

good as regards both the general health and the outcome of any rational treatment. The chances of tuberculosis of the lung developing are slight, but should be borne in mind. Small patches offer an excellent opportunity for removal, and the larger superficial lesions usually yield to mild treatment. Even the much raised discoid lesions often disappear of themselves. The two unfavorable features of the disease are its tendency to relapse and the amount of time required for treatment. An exception to a favorable prognosis is in the acute type of Kaposi. This is very rare and but one case has been reported in the United States.

TREATMENT.—While there are no known internal remedies that have a specific influence on the lesions of lupus erythematosus, a careful survey of the general condition of the patient is most desirable. A tonic or antituberculous treatment is often indicated. Articles of food and drink which cause a temporary flushing of the face should be avoided, and the patient should be instructed to guard as far as possible against the extremes of heat and cold. A number of observers have from time to time reported the amelioration of the trouble during the administration of certain remedies. Among them are the iodide of potassium, iodoform, arsenic, ichthyol, and the salicylate of sodium.

The external treatment is of great importance and, for convenient consideration, may be divided into the following sections: (1) The application of soothing remedies; (2) the use of stimulating applications; (3) surgical interference.

Soothing remedies are always indicated when there is much hyperemia of the skin. Small young lesions frequently disappear under this treatment alone. It is also useful when the lesions show unusual vascularity or a tendency toward inflammation, and as an after-treatment when the skin has been artificially stimulated in the course of treatment. The soothing preparations employed are astringent powders, lotions, and simple ointment, such as are recommended for the treatment of acute dermatitis. Powders containing oxide of zinc and the common washes of zinc and calamine are much used. Compression obtained by the application of collodion and ichthyol or by strapping the lesions with zinc oxide plaster is sometimes beneficial.

Of the many stimulating remedies the most useful is the tincture of green soap. This is applied daily by rubbing well into the patch and then washing with water. A slight grade of inflammation is set up, which in turn can be treated by some soothing lotion. This treatment is especially applicable in lesions with excessive scaling of the follicles. By it the plugs in the sebaceous glands are removed and a great improvement in the appearance of the lesions on the face can be obtained. Care should be taken that the applications are not too prolonged or too severe, for the epidermis over the patches is extremely thin and sensitive. After the scales and plugs are removed, they can often be kept away by the application of Lassar's paste containing salicylic acid. Other preparations of value in this class are ointments containing sulphur, tar, oil of cade, mercury, ichthyol, and resorcin. Cases have been reported as cured under the continuous application of mercurial plaster. In very indolent patches painting with pure carbolic acid or with glycerin in which iodine and iodide of potassium are dissolved has been found beneficial.

The treatment by caustic acids and alkalis is obsolete, having been discarded on account of the excessive destruction of tissue. Some writers, however, recommend the acid nitrate of mercury, arsenic paste, and chloracetic and pyrogallic acids. Only very small areas should be treated at a time if these remedies are used.

Treatment by surgical means is often useful, especially the method of linear scarification. This does not differ in any way from the same method used in acne rosacea or in lupus vulgaris. It consists in making parallel cuts through the patch and carrying them a short distance outside it, and then in making another set at right angles to the first. Bleeding should be encouraged and pressure

made if the patch is much raised. This treatment is not difficult and gives exceedingly good cosmetic effects. Other methods are: curetting the tissue away *en masse*, and destroying it by the electric cauter. Neither is of much value. During the past few years cures have been made by both radio- and phototherapy.

Oscar H. Holder.

LUPUS VULGARIS.—Lupus vulgaris is a cellular new growth of the skin or mucous membrane due to the direct inoculation with the tubercle bacillus and to the peculiar formative reaction of the connective tissue which follows the infection. Neither histologically nor in respect of its intensely chronic course does this form of tuberculosis of the skin differ from the chronic form of tuberculosis situated in other parts of the body, and hence, as elsewhere in tuberculosis, the lesion of lupus vulgaris starts by the development of typical tuberculous tissue. This primary efflorescence, or lupoma, consists of several brownish-red to yellow areas, from the size of a pinhead to that of a pea, situated in the deeper parts of the corium, and, when uncomplicated by secondary changes in the skin, the lesion is easily recognized by its peculiar characteristics. The nodules are deeply seated in the skin and cause no apparent tumefaction. When pressed upon with a piece of glass, they lose their redness and become either brown or yellow, a color due to necrotic changes at the centre of the nodule. In consistency they are much softer than the surrounding skin and are easily penetrated by any fine blunt-pointed instrument. The evolution of the nodules is extremely slow, but in time they always disappear by absorption, leaving scar tissue. The disease itself spreads by the formation of new foci at the periphery and by invading the deeper tissues. The disease on the face seems to have a special predilection for cartilage, as that of the nose.

