ACNE.

Definition and description.—Acne is an inflammatory disease of the sebaceous glands, affecting by preference, if not exclusively, those which are connected with rudimentary hairs and is usually located on the face, neck, chest, or back, or on two or more of these localities at the same time. It is characterized by papules, pustules, tubercles, and indurated nodules, which, on disappearing, may leave cicatrices. It affects both sexes, and is most common between the fifteenth and forty-fifth years, corresponding to the period of most active sexual life. Its course is usually chronic, and when untreated may persist for years. The principal varieties are acne *vulgaris* and acne *indurata*. The former of these is most frequently met with in early life, and may be said to consist in an eruption of small or medium sized discrete papules or pustules, not surrounded by much infiltration, but frequently accompanied with comedones. This affection may pass, by insensible gradations, into acne *indurata*, which consists of larger papules, tubercles, and pustules, with reddened, infiltrated, and hardened bases, and more or less surrounding congestion and infiltration.

Diagnosis.—The diagnosis is usually easy, the only affections with which it is liable to be confounded being a papulo-pustular or tubercular syphilide, a papular eczema, rosacea, lupus, and certain medicinal rashes.

From syphilis it can be distinguished by the previous history, duration, and in early syphilis the more or less general diffusion of the lesions over the whole body. In late syphilis the lesions most nearly resembling an indurated acne usually exhibit an ulcerative tendency. A papular eczema of the face may sometimes closely simulate a mild acne vulgaris. In the former affection the papules do not necessarily correspond to the sebaceous follicles, and, besides, if the eczema has lasted for any length of time, there is usually more interpapular infiltration, and a disposition to the formation of scales. Advanced rosacea is frequently complicated by acne, but when existing alone and in an early stage is characterized by localized congestions, not specially involving the sebaceous glands. In some cases of superficial lupus a plentiful development of papules might suggest an acne, but in acne the individual lesions usually run their course in from one to three or four weeks, while in lupus they persist for months.

Prognosis.—In young subjects the prognosis, under judicious treatment, is usually good, and also in older ones in cases where there is no irremediable *internal* cause for the eruption.

Etiology.—We have elsewhere (87, 220) placed acne in the group of reflex affections, in consequence of a firm belief that in the great majority of instances it is not a primary condition, but one dependent on irritation, derangement, or disease of other organs reflected on the skin. The organs specially involved are those connected with the sexual and digestive systems. Acne vulgaris is pre-eminently a disease of youth, frequently first showing itself at the inception of puberty, or shortly after, and lasting, with varying severity, for several years. In young adolescents there is little doubt that it is often connected with too frequent sexual excitement, more especially of an unnatural kind. In young women menstrual irregularities play a not unimportant rôle. In one case it may be a scanty or deferred menstruation; in another, a too frequent or profuse one, and in still another more or less dysmenorrhœa. In other cases again these func-

tions may be performed in a comparatively normal manner, but constipation or dyspepsia is present, and seems to constitute the principal etiological factor.

Acne indurata is more common in older persons. In women it is most frequently due to menstrual or gastric trouble, while in men its origin must be sought in gastro-enteric or hepatic derangement, the latter not rarely due to excessive use of spirituous beverages.

Treatment of acne vulgaris.—The first point to be considered is the probable cause of the eruption, and the means best adapted to its removal. A detailed consideration of these will take us too much out of our way. The next point to be looked into is the general hygienic condition of the patient. If there is room for improvement in this respect it should certainly not be neglected. Fresh air, exercise, diet, etc., should be duly regulated, and any habits that are prejudicial to health should be corrected. Attention to the foregoing may involve the employment of tonics, neurotics, emmenagogues, etc. Among the first, cinchona and its derivatives are, I believe, rarely indicated, except when the condition calling for the tonic treatment is the result of excessive menstrual or seminal losses, or is dependent on malarial poisoning. Iron, if prescribed, should be given sparingly and for short periods only, for if given in excess and for too long a time is capable of producing anæmia, and is even credited with the power of exciting an acneform eruption (*vide*, p. 53). Nux vomica and strychnia are tonics, peptics, and neurotics, and may often be usefully employed; so also the bromide of potassium may prove useful as an anaphrodisiac and sexual sedative, but its special influence on the sebaceous glands should not be overlooked, and care should be taken that it does not do more harm than good. If menstruation be deficient, any of the well-known emmenagogues may be employed, the blue cohosh (*Caulophyllum thalictroides*) having given me great satisfaction in this connection. Functional dysmenorrhœa is sometimes promptly relieved by pulsatilla or viburnum opulus, and menorrhagia by ergot. The regulation of the bowels by laxatives, etc., when necessary, should be borne in mind. All this should be regarded as preliminary, and brings us to the direct treatment of the eruption, which treatment will be either internal or external—or, better, a combination of both.

