also, than when the synonym of the French writers, furoncle atonique (Guersant) is employed.

Although we are unable to demonstrate in every case the irritant which produces such pustular eruptions, we may nevertheless say this much, that we meet with it, often in large numbers, when the integument is unclean and not well cared for, particularly in delicate, sensitive, and also in badly nourished and feeble individuals. Sex causes no difference, but age does, as it occurs more frequently in poorly nourished children and marantic old people; vigorous, youthful individuals are rarely affected by it, and even then only by a few pustules.

The eruption is of no importance from a prognostic standpoint, as it recovers without medical interference.

So long as the pustule or crusty deposit is present, it is advisable to apply emollients such as oil, fat, etc. If the loss of substance has been laid bare, we may make use of the ordinary dressings.

ALEPPO EVIL, BISKRA BOUTON, DELHI BOIL, ETC.

The first mention of the local affection occurring in and around Aleppo is made in Pococke's (1745) report of his travels. He states that the water, which is conveyed to the city in aqueducts, has the property of producing boils (botches), and that it occurs once in the life of natives as well as foreigners, usually in the face. The first detailed description is furnished by the brothers Alexander and Patrick Russel. According to their account, the affection appears either once or several times, among the natives in the face, among foreigners on the limbs, is not contagious or hereditary, and is also not communicable by vaccination; it is not confined to Aleppo, but occurs in the entire vicinity.

It was learned, however, that a similar exanthem occurs in the valley of the Euphrates, in Egypt, upon Cyprus and the Sind, in the northern part of Arabia, in Algeria (Biskra boils), Persia, around Delhi, etc., and there extends over entire valleys and tracts of land. Willemin has therefore proposed to introduce the more general term "tubercule d'Orient" instead of the many special terms.

The drinking water has been regarded as the immediate cause of the nodules on account of the presence of magnesia (Jilt), salt (Poggioli, Weiss), alkaline and earthy salts (Massip, Netter), and organic substances (Bysson). Some assume that the gases escaping from marshy districts, and others that the climate are the producers of the germs of the disease. Flemming and Schlimmer conclude from their vaccination experiments that in the first stage of development, a substance (Distoma hæmatobium) must be present which is destroyed during the suppuration. Carter believes that the Biskra boil is a granulation tumor produced by a fungus, and that mycelium threads are found in the lymphatic vessels.

The descriptions of the disease are as manifold as the etiological factors. With the exception of the symptoms mentioned by the Russel brothers—that nodules form gradually under inflammatory symptoms, degenerate sooner or later and heal within a year, usually leaving behind disfiguring cicatrices—no description has hitherto held its own permanently. Each traveller to the Orient accuses his predecessor of inaccuracy. While Pruner places the Aleppo boil among the pustular exanthems, Rigler regards it as a furuncle. This is contradicted by Willemin who describes what, in our judgment, is a well-defined lupus. Pollak regards the "salak" occurring in Persia as a process allied to

lupus, but states that in Persia syphilis, scrofula, and the like are observed very frequently, but not lupus. Bertherand, on the other hand, regards the disease as syphilitic in its origin.

During my stay in the Orient, I became convinced that the diagnosis of Aleppo boil is applied to the most various exanthems, such as eczema, furuncle, lupus, syphilis, scrofuloderma, etc.

Treatment.—In general, the opinion is prevalent among the people that the boil, whatever name be applied to it, should not be treated, as its course cannot be shortened, and any interference renders the cicatrix which remains still more disfiguring. Nevertheless, we find that even Russel has recommended the "mercurial plaster" as a very effective remedy. Jilt states that sarsaparilla has proven most useful, as the affection is mainly of a scrofulous nature. A salve of pulp. cass. and butter is employed in preference by the inhabitants of Aleppo. The majority of physicians employ the most varied caustics, partly in order to hasten recovery, partly in order to obtain better cicatrices. Pruner recommends that compresses of lead water be applied at the onset and that later, during the stage of suppuration, the ulcers be strewn with powdered sulphate of copper. Pollak recommends cauterization with fuming nitric acid; Floyd advises washing with common salt; Rigler regards it as most advisable to open the boil by crossed incisions, and if, despite this, its course threatens to become prolonged, to cauterize the base of the wound a number of times with lapis infernalis.

In accordance with my views concerning the existence of the boil, I have not confined myself to a definite plan in the treatment of at least 200 bouton patients. (!) According to circumstances, *i. e.*, according to the scientific diagnosis, I have employed empl. neapolitanum, the Bruns-Volkmann curette, nitrate of silver, or even merely a simple cerate, and have obtained very satisfactory results.