While many lesions of lupus pursue an uninterrupted course to the formation of a cicatrix, others are markedly modified by secondary changes which occur in and around the nodule and in the overlying epidermis. The varying degree of involvement of the corium and of these secondary changes may give to lupus a great number of clinical pictures, and it has been the custom to subdivide the disease by the addition of Latin adjectives, which merely designate the chief clinical feature present. The more important are as follows:

Lupus maculosus (Lupus planus).—This division embraces all lesions of lupus vulgaris which consist of the uncomplicated efflorescence of the nodules. The disease begins by the appearance of only a few tubercles, but before many months have elapsed the end product is apparent as scar tissue. This scar tissue is very diffuse and even, for the tubercles occupy the whole depth of the corium and have little or no healthy tissue between them. The disintegration and resorption of the tubercle, on the other hand, do not always take place in a uniform manner. Although the scar tissue is situated in the main at the periphery of the lesions, it rarely happens that the central area of a lupus scar is so entirely separated from them that pressure with glass does not reveal their presence in a partially absorbed state. Their existence in some part of the lesion is not only necessary for diagnostic purposes, but it affords a measure of the activity of the process at any local point, as regards both the invasion of the adjacent healthy skin and the likelihood of further development at the centre of the lesion.

In this group must be included lupus vulgaris when it is developing in the lesion of other diseases, as lupus erythematosus, and in old scars, and it is usually the condition in which the disease primarily appears when the other forms are to be the ultimate product.

Lupus nodosus (L. tuberculatus, elevatus, tumidus, non-exegens, non-ulceratus).—This clinical type follows the macular variety and is due to the tendency of the individual nodules to remain *in situ* unchanged. The formation of new granulomatous foci predominates and the skin is elevated into a mass of papules and tubercles. This form pursues a remarkably slow course, but rarely

ulcerates. Sooner or later the involution of the lupus tissues begins and terminates in the formation of a thick and uneven cicatrix.

Lupus exulcerans (L. crustosus, rodens).—This division includes the moist patches of lupus. The overlying epidermis loses its protecting character and allows the lupomata to be exposed to external influences. In the milder cases an impetiginous or eczematous condition may be present, with the formation of crusts and scales, or the epidermis may be entirely destroyed and a true ulcer result.

These lupus ulcers, owing to their resemblance to certain forms of syphilis and epithelioma, are sometimes difficult to diagnose.

They may be covered with crusts or their floor may be the seat of an exuberant outgrowth of granulations. Their border is the most characteristic feature, and it is there that the signs upon which a diagnosis may be formulated are most evident. Owing to the extremely slow and irregular necrosis of the lupomata, this border is irregular, non-elevated, and soft, and the individual lesions are usually visible.

Lupus serpiginosus.—This name is given to those lesions which have a tendency to rapid extension at the periphery. The lupomata evolve completely into cicatricial tissue, and we have, as a result, superficial scars of great size which show few or no nodules in the centre but many at the periphery. This group embraces the most disfiguring cases that are seen on the face and scalp and which are extremely rebellious to treatment. This form is also common on the arms and legs.

Lupus hypertrophicus.—In this type of the disease an exuberant growth of connective tissue entirely overbalances other tendencies and the lesion becomes covered with soft exuberant granulations which bleed very easily. This form is most often seen following the ulcerated lesions on the nose. In these cases the granulations are not covered with epithelium, nor do they contain the tubercle bacillus or the lupoma. They must be looked upon as the results of secondary infection, for a similar condition appears in connection with syphilitic and other ulcerations. The name hypertrophic is also applied to cases in which epithelial hypertrophy appears. This may be present in very small lesions and consists in the development of verrucous growth above the level of the lupoma. In certain cases, in which the disease is located on the leg, the growth may be so excessive as to produce an appearance like elephantiasis.