The remedies specially interesting in connection with the direct internal treatment of acne vulgaris are arsenious acid, bromide of arsenic, sulphide of calcium, and sulphur. The action of these drugs is by no means the same, and the indications for their employment are far from being identical. While making this statement, it must be understood that the writer is not prepared to present their several indications with the precision that might be desired. Literature is almost silent on the subject, and personal experience (too often deceptive) is the writer's main guide to the differential selection of the drugs mentioned. Arsenious acid has appeared best adapted to those cases in which the papular element was the most prominent, the papules being indolent, not very painful, and slowly pursuing their course to resolution without changing to pustules. Sulphide of calcium, on the other hand, is best adapted to cases characterized by a plentiful development of sensitive and painful papules, rapidly becoming pustules, which pursue a somewhat âcute course. The greater the tendency to pustulation, the more strongly the sulphide is indicated. The bromide of arsenic occupies a middle ground between arsenious acid and sulphide of calcium, and is probably adapted to a greater number of cases than the drugs just mentioned. Sulphur has

always enjoyed a certain measure of repute in the treatment of acne, but I have rarely found it of service except in a few extremely indolent cases, in which doses of from five to fifteen grains, alone, or mixed with bitartrate of potassium, have appeared to excite a beneficial influence.

The external treatment of acne vulgaris should go hand in hand with the internal. Recollecting that the lesion of acne runs a definite course, the progress of lesion should be hastened as much as possible. An inflamed papule having appeared, it, on the one hand, remains a papule for a week or two, and then gradually undergoes resolution without suppuration, and gradually disappears—or it may change into a pustule, the pus appearing at its summit,—sometimes more deeply. After the pus is discharged, the lesion gradually disappears, leaving a slight macule which in turn fades away. In either case the duration of the lesion may be materially shortened. This may be accomplished by freely incising, or rather puncturing, each advancing lesion with a lancet point. The slight bleeding that follows should be encouraged by fomentations of *warm* water. This to be followed by applications of water as hot as it can be borne, and which should be repeated two or three times a day, each application lasting five or ten minutes. The patient is then directed to procure a proper lancet, one with a guarded point is preferable (Fig. 4), and to

FIG. 4.—Acne lance.

puncture every new lesion as it appears. As comedones frequently coexist with acne vulgaris, they should be next disposed of (see *Comedo*). This accomplished, various ointments and lotions are of service, the most useful of which, in my experience, are *Ungt. Hydrarg. Ammon.*, *Ungt. Sulphuris*, *Ungt. Sulphuris Iodidi* diluted, and lotions containing a little *Hydrarg. Chlor. Corros.* (gr. j.—ij. to the ounce), or sulphur. An admirable application is precipitated sulphur, intimately mixed with three or four times its weight of any simple toilet powder. All that is really needed is a mildly stimulating application, and one not strong enough to produce much irritation. The ointments, lotions, etc., should be applied at night and washed off the next morning with soap or quillaya.

The faradic current has been found by myself and by my friend, DR. SATTERLEE (**110**, 2 : 164), an excellent adjuvant in the treatment of Acne vulgaris. The positive pole is applied to the nape of the neck, and the negative to the affected parts. The applications to be continued for ten or fifteen minutes, and to be repeated every two or three days.

Treatment of acne indurata.—The preliminary treatment will be the same as in the other form. That is to say, the causes of the affection must be inquired into as minutely as possible. Hygiene and the general health of the patient should receive careful consideration, and all obstacles to a cure should be removed so far as practicable. The direct internal treatment is in the main the same as in the preceding variety. Arsenic and sulphide of calcium are to be used on the same indications as already laid down, but in addition valuable service is sometimes rendered by mercury, phosphorus, and the iodides of potassium and sulphur. This is especially the case when the eruption is subacute with large tubercles and much surrounding infiltration. The external treatment involves the employment of scarification and hot water, if the lesions exhibit an acute

character. If subacute, actively irritant applications are more useful. Of these the *Sapo Viridis* is one of the most important. This should be applied every night to the affected parts until a considerable degree of irritation is produced—as much, in fact, as the patient can conveniently bear without too much suffering. When this limit is reached, the applications of the soap are discontinued, and emollients used until the artificial inflammation shall have subsided. When this has taken place it will be generally found that the original infiltration and induration is lessened. Another series of green-soap applications are then to be made in the same manner, and after subsidence of the irritation to be followed by another course, if necessary. When the whole or greater part of the infiltration disappears and the tubercles levelled down, as it were, lotions of sulphur, etc., will prove serviceable in combating the remaining hyperæmia. Instead of *Sapo Viridis*, ointments containing *Hydrarg. Bichlor.*, *Hydrarg. Biniod.*, *Potassii Iodid.*, *Sulphuris Iodid.*, etc., may be employed. The object sought in these applications is the substitution of an artificial inflammation which tends to a spontaneous subsidence, and usually results in a beneficial modification of the pre-existing lesions.

Hebra places little reliance on internal treatment, relying almost exclusively on external remedies. He says: "In the first place, everybody, and most of all a person affected with acne, should be careful to keep his skin scrupulously clean, and not only (as is usual) to wash the hands alone, but also the face, and when possible the back and chest as well, at least once a day, and that with soap. The operation is best undertaken before going to bed at night, and in the following manner: A piece of flannel should be dipped in lukewarm water and then rubbed with fluid glycerine soap or *Spiritus Saponatus Kalinus*, or any solid soap preferred, after dipping it also in water. The flannel thus impregnated with soap should be rubbed over the skin, and that briskly, since the mechanical pressure is of considerable service in removing the plugs of sebum which obstruct the follicles. The soap should then be washed off with water, and, to prevent the tension of the skin which may follow, either a little glycerine, cold cream, or any simple ointment should be applied, or, if this is not well borne, some earthy powder, such as pumice-stone, Venice talc, or asbestos. It is best to wash at night, because the redness of the skin, which is produced by the rubbing with flannel, takes some little time to disappear; and many patients dislike this in the earlier hours of the day. The application of oily preparations is also recommended as being agreeable to the patient's feelings.

