skin of the cheek, nose, the nucha, and in isolated cases even on the mucous membrane of the mouth. Pye Smith[1] found similar spots on the palate, and at the autopsy in the œsophagus; Legg,[2] at the bifurcation of the trachea and in the capsule of the spleen; Virchow reports a case from Graefe's clinic, in which a xanthoma had developed on the cornea,[3] etc. The several spots are flat, have generally a smooth, velvety feel, and in side light they appear as alterations projecting above the level of the skin, chiefly conspicuous by their color. The isolated spots can sometimes be recognized as composed of several apposed or coalescing small structures, especially in those forms in which the skin within the spots projects here and there in small nodules. The skin thus altered can be easily lifted in folds, has a slightly doughy feel, but does not materially differ to the touch from a normal fold of skin. The several spots are always sharply demarcated from the surroundings, never exhibit any desquamation, and are not painful to the touch.

2. *Xanthoma tuberosum et tuberculosum* differs from the preceding form by the presence of nodules and tubercles appearing in varying shape and size, the several formations representing isolated or confluent tubercles the size of a hemp-seed, lentil or beans and the massing of the formations makes the impression of a conglomeration of grape-like, lobulated tumors. Xanthomas thus closely arranged are a rare form of the diseases The several nodules are covered with a smooth, soft skin, disclose a firm texture on pressure, are imbedded in the corium, and often extend down to the deeper connective-tissue layers. These forms occur only exceptionally on the eyelids, but more frequently in the face, and in larger numbers on the most various parts of the trunk, on the extremities, usually round about the joints, especially the elbow and knee joint, and as flattened nodules even on the palms and soles. In some cases the hairy scalp is not exempt, and even the genitals (Kaposi, Chambard) may be the seat of this new formation. In cases of general xanthomatosis, besides the nodular, the macular form is likewise present, the latter generally on the points of predilection above enumerated. The nodular form differs from the other also by the concomitant subjective accidents in that the several formations often pain spontaneously, and by their presence on the flexor surfaces of the joints not only somewhat restrict the mobility of the extremity, but also provoke the most disagreeable nervous sensations during the unavoidable muscular movements. Closely related to the nodular and tubercular form is the xanthomatous tumor described by some French physicians which forms isolated and confluent tumors ranging from the size of a nut to that of a hen's egg, and which, in the few cases thus far observed, was mainly located around the joints.

Both the nodular and the tubercular xanthoma represent diseases of one and the same nature, and usually the tubercular form is developed from the former. Where both forms co-exist, the several types are generally sharply demarcated from the start; some macular xanthomas at times exhibit on the eyelids the above-mentioned, small, grape-like elevations; but the forms of xanthoma which have a tendency to spread largely over the body develop rather the nodular and tubercular type.

ETIOLOGY.—The accidental coincidence of the cutaneous affection with disease of the liver led some physicians to seek a connection between the two disorders. This etiological factor deserves special consideration, as it is more frequently referred to than others, such as sex, age, or heredity. Chambard found among 58 cases collected from the literature, 30 females—a number which does not appear decisive as compared with the smaller number of male patients. Hereditary relations are perhaps more important. Hutchinson found xanthoma several times in a family in which the grandmother was first attacked by the disease. Church[1] observed the affection in two families among a numerous progeny; otherwise there are no examples on record which would give special etiological importance to heredity.

[1] Pathological Society of London, 1879.
[2] Ibidem.
[3] Virchow's Archiv, Bd. 52.

The question whether xanthoma depends upon different affections has likewise been the subject of repeated discussion; the attempt has been made to bring arthritise diabetes, extensive diseases of the sebaceous glands into connection with xanthoma; but these suppositions stand far behind the relationship of xanthoma formation with diseases of the liver, which has been several times referred to. But we must here make a distinction between liver affections as parenchymatous diseases and icterus which is especially charged with producing xanthoma. Among 27 reported cases, Kaposi found icterus 15 times; Hutchinson, among 36 observations, 6 times; and Chambard, among 58 observations, 22 times. I myself, among ten cases coming under my observation within the last three years, only 2 of which were extensive nodular xanthoma, have not found icterus present even once.

However, some observers who bring jaundice into connection with xanthoma, admit, that the icterus often preceded the cutaneous disease by many months, even years, and, in other cases, the icterus did not appear until long after the existence of the xanthoma. The number of cases which could be brought into connection with icterus is decidedly smaller than that in which xanthoma was observed without preceding or accompanying jaundice; hence if we are unwilling to look upon icterus as an accidental complication of xanthoma, we can find no plausible basis from which to deduce any relationship, all the more if we remember that icterus is an almost daily and xanthoma a much rarer disease.