B. CHRONIC DEEP-SPREADING INFLAMMATIONS

BY

PROF. ERNST SCHWIMMER.

SCLERODERMIA.

THE number of accurate observations of this disease has only increased markedly during the last two decades, and while, according to Heller's statistics, only fifty-two cases had appeared in literature ten years ago, their number now is probably nearly twice as large, since new observations are reported every year in special works, journals, etc.

Symptomatology and Course.—We apply the term sclerodermia (scleroderma, sclerisasis, and sclerema of the text-books) to a chronic disease which attacks individual parts of the integument or the entire surface of the skin, develops without any inflammatory process and either persists for a long time as a local disturbance or, after slowly spreading, results in a rigidity and hardness of the skin, on account of which the latter entirely loses its normal elasticity and, in its further course, suffers considerable shortening.

(*a*) *Partial sclerema, sclerème en placards.*—This occurs in individual parts of the skin and may affect the most varied surfaces of the body, usually in the form of oval or irregular, round or elongated patches, stripes of a yellowish white or wax-like color. To the examining finger they appear as an inelastic firm tissue, which can with difficulty be raised from the underlying layers into a fold. The affected surface itself is usually shining, and the healthy skin surrounding the diseased parts often appears changed by more marked pigmentation, or a rose-colored or bluish border, so that the former sometimes looks as though it were surrounded by an elevated circumference. Partial sclerema occurs in manifold forms and in recent times various local nutritive disturbances, which develop as the results of morbid innervation, are included in this category. To these local forms belongs the sclerodactylie[1] described by Ball, in which the disorder usually appears symmetrically at the ends of the limbs, on the fingers more frequently than the toes; this affection forms a transition to symmetrical asphyxia and gangrene.

Furthermore, the affection described by English physicians as morphœa localis which often occurs in the direction of individual nerve trunks. Finally, the sclerema associated with atrophy of the affected parts of the skin. Under whatever form it may appear, the changes in those parts of the integument affected by partial sclerema are important, inasmuch as the diseased skin, if it shows no tendency to restitution, becomes thinned,

[1] Société de Biologie, 1871.

parchment-like, and the atrophy of the cutis extends gradually to the underlying layers, including the muscles.

In consequence of the trophic changes produced by sclerema, the skin and its appendages will appear disturbed in various ways. Jamiesson[1] reports the case of a young man, in whom extensive patches of the kind described were present not alone upon the trunk and limbs, but the scalp also presented several sharply defined spots in which the hairs appeared as white bundles in circumscribed spots; many of the patches on the trunk ran their course along the intercostal nerves. Gibney[2] reports a case in which morphœa spots were present on the trunk and scalp, and in which unilateral facial atrophy had occurred in the course of a few years. Such cases are better evidence of the character of the affection than those which are manifested by the simple formation of spots (morphœa), as the latter may be mistaken readily for cases of vitiligo in a certain stage of the disease. Special attention must be paid, therefore, to certain phenomena connected with the color of the skin, as belonging to the diagnosis of partial sclerema. These are certain lilac discolorations with which the disease begins, and upon which special stress is laid by Wilson, Fox, and others. As in erythema iris, white, rose-colored, and lilac-colored zones can be distinguished from one another within the sclerotic patches, but these signs become lost after long continuance of the disease, and it then acquires a waxy, white hue.

(*b*) *General Sclerema.*—We apply this term not alone to those sclerema affections which attack the entire surface, but also include those forms of extensive sclerosis of the skin, in which the affection is present over a great extent, and the spread and increase of the disease occur to such a degree that the change is found over extensive surfaces.