"In cases which need something beyond mere washing with soap, this should be followed by the application of a sulphur paste by means of a camel's-hair brush.

"This should be left all night upon the skin, and washed off next morning; not with soap but with a glutinous lotion, obtained by pouring hot water over bruised almonds and used lukewarm. After this paste has been applied a few days in succession, slight reaction follows in the form of mild *Pityriasis rubra*; it must then be intermitted till this has disappeared, and meanwhile Wilson's zinc ointment may be used.*

"While this treatment is going on, the acne-nodules should be scari-

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fied in good time, before their contents become yellow and purulent. As soon as a red tubercle appears, it should be incised to the depth of one or two lines and allowed to bleed.

"The use of ordinary baths or, when the disorder attacks the face, of vapor- and shower-baths, will be of important service in assisting these measures.

"Another method of treatment is by sulphuretted sand-soap, or iodized sulphur-soap: a piece of one of these is moistened and rubbed into the skin until a lather is formed, which is allowed to remain all night, and only washed off next morning with bran-water.

"In using corrosive sublimate, one of its solutions should be applied once or twice a day with a camel's-hair brush or a piece of sponge, until either an eruption of vesicles follows, or simple desquamation. Then all treatment should be suspended, or Wilson's zinc ointment may be used. Mercurial plaster may be also applied during the night, followed by washing with soap in the morning" (97, Syd. Soc., ed. 2: 298).

WILSON (77, 596) says: "The treatment of acne must be adapted to the cause of the affection; in those cases in which a torpid action of the cutaneous system is evident, stimulating remedies must be employed, whereas in those which are dependent on congestion, stimulants would be injurious, and prolong the morbid action. In both cases the regimen should be regulated; it should be moderate and nutritious, all stimulants avoided. To this hygienic management, laxatives and acids, and tonics may be added, with a view to order the secretions and regulate the digestive functions. Whenever other general indications present themselves, they must be especially attended to; thus, in young women at the time of puberty, the state of the uterine functions must be ascertained, and at the critical period of life derivative measures may be employed with advantage. Whenever the indication is obviously congestive, bleeding may be had recourse to locally.

"In applying the local treatment, due regard should be had to the ordinary principles of surgery. When the pimple is congested and painful, it may be punctured, and the bleeding encouraged by water-dressing or poultice; and when pus or sebaceous substance is suspected to exist, embedded in the tubercle, a fine puncture, succeeded by a poultice, is especially indicated. When the local determination has somewhat subsided, stimulants may be employed; for this purpose a lotion containing sulphur sublimatum, two drachms; camphor, one drachm; and distilled water, four ounces, is often of service; or the hypochloride of sulphur ointment, or an ointment of ioduret of sulphur, in the proportion of ten grains to the ounce of elderflower ointment or simple cerate."

"In the simple, as well as in the other varieties of acne, when they present a chronic character, a solution of bichloride of mercury in emulsion of bitter almonds, or of the same salt in eau de cologne, in the proportion of a grain to the ounce, will be found of service. A solution of sulphur, in spirits of wine or brandy, has been recommended as a local application; but this merely acts upon the general principle of stimulation, and is inferior in every respect to the solution of the bichloride."

The following drugs may also be considered in connection with the treatment of acne:

For internal use.—*Acid. Nit.*, 9; *Belladonna*, 32; *Cich. Intyb.*, 42; *Glycerine*, 56; *Ol. Morrhuæ*, 78; and *Taraxacum*, 110.

For external use.—*Acid. Carbol.*, 6; *Aconite*, 12; *Antim. Chlor.*, 18; *Citr. Limon.*, 45; *Collodium*, 46; *Ferri Chlor.*, 55; *Ferri. Perox.*, 55;

Hydrarg. Cyan., 65 ; *Hydrarg. Nit.*, 65 ; *Mais Guasto*, 75 ; *Potassa*, 90 ; *Potas. Chlor.*, 92; and *Sodii Boras*, 106.

Certain purely mechanical processes have also been recommended in the treatment of acne, more particularly rubbing down the affected patches with fine sand, proposed by ELLINGER (**177**, '76, No. 45), and scraping away the lesions with the dermal curette, by HANS HEBRA (**177**, '75, No. 51), and WIGGLESWORTH (**115**, '76).

ALOPECIA.

SYN. : Defluvium capillorum.

Definition and description.—Alopecia may be described as the partial or complete falling of the hair from the scalp or other portions of the body. This loss of hair may be quite sudden, occupying a few weeks only; or, on the other hand, it may be exceedingly gradual, and several years may pass before any particular region, the scalp for instance, becomes absolutely bald.

Etiology.—Rapidly advancing alopecia is sometimes an accompaniment of syphilis, and will be particularly considered in connection with that disease. It also not unfrequently occurs during convalescence from the continued or eruptive fevers, after childbed, after erysipelas, and other acute diseases.

Chronic or slowly advancing alopecia may be the result of various debilitating causes, or may depend on pre-existing disease of the scalp, more particularly pityriasis (sometimes improperly termed *Seborrhœa sicca* *). It may also result from long-continued and imperfectly treated parasitic affections, as favus and trichophytosis. Lastly, it may be due to the ravages of age.

