, but occasionally a varnish containing chrysarobin acid has proved somewhat beneficial in the treatment of psoriasis.

The following formulæ have been found useful: (1) \mathcal{R} Chrysarobin., gr. xv.- \mathcal{Z} i.; liq. gutt. perchæ, \mathcal{Z} i. M.

Sig.: Shake. Paint on patches freed of scales. (2) \mathcal{R} Acid. chrysarobin., \mathcal{Z} i.; collodii flex., \mathcal{Z} i. M. Sig.: Paint on. (3) \mathcal{R} Chrysarobin., \mathcal{Z} i.; collodii, \mathcal{Z} i. M.

Lanolin, when used as the base, makes a more adhesive ointment, but the zinc oxide salve seems to prevent severe irritation. It is customary to suspend the chrysarobin treatment upon the appearance of marked dermatitis, but if this is not severe the use of the drug may be continued. To relieve this dermatitis, one of the following preparations may be employed after suspending the chrysarobin: (1) \mathcal{R} Zn. ox. pulv., \mathcal{Z} iv.; phenol. (ninety-five per cent.), \mathcal{Z} i.; amyli pulv., \mathcal{Z} ij.; aq., \mathcal{Z} iv. M. Sig.: Shake; apply often. (2) \mathcal{R} Zn. ox. pulv., \mathcal{Z} ij.; amyli pulv., \mathcal{Z} i.; ol. oliv., \mathcal{Z} ij. M. Sig.: Shake; apply.

Pyrogallic acid at one time was considered a good second to chrysarobin as regards its efficacy in the treatment of psoriasis; and it may still be found an efficient remedy. The following is a suitable form in which it may be employed: \mathcal{R} Acid. pyrogallic., \mathcal{Z} ss.-ij.; Ung. zn. ox., \mathcal{Z} i. M. Sig.: Use in the same manner as the chrysarobin ointment, and in those cases in which the chrysarobin ointment proves too irritating.

The tar preparations have proven useful in some cases, especially where the skin will not bear stronger treatment. The following are convenient formulæ: (1) \mathcal{R} Ol. cadonii, \mathcal{Z} ij.; acid. pyrogallic., \mathcal{Z} i.; ether. sulphuric., alcohol. $\mathcal{a}\mathcal{a}$ \mathcal{Z} i. M. Sig.: Apply night and morning. (2) \mathcal{R} Picis liq., \mathcal{Z} i.-ij.; Ung. zn. ox., Ung. diachyli., $\mathcal{a}\mathcal{a}$ \mathcal{Z} ss. (or omit the diachylon). M. Sig.: Rub well in once or twice a day. Leave on. (3) \mathcal{R} Picis liquid., \mathcal{Z} ij.-iv.; acid. salicyl., \mathcal{Z} i.; Ung. zn. ox., \mathcal{Z} iv. M. Sig.: Apply in the usual manner.

In the employment of these different remedial procedures it is well to remember that a lotion must be re-applied so often that the parts will be kept constantly covered with the fluid; that a varnish must be re-applied as soon as it peels off; that a salve must be well rubbed in, and a sufficient quantity must always be left on to keep the drugs in continuous action upon the skin; and, finally, that soap and baths and other scale-removing measures must be employed often enough for the attainment of the object desired. Then, when all this has been done, the patient will probably still have some psoriasis, or a new attack will supersede the old one, and the only certain hope of an end to the disease is such as is offered by his decease.

M. B. Hutchins.

PTERYGIUM. See *Conjunctiva, Diseases of.*

PTOMAÏNS.—Ptomaines are basic, nitrogenous organic substances produced by bacteria.

The first writer to suggest the probability of the formation of a poison coming within the above definition during putrefaction seems to have been Kastner (*Arch. f. gesam. Naturlehre*, 1824, Bd. i., 448, 488; Bd. ii., 499), who advanced the hypothesis that poisonous sausages contained an "alkaloid of decay" (*Moderalkaloid*) combined with an organic acid.

In 1852 Schlossberger, in an extended paper upon the sausage poison (*Arch. f. physiol. Heilk., Ergänzhft.*, 1852) supposed "the poisonous substances occurring in sausages and cheese to be organic bases, which have their origin in the decomposition of the protein materials rich in nitrogen, under certain conditions." He supported this hypothesis by the following observations: (1) When ammonia is produced in considerable amount by the decomposition of animal or vegetable substances, it is accompanied by volatile bases; (2) by the action of dilute potash upon poisonous sausages, much ammonia, accompanied by a peculiar repulsive odor, is given off; (3) the physiological action of the putrid poison is very similar to those of the known volatile alkaloids nicotine, conin, spartein, and to those of the artificial amid, imid, and nitril bases of Hofmann; (4) one of these bases, trimethylamin, is contained in herring pickle.

Four years later (1856) Panum was probably the first to obtain a ptomain, although in an impure condition, and to demonstrate that the putrid poison is a chemical