Lupus of the Face.—The face is the most frequent seat of lupus, and here every form of the disease appears. It has been supposed that infection often takes place through the lymph channels of the nostrils, but it is more likely that the peculiar anatomy of the skin of Hutchinson's flush area has more to do with the determination of this frequency. The area of the nose is undoubtedly the starting-point in most cases, and, as Besnier has asserted, the disease is accompanied and often preceded by an obstinate crusting inside the nostrils. Often it happens that before the disease has spread beyond the region of the nose, serious involvement and destruction of the nasal cartilages has taken place. This may not be evident during the earlier stages of the disease, for the nodular and hyperplastic types of lupus are usually present, and the crust and outgrowth of granulation tissue are apt to cover up the extent of the destruction. When the cicatrix is formed, however, the loss of cartilage is apparent even when the lesion has been a very small one. After an extensive lesion of the nose, the resulting deformity is distinctive, giving to the nose a peculiar lopped-off appearance. Contrary to what happens in syphilis, the nasal bones remain intact, this fact being an important means of distinction between the two diseases.

Lupus of the Upper and Lower Lip.—This region may be the primary seat of lupus, but is more often involved in the extension of the disease from the nose and cheeks. The lips early become greatly swollen, deeply fissured and crusted, and they bleed easily. Extension to the inside of the mouth is invariable, and in this locality the disease shows itself by the usual manifestations of lupus of the mucous membrane. The deformity caused by the cicatrization is extreme. The mouth is greatly reduced in size and the jaw is practically ankylosed by the tightness of the scar.

Lupus of the Auricle.—This may be primary or secondary to a lupus of the face. It is sometimes symmetrical, but usually one ear alone is affected. The process sometimes starts in the lobular region where the changes are most characteristic. Owing to the looseness of the connective tissue of the lobules there is great swelling of this part of the ear, and the lobule hangs down as a purplish pear-shaped tumor from the much hypertrophied auricle. The skin is very thin and transparent, and is apt to be in an eczematous state. The process ends in the entire destruction of the auricle, the scar sometimes completely occluding the external auditory meatus. Extension into



FIG. 3258.—Lupus Vulgaris (six years' duration). The type is that of a young macular lupus, with a tendency to epithelial hypertrophy. (Fordyce.)

the auditory canal is common. Cases have been reported in which the membrana tympani was ruptured.

Lupus of the Extremities.—This is, next to the face, the most common region for the development of lupus.

The lesions are especially important in that they sometimes attain a great size, and, through the contraction of their resulting scars, they may cause a loss of movement in the joints. Most of the lesions are situated on the forearm or lower leg, where the natural thinness of the skin is prone to cause a serpiginous form of the disease. Secondary extension to the deeper tissue is not uncommon, and in turn the fascia, tendons, periosteum, and bone may be so involved that the limb requires amputation. Besides the limitation of movement in the knee and elbow, another troublesome sequela of cicatricial contraction is the pressure on the veins. The limb becomes very œdematous and the process ends in a state of elephantiasis, for which there is no amelioration except by amputation.

Lupus of the Genitalia.—Primary lupus of the genitals has been reported in both males and females, but is of great rarity. Hebra reported one case on the penis. In the female, the vulvar

and anal regions are sometimes attacked by the ulcerative forms of the disease, and the cicatricial contractions result in great disfigurement of the parts.

Formerly lupus of the female genitals was considered more common than it is to-day. Under the name of "esthiomène" many cases were reported in France. It was then believed that lupus of the vulva presented characteristics not common to the disease in other parts of the body. The researches of Dr. Robert W. Taylor, of New York, on this subject led him to conclude that in many of these early cases the disease was not true lupus but the result of a number of causes, among them syphilis, chancroids, traumatism, and filth, and that tuberculosis, when it did invade this region, was not unlike the same disease of the skin elsewhere.

Lupus of the Mucous Membranes.—Lupus has been known to develop primarily on the mucous membrane of the nose, lips, gums, tongue, hard and soft palate, and larynx, but in the great majority of cases it is secondary to tuberculosis elsewhere, and the result of direct extension of a facial lupus. In place of the lupous nodule there appear small papillary excrescences, closely packed together in plaques. These are whitish in color from the excessive growth of epithelium above the infected area.

They are favorably situated, owing to warmth and moisture, for undergoing superficial ulcerative changes. They terminate in scar tissue in all cases.