Diagnosis.—There is, of course, little or no difficulty attending the diagnosis of alopecia *per se;* the variety of alopecia, however, from an etiological point of view, is not always so self-evident. In syphilis the fall of the hair is usually quite rapid, and there may be either a uniform or generally diffused loss, or the hair may come out in patches, simulating an alopecia areata. The previous history and concomitant symptoms usually render a diagnosis easy.† Alopecia depending on recent acute disease is generally diffuse, the hair coming out quite readily when combed, but rarely becomes complete, as new hair usually commences to grow before the old hair is entirely gone.

The alopecia resulting from a long-continued favus is exceedingly characteristic, but difficult to describe. The presence of the favus crusts and the history of the disease will enable the diagnosis to be made without difficulty.

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* See **87**, 193.

† A couple of years ago a physician called upon me with the request that I would prescribe for him the most approved "hair tonic" that I knew of, stating that for some weeks his hair had been coming out to a degree that greatly annoyed him, as he feared he would lose it all. He could imagine no cause for the trouble. A glance at the scalp was sufficient to direct the line of inquiry into the right channel, and it was ascertained that the patient had been an unconscious sufferer from syphilis for several months. Appropriate treatment and other circumstances amply verified the diagnosis.

Slowly advancing premature alopecia, the result of pre-existing pityriasis, is, as a rule, easily recognized ; the presence of an abundant "dandruff," or, if this condition has ceased, the history of its previous occurrence, is usually sufficient to establish its importance as an etiological factor.

Senile alopecia, of course, presents no difficulties in diagnosis.

Prognosis.—In generalized syphilitic alopecia, and in that following acute illness, the prognosis is usually good. In alopecia dependent on pityriasis, the progress of the affection can usually be controlled, but if much advanced, the reacquirement of the original amount of hair is improbable. In senile alopecia the prognosis is unfavorable.

Treatment.—Appropriate treatment necessitates, in the first place, the removal of the cause, if possible; in the second, attention to the general hygiene; third, constitutional treatment when indicated, and fourth, local measures. The first indication cannot always be fulfilled, as for instance, in senile alopecia. In other etiological varieties, however, it can, as in alopecia due to existing pityriasis. This condition must be remedied before we can hope to accomplish much in the way of improving the growth of the hair. In alopecia the general hygiene of the patient should never be overlooked, especially in cases occurring after fevers and debilitating diseases. Constitutional treatment of a specific character is of course requisite in the variety dependent on syphilis. In other cases it involves the employment of measures calculated to improve the general health when necessary, and also the use of internal remedies capable of promoting the growth of the hair, if any such remedies can be found. To positively assert that there are drugs which, internally administered, are capable of promoting an increased growth of the hair, is more than the author feels warranted in doing. He, however, cannot refrain from expressing the belief that he has seen decided benefit follow the employment of preparations of arsenic, nux vomica, phosphorus, and cod-liver oil. How these drugs act, if in reality they are efficient, is a question rather difficult to answer. Possibly as nerve-stimulants they may expend their force where it is most needed, or possibly as hæmatogenics they may act by improving the character of circulating fluid, and thus indirectly prove of service. Whether internal treatment is appreciably beneficial in alopecia, except in the syphilitic form, may, we think, be still considered an open question. Not so, however, with local treatment. On this our expectations must mainly depend.

One of the first points to be considered is the desirability of cutting the remaining hair close, or of shaving it off altogether. There is very little doubt that rapidity of growth is promoted by clipping, and that a thicker and stronger growth follows frequent shaving, and the only question to be decided is whether the inconvenience and discomfort that arises from a shaven scalp are not greater evils than those under which the patient is already laboring. In deciding this, each case must be judged by itself. In children it matters little whether the hair be shaved or not, unless they are of a particularly sensitive disposition and likely to be annoyed by the remarks of school-fellows and playmates. With ladies, and especially young ladies just entering society, a proposition to shave the scalp will meet with much disfavor, and should not be urged if there is a reasonable prospect of recovery without it. If shaving is decided on, it should be repeated every three or four days for several weeks or even longer, and until there appears to be a manifest improvement in the thickness of the growth, and in the strength of the individual hairs, it being understood that appropriate local treatment is pursued at the same time. If, how-

ever, shaving is omitted, local applications of a stimulating nature will be the main dependence. These will vary in activity according to the susceptibility of the skin and to the effect produced. It is best to commence with the milder class of applications. Sometimes they alone will suffice, and may even do better than stronger ones.

Among the former, are infusion of ordinary garden sage (*Salvia Officinalis*, ℥ j.; *Aq. Bull.* Oj.) may be mentioned. The author has employed this to advantage in a number of cases of incipient alopecia, the first effect being to check the falling out of the hair, and long-continued use is sometimes followed by a renewed growth of stronger hair. The applications should be made at least every other night and continued for several weeks. If at the end of a month or six weeks no benefit appears to accrue, it is hardly worth while to continue it longer. A stronger application may then be used, as a tincture of sage, of rosemary (*Rosmarinus Officinalis*), or of nux vomica mixed with castor-oil.