The affection begins generally in a circumscribed portion of the skin, but only remains localized for a short time and then spreads into surrounding parts, until gradually the largest part or even the entire integument is affected. We may, therefore, include such cases in which a third of the integument is diseased under the head of general sclerema, as well as those in which a half or more appears sclerotic. The subjective sensations are described by the patients as very annoying, muscular action is impaired by the tense skin, and is painful. Thirial's statement that the skin affected in this manner is cold and upon contact reminds one of the sensation produced by a frozen cadaver is a very apt one. The skin cannot be raised in folds, is usually smooth or slightly scaly, as thin epidermis cells are sometimes loosened from the dry surface, but it is hard and rigid so that no depression or hollow can be produced upon pressure with the finger. In accordance with the nature of the process, the cutis appears hypertrophic in the first stage of the disease, and shows a moderate swelling which only continues for a short time and then changes, inasmuch as all layers of the skin, in addition to the muscles and fasciæ, gradually atrophy—a circumstance which gives rise to the loss of elasticity of the skin and deficiency of mobility. In sclerosis of the integument of the face, the mouth is moved with difficulty, the eyelids can scarcely be closed, the physiognomy assumes the appearance of paralysis of the face. If the sclerosis extends to the region of the neck and throat, rotation of the head can only occur to a certain extent; if the skin of the thorax or abdomen is sclerotic, respiration is impeded occasionally, and likewise the function of the abdominal muscles; finally, if the limbs are affected, their mobility becomes impaired. The fingers are in a position of semi-flexion, the use of the arms and hands is

[1] Edinburgh Med. Journ., 1880, p. 648.

[2] "On the Histology and Pathology of Morphœa," Arch. of Dermatol., 1879, p. 54.

interfered with considerably, the toes are bent, as neither complete extension nor flexion is possible, and the gait becomes uncertain and tottering. The impression created by such a patient is extremely distressing, inasmuch as the skin is everywhere shortened and tense, and literally becomes "too tight."

The functional activities of the skin are changed in a similar manner. Tactile sensation suffers no diminution so long as the disorder exists to a slight degree, but in extensive sclerema there are marked changes, and in some cases I have detected a diminution of sensation demonstrable by the æsthesiometer. The temperature sinks in some cases, and the secretion of sweat is diminished. The function of the mucous membranes is also interfered with by the tegumentary change if the sclerema occurs in their vicinity (mouth, nose, vagina).

The peculiar condition of the sclerosed skin does not prevent its affection in other ways, and the occurrence of acne efflorescences, variola eruptions, herpes, etc., may be observed in these patients. In one case of marked sclerema I saw an extensive erysipelas of the face run its course twice without any effect on the primary disease.

After a time, the color of the skin undergoes a notable change; it grows darker and brownish. In a case described by me a number of years ago, the skin had a bronze-colored appearance almost everywhere. Some patients enjoy a tolerable condition of health; in others we observe complications with diseases of the lungs, heart, and kidneys, which lead finally to a fatal termination by amyloid degeneration.

The course of sclerema is always very slow and tedious, and as soon as it has reached a certain stage of development, it undergoes either a retrogression to the normal or leads to a terminal change with an unfavorable ending. The first termination of sclerema rarely occurs spontaneously, and cases which have been recognized early and have been treated for a sufficient length of time must be regarded as the favorable forms of this affection. In such cases, the skin usually recovers slowly its lost suppleness and mobility, the hardness and board-like stiffness diminish after a while; the patients, during its further course, state with satisfaction that the tension gives place to greater mobility; the discoloration improves, and the dark color begins to disappear. It rarely happens, however, that the skin acquires the same material structure which it had previous to the disease.

The ordinary termination of sclerema, however, is that which we have just described in the symptomatology. The hard, tense, firm skin becomes continually thinner with an increase in the symptoms of tension, it feels like parchment, and, on account of the disappearance of the underlying adipose and muscular tissues, seems to be adherent to the bones; the circulation suffers considerable disturbance, and local conditions of stasis (asphyxia) occur which lead to mortification of the tissues with subsequent ulceration. The joints are fixed by the immovable skin, the patients are impeded in their manipulations, and as the vegetative functions also suffer severe disturbance, a fatal termination, which only occurs, however, after a number of years, is unavoidable. The amyloid degeneration of the parenchymatous organs is attributable to the numerous disturbances of nutrition by the impeded circulation, but the influence of the morbid innervation, which is the probable starting-point of the disease, must not be left out of consideration.

The form of this disease, described by Wernicke as atrophic or cicatrizing sclerema, should, therefore, be regarded as the final stage of the scleremátous process rather than a variety.