PATHOLOGY.—At the present day there is no longer

any doubt existing in the minds of the great majority of observers that lupus is a tuberculosis of the skin, and that the microscope must show evidences of this specific infection when an absolute diagnosis is required. Strange to say, the practical demonstration of lupus in the laboratory does not always consist in the finding of the tubercle bacillus. Owing to the great scarcity of these organisms in the lesions and the complicated differential stain that they require, it happens that failures in this regard are frequent, if not usual. Fortunately, the appearance of the essential clinical lesion, the lupoma, is sufficiently characteristic to be unmistakable. This consists of an area in the corium composed of a number of small round cells with deeply staining nuclei, a larger type of cells—called epithelioid cells—containing one or two nuclei at their periphery, and near the centre of the area a third type of cell known under the name of Langhans' giant cell. A fine network of connective tissue passes

around and through this collection of cells. Specific stains show that in these areas the collagenous bundles and elastic fibres are either absent or greatly rarefied, while at the periphery both of these normal elements of the corium are plainly visible. The reason for this is believed to be that by the slow growth of the lupoma these tissues are laterally displaced rather than absorbed, and that they form a fairly impervious wall, which has a greater or lesser tendency to contract and compress the cellular area in the centre. Later, this compression manifests itself by the necrobiotic changes which occur in the older lupomata. In these a coagulation necrosis or cheesy degeneration commencing at the centre and extending outward results, proliferation of new connective tissue from the periphery penetrates into and replaces the necrosed lupoma, and scar tissue is the final product.

An unusual exception to this reticulated granuloma, that is usually found in lupus, may occur. Instead of being confined by the connective-tissue wall, the tuberculous areas are small and distant from one another. The groups of cells are rather in the form of an infiltration in the corium, but they do not differ histologically from those found in the common type. The giant cells