A still stronger, and perhaps the most frequently employed scalp stimulant, is the tincture of cantharides more or less diluted with alcohol, or oil, or added to any of the ordinary pomades that the patient fancies. The proportion of the tincture should not at first exceed one part to twenty of excipient, to be increased later if thought desirable.

Another stimulant specially recommended by WILSON is ammonia. He prescribes "a lotion composed of strong liquor ammonia, almond oil, and chloroform, of each one part, diluted with five parts of spirits of wine or spirits of rosemary, and made pleasant as to fragrancy by the addition of a drachm of the essential oil of lemons. The instructions for the use of this lotion, are: that it should be sponged upon the skin of the head after thorough friction with the hair-brush" (**80**, 164).

When the scalp is preternaturally dry, oily applications and excipients for more active agents should be employed. Among the oils, petroleum enjoys a certain reputation, not altogether unmerited, as a hair stimulant. The crude oil may be employed, or, preferably, some one of its more refined products. The oleates of mercury and of strychnia may also prove of service under the same conditions. When, however, the scalp is unusually oily from excess of sebaceous secretion, the author usually directs that it shall be occasionally washed with a fluid-extract of soap bark (*Quillaya Saponaria*), to which a little water has been added. This forms a lather which both cleanses the scalp and acts as a stimulant.

In the treatment of alopecia, which is usually tedious and often without result, a change in the character of the application should occasionally be made. After a prolonged use of any given lotion, the scalp seems to become habituated to it, and progress stops, to go on again under the use of quite a different preparation.

The treatment of alopecia dependent on pityriasis or the *alopecia furfuracea* of HEBRA, is thus described in the work of this author.

In the first place, the accumulation of scales on the scalp are softened by means of oil, and removed by washing. A sufficient quantity of pure olive oil is carefully rubbed into the scalp, where covered with scales, by means of a small piece of sponge, or a piece of flannel, and the head is then wrapped up in a hood of flannel. This plan is most conveniently carried out at night. If the scales are very thick and dry, the oil must be rubbed in energetically every two or three hours. After this procedure has been carried out for twelve or twenty-four hours, the scales become so brittle that they may be broken up and removed with the finger.

This is the time for washing the head. For this purpose any of the better kinds of soap may be made use of. A solution of soap in spirits answers best of all, because both the soap and the alcohol dissolve the fat, and the latter also slightly stimulates the sebaceous glands, and therefore acts as a direct method of cure as well as a merely preparatory one. The *Spiritus Saponatus Kalinus* is the most effective. A sufficient quantity of the alcoholic solution of soap is sprinkled on a piece of flannel, or on a coarse-meshed sponge, and the scalp is then washed with it. After the scales and crust have been everywhere thoroughly removed from the scalp, the hairs are rinsed with cold or lukewarm water until it flows away quite free from admixture with soap. The inunction with oil only requires to be repeated during the first few days, as long as the sebaceous crusts are reproduced in excessive quantity and density. The process of washing, however, must be persevered in day by day, most conveniently at night, in men as well as in women. After the completion of the washing, the hair must be combed, and by this means some scales still remaining may be removed. The hair is then left quite unrestrained, that is, in women it is not plaited nor arranged in any way. It must remain uncovered, in order that it may dry thoroughly.

For the first few days the patients lose a very large quantity of hair, much to their dismay, during the washing and combing, so that they appear much more bald than they did before commencing the treatment. It is necessary to call the patient's attention, beforehand, to this unavoidable but very easily explained circumstance. There are many hairs, for instance, whose roots are already atrophied, and whose root-sheaths are already loosed, which adhere but slightly to their follicles. These, which are quite ready to fall out, are pulled out by the washing, and they are accompanied by many hairs which, though set free from their follicles, are retained by masses of sebum. The loss, therefore, only affects hairs which would otherwise, though not at the precise time, have been shed.

At a later stage, instead of the wash of the alcoholic solution of soap, may be substituted one containing brandy, or an alcoholic one containing tannin, veratria, or some other stimulating ingredient. Still later, fatty excipients are usually required.

Besides the drugs already mentioned, attention is directed to *Adiantum*, 13; *Lappa*, 73; *Ruta muriaria*, 101; and *Verbena*, 113.

Alopecia Areata.

Syn.: Alopecia circumscripta; Area Celsi; Porrigo decalvans; Tinea decalvans.

Definition and description.—Alopecia areata is an affection characterized by the loss of hair from the scalp or other parts. The affection commences by small circumscribed, usually round patches, which gradually enlarge, until contiguous ones unite. The parts most frequently affected are the scalp and region of the head, though all parts of the body may be affected, and all of the hair be shed.

Diagnosis.—The only affections with which alopecia areata is liable to be confounded, are trichophytosis capitis and syphilis. In the former the apparently bare places are in reality found to be covered with a short, hairy stubble, from $\frac{1}{16}$ inch to $\frac{1}{8}$ inch in length, plentifully interspersed with fine farinaceous scales. In alopecia areata, on the other hand, the patch is abso-

lutely bald, sometimes slightly elevated and injected, more frequently depressed and pale, and without scales. The bald patch itself is surrounded by apparently healthy hair. In syphilis the loss of hair is usually diffuse and rapid, more rarely intermingled with circumscribed patches. The scalp is sometimes slightly injected, but not elevated. The concomitant symptoms should enable the diagnosis to be made without difficulty.