Anatomy.—The cutis appears broadened and thickened by numerous new-formed connective-tissue elements. The elastic fibres within it have increased in places, newly

formed cells, in firm, thick streaks, are seen extending through the entire skin and the muscular layers, often extending to the fasciæ; the adipose tissue is pushed away, the smooth muscular fibres are hypertrophic. In places the papillary body is not changed essentially, though surrounded by abundant pigment granules, but smaller in places and rendered dense by bands of connective tissue. In some places the vessels are narrowed, and in a case examined by Dr. Babes and myself the tunica media and intima were considerably thickened; the sebaceous and sweat glands are unchanged in the beginning, but they atrophy and disappear at a later period. Kaposi[1] has noticed the presence of abundant lymphoid cells which surround the vessels in dense layers like a sheath, and, in his opinion, give rise to their narrowing. According to this statement, the thickening and stasis of the lymph were relied upon to explain the subsequent rigid infiltration of the cutis with development of new-formed connective-tissue elements. Based upon these circumstances, Kaposi and Hebra[2] have expressed the hypothesis that sclerodermia occurs from a general accumulation of lymph in the cutaneous tissues, without demonstrable implication of the larger blood-vessels. In addition to the remarks which have been made above, this assumption is based on the appearances in a case which terminated fatally and was published several years ago by Heller.[3] This writer has carefully studied, not only the skin, but also the other organs and found that the lymphatic vessels were enlarged and dilated in various organs (small intestines, heart, omentum), that all lymphatic glands and the spleen were considerably harder and swollen by lymphoid cells, and that the new-formed connective-tissue-like cells which were present in all the organs, even in the muscles, showed a direct connection with the lymphatic vessels. The statement that the thoracic duct and its roots were obliterated appeared to be decisive in its significance. On account of this pathological change, a stasis of lymph was said to be produced in the connective-tissue layers of the general integument, with the sequelæ mentioned above. In how far these pathological conditions influence the occurrence of sclerema will be investigated in the following section.

Etiology.—Local and general sclerema have been found to develop in young as well as old people, but individuals under twenty-five to thirty years of age do not appear to be affected by this disease; it occurs mainly during middle age. There is a greater predisposition of the female sex to sclerema, but we know of no definite factor which is capable of explaining this circumstance.

The brown color of the skin has occasionally been attributed, like Addison's disease, to a change in the supra-renal capsules, but no proof of this theory could be advanced. A step was then taken from the more remote to the more immediate causes, and either the œdema or the erysipelas were regarded as the local processes which served as the prodromata of the sclerema. Virchow,[4] who mentions sclerema cursorily under the head of elephantiasis, and who regarded the long-continued œdema, which we see followed occasionally by sclerema, as the probable predisposing cause of the affection, first expressed this view, in the same manner as Rasmussen,[5] who regarded the proliferation of lymphoid cells around the blood-vessels as the first stage of sclerema, and attempted to bring elephantiasis in close relationship with this dermatonosis. Although

[1] "Pathologie und Therapie der Hautkrankheiten," Wien, 1883, S. 557.
[2] "Jahrbuch der Hautkrankheiten," Stuttgart, 1876, II., S. 87.
[3] Deutsches Archiv f. klin. Medic., 1872, S. 155.
[4] "Die krankhaften Geschwülste," Bd. I., S. 302.
[5] Journal of Cutan. Medic., London, 1871, p. 291.

it cannot be denied that a change in the lymphatic vessels does occur, and that it leads to extensive proliferation of lymphoid cells, this signifies nothing with regard to the nature and cause of the disease. In three cases under my observation, the thoracic duct was entirely unchanged, and the increase of lymph in the subcutaneous tissue could not be explained in this manner.

An affection of the nervous system explains most readily the sum of nutritive disturbances which occur in this affection. In my treatise,[1] I have directly applied the term trophoneurosis to sclerema, and have endeavored to adduce those arguments which may serve to aid this view. Among these we include, not alone the clinical history, but also some anatomical appearances recently discovered which point towards marked changes in the sympathetic, as well as abnormalities in the central nervous system. I will here mention briefly the observations of Harley, who observed marked disturbances of the action of the heart and stomach, in addition to great atrophy of the skin in an advanced case of sclerema, and who attributes all the symptoms to a paralysis of the sympathetic; furthermore, the observations of Westphal, who found pathological changes in the brain, and my own, which showed disease of the peripheral nerves; finally, the recent case of Eulenberg, who found progressive facial atrophy co-existing with scleroderma. The number of autopsies and clinical observations is still too small to determine with absolute certainty the pathogenesis of sclerodermia, but this is no less true of other constitutional affections. In the present condition of affairs, the trophoneurotic nature of sclerema may be inferred rather than demonstrated.