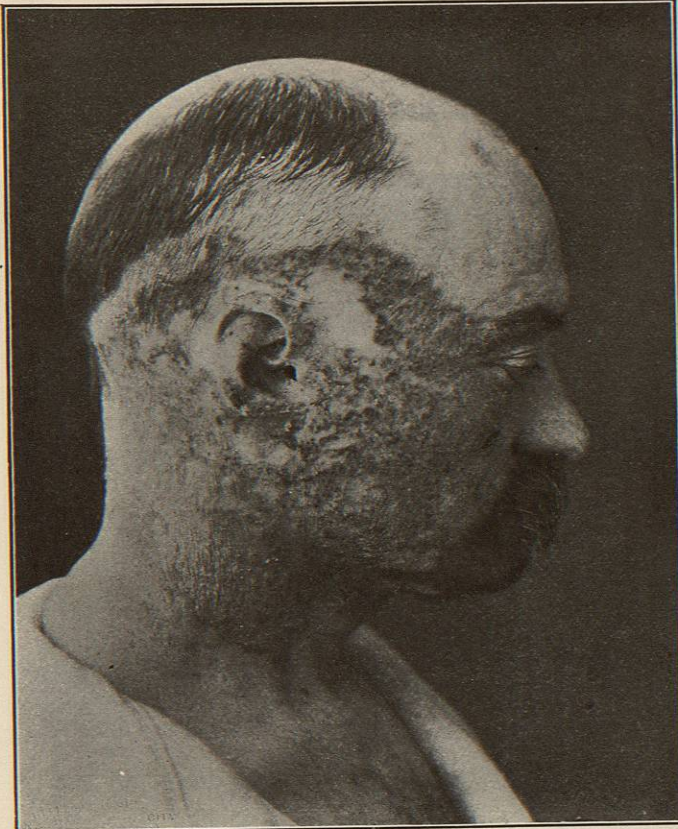


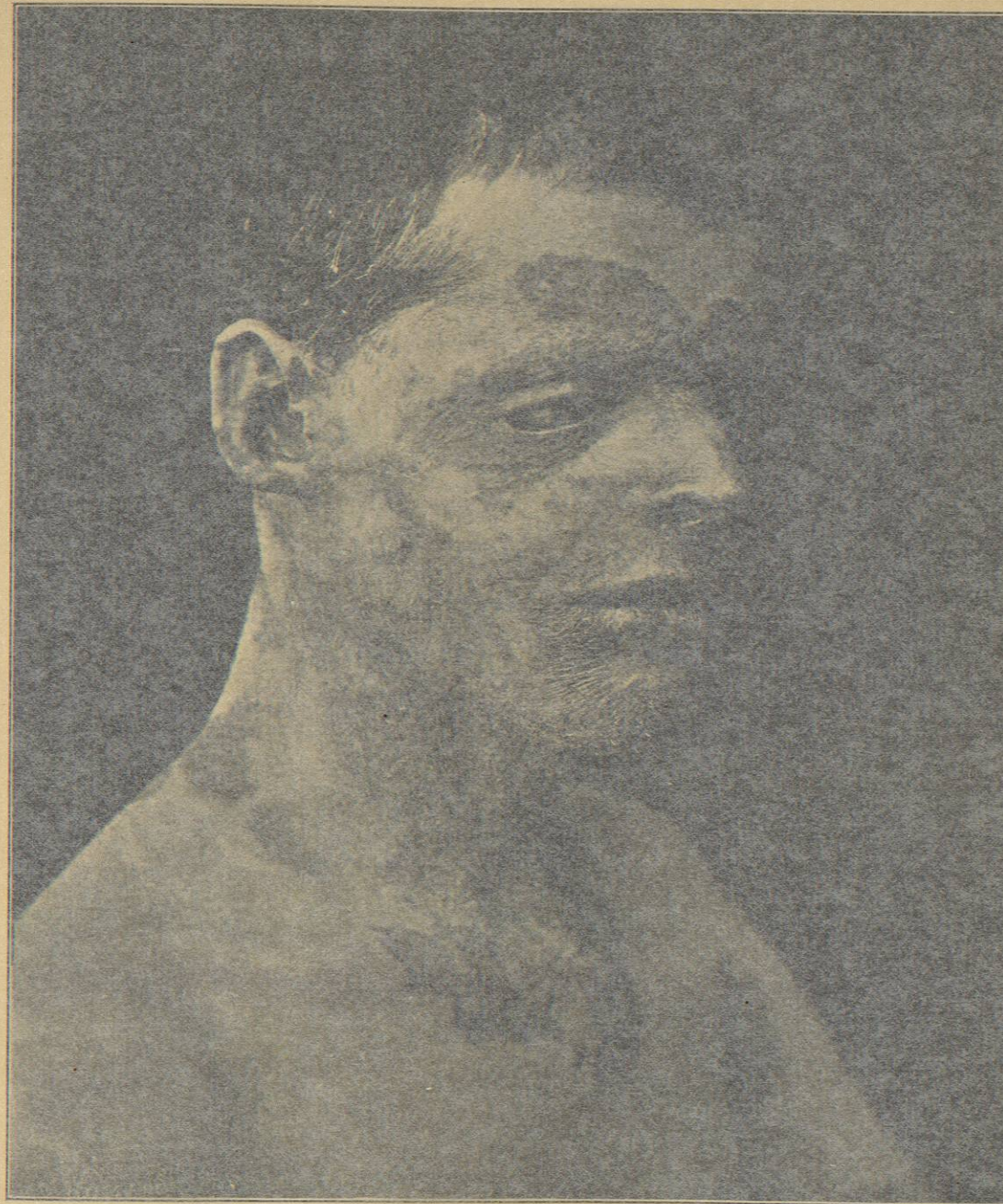
FIG. 3259.—Lupus Vulgaris (twenty-five years' duration). Extensive cicatrix, showing activity in temporal region. The destruction of the lobule and cartilage of the auricle is characteristic. (Fordyce.)

EXPLANATION OF
PLATE XLI.

EXPLANATION OF PLATE XLI.

Extensive Lupus of the Face, of Fifteen Years' Duration. The following lesions are recognizable in the picture: Destruction of the nasal cartilage; loss of lobule of the auricle; ectropion of the eye from contraction of cicatrix; and fissured condition of the lips and chin.

(This picture and those which appear in the body of the text of both articles—lupus erythematosus and lupus vulgaris—are from the collection of Dr. John A. Fordyce, of New York.)



LUPUS VULGARIS OF TWENTY YEARS' DURATION
(FROM DR. JOHN A. FORDYCE'S COLLECTION OF PHOTOGRAPHS OF SKIN AFFECTIONS)

EXPLANATION OF PLATE XLI.

Dissected lupus of the face, of fifteen years' duration. The following lesions are recognizable in the picture: destruction of the nasal cartilage; loss of lobule of the auricle; ectropion of the eye from contraction of cicatrix; and fissured condition of the lips and chin. (The pictures and those which appear in the body of the text of both articles—lupus erythematosus and lupus vulgaris—are from the collection of Dr. John A. Fordyce, of New York.)



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