Etiology.—The causes of alopecia areata are not definitely known. A few, chiefly French authors, believe that it is due to a fungus, which they call the *Microsporon Audouini*, and hence classify the affection with the *Phytoses*, or diseases depending on vegetable parasites. The majority of observers do not accept this view, but believe that the affection is due to a circumscribed asthenia, depending on defective innervation. For further discussion of this question see 87, 289.

Treatment.—The methods of cure recommended by writers are somewhat biassed by their views as to the etiology of the affection. The French usually recommend that the bald patch and a little of the surrounding hair be shaved with a razor two or three times a week, and that an ointment of turpeth mineral (*Hydrargyri Sulphas Flava*), about 1 to 30, be rubbed into the bald patch daily. Others, who regard the disease as a localized neurasthenia, apply the strongest stimulants. The author has usually adopted the following plan: If the patches have not yet acquired a very large size, the marginal hairs for $\frac{1}{16}$ inch to $\frac{1}{8}$ inch are carefully epilated. This done, the further treatment will depend on whether the patch is apparently congested and slightly elevated, or whether depressed and pale. If in the former case, I have found a local application of nux vomica of great service. From ʒ ss. to ʒ j. of the fluid extract to an ounce of simple or rose-water ointment, may be thoroughly rubbed into the affected parts once or twice a day. Another convenient application consists of equal parts of tincture of nux vomica and castor-oil, or a two per cent. solution of strychnia in oleic acid.

On the other hand, if the scalp is pale and depressed, an active stimulant is required, and for this purpose I am in the habit of using the ordinary *Collodium cum Cantharide* of the pharmacopœia. This being applied sometimes blisters, but quite as frequently fails to. If it blisters, the next dressing will be a little simple cerate until the blister has healed. This is followed by a mild stimulating application, as castor-oil with a little tincture of cantharides or spirits of rosemary, or a lotion or ointment of corrosive sublimate, one to two grains to the ounce, or the turpeth ointment above mentioned. If, at the end of two weeks or so, there is no sign of new hair, the cantharidal collodion is again applied. When new hair begins to appear, it is usually quite fine and delicate, and of a much lighter color than normal. As soon as it shows itself the razor may be brought into requisition, and used two or three times a week, mild stimulants to the scalp being continued. In addition to the drugs mentioned, I have sometimes used croton-oil, cardol, ammonia, and other substances having an analogous action.

Those who do not regard the affection as parasitic, are in the habit of employing internal in conjunction with local treatment. Personally, I use, and I think with advantage, arsenic, nux vomica, iron, quinia, phosphorus, and sulphur. Occasionally cod-liver oil is indicated in children, more rarely in adults. In all cases generous diet and proper hygienic surroundings should be secured.

When the affection has already gained much headway, and the greater part of the scalp is denuded, extensive blistering is out of the question, or

if employed at all, portions from an inch to an inch and a half square should be treated successively. Patients in this condition are often disposed to wear a wig or a cap. This should be discouraged as much as possible, and free exposure of the scalp to the air and light insisted on. In summer exposure to the direct rays of the sun is of decided service, the period of exposure of course depending on the ability of the patient to endure it without the induction of headache or other disagreeable symptoms.

As previously stated, the affection sometimes progresses until universal alopecia results. This condition, however, is rare and in general unnecessary. The writer does not recall a case treated after the manner described in which the advance of the disease was not stopped, and in the very great majority of cases the hair can be restored to its normal condition.

HEBRA recommends the application of alcoholic solutions of the various essential oils, veratria, tincture of veratrum, aconite, cantharides, capsicum, etc. Although considering the affection to be a trophoneurosis, he says nothing concerning constitutional treatment.

WILSON's favorite application is ammonia mixed with camphor and chloroform. He states that the "constitutional treatment should consist in the adjustment and regulation of the functions of digestion and assimilation, and where no other special conditions are to be fulfilled, the adoption of a tonic regimen, and the administration of tonic remedies. Of these last arsenic bears the palm, and may be advantageously prescribed in doses of two to four minims" (of Fowler's sol.) "three times a day, directly after food, and in any convenient vehicle."

ANGIOMA.

SYN. : Telangiectasis.

Definition and description.—This affection consists in the development of a small congeries of blood-vessels in the superficial portion of the derma. They are small in size, usually not more than a sixteenth of an inch in diameter, and may be quite numerously distributed over the surface. They are rarely met with before puberty. Their bright red color and slight prominence immediately attract attention.

Etiology.—The causes which induce the development of angiomata are unknown.

Therapeutics.—These little growths are readily removed by the application of nitric acid, chloride of zinc, or any of the stronger caustics ; or electrolysis, or some form of actual cautery may be employed for the purpose.

HEBRA recommends that they be incised with a fine scalpel, and a dilute solution of perchloride of iron, or a strong solution of nitrate of silver immediately applied.

The author usually employs the fine point of a Paquelin cautery.

ANIDROSIS.