Diagnosis.—The diagnosis of the disease in any case will meet with no difficulty. It could only be mistaken for other diseases if the essential symptoms of sclerema are left out of view; for neither œdema nor the hypertrophy developing after local inflammations present the appearance of the rigid, immovable integument, nor do they show its tension, rigidity, or peculiar shortening. Local sclerema can be differentiated no less readily from the healthy parts of the skin: the shining, tense, waxy patches surrounded by a slightly hyperæmic zone, the slow development and persistence of the affection are found in no other disease. In the later stages, when atrophy occurs, consideration must be paid to the previous hypertrophic stage, in order to explain better the existing abnormality.

Prognosis; Treatment.—In general, sclerodermia does not admit of a favorable prognosis, but it generally leads to a fatal termination only after complication with diseases of internal organs. If the latter do not develop during the course of the skin disease, continued emaciation and marantic conditions occur. Sclerema may undergo retrogression if it has not reached its acme; the newly-formed connective-tissue elements in the cutis then undergo transformation and are absorbed. Such a curative process rarely occurs spontaneously, but by the aid of the appropriate remedies which stimulate the process of absorption and are capable of rendering the rigid skin flexible. This holds true only of those cases in which the mode of life and the constitution of the patient further the proper treatment.

The most varied remedies have been employed, and a certain effect has been attributed to one or the other method. The curative agencies employed consist of ointments of iodine and mercury, baths of all kinds (salt, iron, soda, vapor, and sea baths), hydropathic cures, external use of oily and fatty substances, such as cod-liver oil, glycerin, vaselin, tar oils, either pure or combined with alcohol. Iron, quinine, bitter tonics, etc.,

[1] "Die neuropath. Dermatonos." Wien, 1883.

were employed internally, and finally electricity, in the form of the constant current, was recommended. Of none of these remedies and curative measures can it be said that sclerodermia will positively retrogress under its use; but all, with the exception of iodine and mercurials, have a certain value. According to my experience, the constant current is one of the most valuable remedies in the treatment of sclerema, and we may recommend the exclusive galvanization of the sympathetic, though this does not prevent the simultaneous use of baths and, internally, of tonics, according to the necessities of the case.

SCLEREMA NEONATORUM.

Hardening of the skin of the new-born must be regarded as an entirely independent affection, occurring during the first days of life, and probably developing during fœtal existence.

Symptomatology.—The first symptoms appear between the third and sixth days after birth, when we find that the integument over a considerable part of the lower limbs is shining, tense, of a white or rosy-red color, occasionally dirty-brown or yellowish; it is puffy, in places leaves a depression after pressure with the finger, becomes hard throughout, and cannot be raised in folds. Beginning in the calves, the disease soon spreads to the thighs, extends over the abdomen, trunk, and upper limbs, affects the neck, throat, and face, and in a short time, often within a few hours, or in one to two days, the disease has affected almost the entire body. The rapid fall of the temperature of the body, the coldness of the affected parts, and feebleness of all the passive functions of the organism point to a serious general condition. The mobility is very restricted, the children lie feeble and rigid, with the eyes usually closed, appear to be sunk in a lethargic sleep, refuse nourishment, partly on account of the stupor, partly on account of the difficulty of suckling. The action of the heart is irregular, the pulse very frequent, occasionally intermittent, not always perceptible. The respiration is also affected by the general condition; it is irregular, superficial, now and then stertorous rattling is noticed, occasionally a low, painful cry is heard. The evacuations from the bowels and the excretion of urine are diminished. The fatal termination occurs in four to ten days, under constant increase of the symptoms described.

Such a grave clinical history scarcely permits a thought of recovery, and, although we might suppose that all new-born affected by hardening of the subcutaneous cellular tissue are doomed inevitably to death, some specialists in diseases of children have seen recovery ensue when the disease had affected only individual parts of the body.

The cause of this affection appears to lie in an extensive implication of the blood-vessels. Some authors regard atelectasis of the lungs, others a congenital affection of the heart, and still others a constitutional anomaly as the most probable starting-point of the disease. These views are opposed, however, by the experience that unfavorable hygienic conditions, lack of a healthy dwelling, good air, attentive nursing, etc., most readily produce this disease. On this account, sclerœdema of the new-born is observed chiefly among the poorer classes and in foundling asylums.

Anatomical examination enables us to follow distinctly the deeply-spreading change of all the layers of tissue of the general integument. The wide-spread infiltration of the subcutaneous tissue permits it to be readily raised, in places, from the deeper layers of muscles and the fasciæ; and, upon section, we notice the exudation of a yellowish-white serous fluid, consisting chiefly of drops of fat. The internal organs are also considerably changed. While the lungs and kidneys are congested, the brain and