Etiology.—Deficient perspiration is a symptom common to a number of cutaneous affections, that is to say, accompanies various lesions. It sometimes, though rarely, is a prominent morbid condition without any other coexisting lesion of the skin. It may be due to congenital defective development of the sudoriparous glands, or to functional derangement of normal glands, or to other causes. For instance, examination of the palmar surfaces of the fingers with a lens will enable the observer to readily detect the situation of the mouths of the sweat-ducts, in a normal condition of the skin. They appear as numerous little circular depressions on the summit of the papillary ridges. In ichthyosis, on the other hand, they appear to be less numerous and smaller in size, and many of them fail to exhibit any depression, and some of them appear even a little elevated, and apparently blocked up and impervious. Again, if the palm of a normal hand, after having been thoroughly dried, be exposed to the direct rays of a hot sun, in a few minutes little droplets of fluid will be seen (with a lens) issuing from the pores. If the palm of an ichthyotic patient be treated in the same manner, it will be found that only a comparatively small number of pores give exit to fluid. In other words, a certain proportion of them are inactive. It is probable that this condition prevails to a greater or less extent over the whole surface of the body, as ichthyotics are proverbially anidrotic. In this case, there is a congenital defect of development in the sudoriparous system. In the affection known to English writers by the name of xeroderma, it is probable that the same condition prevails to a less extent. On the other hand, patients suffering with eczema, psoriasis, and some other cutaneous affections, do not, as a rule, sweat as freely as persons in the full enjoyment of health. Here there is no evidence to show that the sweat-glands themselves are defective, and the deficient secretion may be simply due to functional inactivity.

Therapeutics.—If for any reason it is desirable to increase the secretion of perspiration, it may be readily accomplished by the use of almost any of the commonly employed diaphoretics. The most powerful of these agents is jaborandi, the full diaphoretic dose of which for an adult is a drachm of the fluid extract, or half a grain of some salt of its alkaloid pilocarpia. This produces free diaphoresis, commencing in ten or fifteen minutes and lasting for two or three hours or longer. It possesses the inconvenience of producing at the same time free salivation, a circumstance of which the patient should be informed. When practicable the most agreeable mode of obtaining free diaphoresis is by the aid of the Turkish or hot-air bath.

ANTHRAX.

SYN.: Carbuncle.

Definition.—A circumscribed inflammatory condition of the skin and subjacent connective tissue, characterized by heat, redness, pain, and swelling, and termination in destruction and slough of the tissues in-

volved. This disease must not be mistaken for a disease of cattle, sometimes called by the same name and transmissible to the human subject.

Etiology.—The exciting causes of anthrax are not fully understood, but it appears most frequently in men of enfeebled constitution and past middle life. The disease is not infrequently fatal.

Treatment.—The general hygiene of the patient demands the first attention. Diet that shall be nourishing without making too great demands on the digestive organs, is of the first importance. Milk, cream, eggs, meat-juices, oysters, tender meats, together with a proper and judicious mingling of farinaceous foods, should be provided. As the disease usually lasts for several weeks, sometimes months, and in its course, especially when prolonged or attended with much suppuration, makes severe demands on the reparative powers of the system, intelligent supervision of the patient's food is of the utmost consequence. Variety should be provided, lest the too frequent repetition of the same articles pall on the appetite, rarely very good, and tend to induce disgust for all food, at least in proper quantities. If the patient's appetite can be maintained, and a reasonable quantity of nutritious food is daily assimilated, this alone may turn the scale in the patient's favor, and prevent what might otherwise be a fatal issue. Stimulants will, in all probability, be demanded. As the affection not infrequently occurs in those who are accustomed to indulge more or less freely in spirituous beverages, the patient's habits should be carefully considered in fixing the daily quantum to be consumed. This general rule, however, may be safely followed: Do not give stimulants, other than the patient is accustomed to, until there are clear indications for their use, and never give more than is necessary. As the disease progresses there will be increased need of them, and if commenced too soon or in too large quantity, the subsequent increase that will be required may prove a matter of serious embarrassment. As to the amount to be used no definite rule can be given. In some cases, the equivalent of an ounce or two of brandy in twenty-four hours may be all that is requisite, while in others six times these quantities may be necessary to avert a fatal depression. In some a single glass of wine at meal-time gives a sufficient encouragement to the stomach to induce it to do its share toward maintaining the patient's nutrition; in others brandy or some other distilled spirit must be given at regular intervals in order to sustain a feeble pulse and flagging heart.

If the case be at all severe, the patient will probably be confined to his bed, or at least his room. Ventilation, therefore, and a constant supply of fresh air should be provided, at the same time draughts and improper exposure should of course be avoided. A little ingenuity, with the aid, perhaps, of some one of the various patent ventilators in the market, will readily secure all that is necessary in most cases. If, however, the carbuncle be a large one and open, and if the exposed surfaces freely secrete pus, and especially if gangrenous sloughs still retain their attachments, additional purifying devices will be required. A dish of chloride of lime in the corner, spraying the air with a dilute solution of permanganate of potassium, of carbolic acid, of thymol and the like, will tend to promote the patient's recovery, and add much to his comfort and to that of his attendants.

The *constitutional* treatment of anthrax involves the judicious use of quinine, iron, the mineral acids, strychnia, phosphorus, the hypophosphites, and possibly the hyposulphites. Quite recently the sulphide of calcium has been recommended, on the ground that as it is useful in furuncle, it

should be, *pro tanto*, serviceable in carbuncle. None of the agents mentioned should be used to excess, nor commenced too soon. If the suppuration is excessive, either before the carbuncle is open or afterward, the calcium sulphide will certainly control it in a measure, but as this agent is so apt to cause disturbance of the stomach, which should at all hazards be maintained in good order, it may not always be desirable to employ it. The pain and nervous irritability that often accompany carbuncle are best relieved by opium, or one of its derivatives, a dose at night being, perhaps, all that will be necessary. It should be given in suppository or by hypodermic injection rather than by the mouth.

The *local* treatment of anthrax has given rise to much discussion, and surgeons are by no means agreed as to the means to be adopted. Some claim that if the carbuncle be seen early its spread may be limited by active compression; others, that when fluid is manifestly present it should be evacuated as soon as possible by a number of small openings; others again maintain the old practice of extensive incisions. A recently issued "Manual of Operative Surgery" declares that "the treatment of all forms of carbuncle must be very energetic to prevent the spread of the disease; numerous incisions should be made early to permit the escape of the decomposed putrid tissues and fluids; they should be crucial in form through the whole thickness of the cutis and extending to the healthy skin," etc. *Per contra*, Sir James Paget* lends the weight of his influence against this practice. He says: "I have not followed this method very often, but I have followed it quite often enough to be sure that it does not produce the effects which are commonly assigned to it. It is commonly said that if you will thus make crucial incisions you will prevent its spreading. If you can find a carbuncle two or three days old, and cut it right across in both directions I think it not unlikely that you will prevent its spreading. But even therein is a fallacy; for there is no sign by which, on looking at a commencing carbuncle, you can tell whether it will spread or not, whether it will have a diameter of an inch or of three, six, or ten inches. . . . After this time of three or four days I have seen a sufficient number of carbuncles thus divided, and have divided enough for myself, to say that it will not hinder the spreading. I have seen carbuncles spread in as large a proportion of cases after incisions as in cases that have not been incised. . . . Then it is said that carbuncles are relieved of their pain if they are thus freely cut. Here again is only a partial truth. A carbuncle of two or three days' standing, which is hard, tense, and brawny, is very painful; and cutting it will relieve, in many cases, a considerable portion of the pain. But after this, when the carbuncle begins to soften, and when the pustules begin to form upon the surface, and pus in its interior, it becomes less painful of its own accord, and without incisions. Thus there are two distinct stages of carbuncle in reference to the pain; the early stage, when it is hard and still spreading, and is generally intensely painful, and the later stage, in which that pain nearly or quite ceases. A carbuncle divided in the first stage, in the first two or three days of its existence, may be relieved of some of its pain; if divided in the later stage, what little pain may exist is altogether unaffected by the cutting. And even cut as you may, you cannot always cure the extreme pain that a carbuncle sometimes has, even to its later time. . . . The third point is stated thus: that by the incision of carbuncles you accelerate their healing, giving facility for the exit of sloughs. But herein is the

* Clinical Lectures and Essays. London, 1875.

greatest fallacy of all. When the cutting of carbuncles was more customary in this hospital than it is now, when I did not cut them, and some of my colleagues did, I used to be able to compare the progress of cases cut and of cases uncut, and time after time it was evident that the cases uncut healed more readily than those cut. . . . It by no means always follows that the whole carbuncle or its whole base sloughs. Carbuncles, if not divided, not unfrequently suppurate only about their centres, and slough only in their central parts, and the borders clear up by the softening and dispersion of the inflammatory products in them. In every case of this kind you save greatly the amount of healing which has to be gone through. Nay, in some cases, carbuncles completely abort.

"The incisions that I have been speaking of are those made in the old plan—crucial incisions. Another method which I have occasionally tried, but of which I can only state the same general results, is that of subcutaneous incision. This has been supposed to have the same general effect as the other; and I think that the same general conclusions may be drawn respecting it, that it is a measure unnecessary in the treatment of carbuncle, and that it retards rather than hastens the healing. When I speak thus of the incision of carbuncles, however, I do not mean to say that there is no condition of carbuncle in which an incision may be useful. Sometimes a carbuncle sloughs in its central part, with one continuous slough of integument holding in a quantity of pus. In that case you should cut through the slough, or through any adjacent part of the carbuncle to let out the pus, as you would open an ordinary abscess.

"If you ask why you may not cut a carbuncle though it may do no good, I reply that you should never be actively useless, and that there are some cases in which the cutting does considerable harm. Carbuncles, for the most part, occur in persons broken down in health, exhausted by overwork, or by bad food, or in deteriorated general health, as sometimes in diabetes or albuminuria; and in all these persons it is a good general rule to save the blood they need for healing. The loss of blood from the carbuncle, itself would not be considerable; the hard substance of the carbuncle when cut into, does not bleed, or bleeds but little. But to carry out the incision perfectly, you have to cut into the adjacent healthy texture, and this sometimes bleeds very profusely, so as to lead to all the distress and pain of plugging the wound with this or that substance, to arrest the blood."

This very forcible, yet temperate, protest of Sir James Paget, against the still prevalent free incision plan, should, we think, warn the surgeon against the too free use of the knife in carbuncle. The method of treatment recommended by Paget is the application of simple lead plaster or resin ointment, and covering this with a poultice. After an opening occurs, or is made at the hands of the surgeon, the sloughs should be removed as they loosen, and the cavity washed out once or twice a day with a weak carbolic lotion, or some similar fluid. In the advancing stages the writer has used, with apparent advantage, both the belladonna and stramonium ointments. The application of either of these, however, to an extensive surface should be carefully watched, in order to guard against the constitutional effects of the danger.