As regards the causal connection between xanthoma and the parenchymatous affections of the liver, the relationship seems to be more favorable, inasmuch as some observations in this direction are said to amount to a proof. But the number of post-mortem examinations made on cases in which xanthoma during life could be brought into connection with disease of the liver is not large; some directly contradict the presence of affections of the liver during life, as a case of Maxon's,[2] who found a cicatricial constriction of the bile-ducts, and Legg's[3] who found a cyst obstructing the bile-ducts; in these cases the liver parenchyma was healthy. Murchison[4] found cirrhosis of the liver at the autopsy of a case in which there was a slight macular xanthoma on the eyelids; while according to Chambard,[5] in a person affected with multiple xanthoma, in whom during life hypertrophy of the liver was diagnosticated, this organ was found healthy, but numerous cysts were found imbedded in the right lung and in the liver. Extensive xanthomas without liver disease have recently been published by Carry, Brachet, and Monnard; these might serve as counter proofs of many other cases. I myself, among ten cases under my observation, have not once found disease of the liver. We may say, therefore, that the connection between affections of the liver and xanthoma cannot be employed in determining the etiological relations. It is better to confess our ignorance

[1] Bartholomew's Hospital Reports, x., 1878.
[2] "Pathologic. Transactions," 1873, vol. 24.
[3] Vide Chambard, Annal. de Dermatol.
[4] Journ. of Cut. Medic. London, 1869.
[5] L. c.

regarding the etiology of this disease than to drag in uncertain pathological factors for it at any price.

ANATOMY.—Anatomical examinations show that the spots and nodules have the same structure. The minute alterations exhibit an irritative process in the subcutaneous tissue with new formation of cells which affects all the elements equally. The first investigations were made by Pavy,[1] who had found, besides the connective tissue new-formation, deposition of fat granules and globules in its fibrous trabeculæ. Geber and Simon,[2] on the other hand, have defined the disease erroneously as a hyperplastic development of sebaceous gland cells. The investigations made by us were based on Hertzka's case, some excised tubercles of which we examined. The yellow color of this new-formation might be due to the fat which is deposited in it as a granular yellow mass; but whether this color is also derived from bile pigment, as was believed by older observers, is by no means proven.

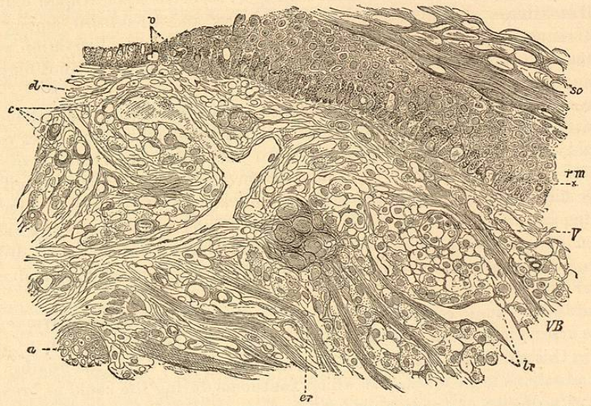

FIG. 64.—XANTHOMA TUBEROSUM MULTIPLEX. A tubercle from the skin of the elbow: *s c*, stratum cornum; *r m*, rete Malpighii; *x*, cells in process of division; *v a*, vacuolæ, containing migratory cells and endothelia swollen into semilunar form; *l r*, lymph reticulum containing hypertrophic endothelium; *e r*, rigid reticulum; *n*, nerve; *c*, capillaries; *e l*, dilated lymph vessels; *V*, vein surrounded by concentric plasmatic channels.

The superficial, somewhat grape-like, yellow flat nodules, ranging in size from a lentil to a bean, are lax and fibrous; on section the cut surface appears whitish yellow, juicy, finely reticulated, collapsing, gradually blending with the surrounding tissue. The epidermis is thinned, and usually devoid of papillæ, showing here and there proliferating, at times crushed or distorted sebaceous and sudoriparous glands. The rete Malpighii (*r m*) contains atrophic cells, remarkably numerous young elements, here and there direct cell divisions. The deepest cell layer is strikingly darkly pigmented. Close beneath the epidermis follow dilated lymph vessels (*e l*) with swollen endothelia. Besides there are small, almost or entirely obliterated blood-vessels with similar endothelia having here and there hyaline contents. The wall is very much thickened, and forms a generally concentric sinuous network, whose deep communicating spaces are lined or filled with a layer of

[1] Guy's Hospital Reports, 1866.
[2] Vierteljahresschr. für Dermatol., 1872.

swollen cells containing small yellowish fat droplets. In the intervening trabeculæ we find roundish, yellowish red flakes of pigment, hyaline fibres, and smooth muscle elements. The lacunar system appertaining to a vessel is separated from the surroundings by larger lymph spaces. By the excessive development of a lacunar plasmatic channel system (*l r*), the vessels (*V*) with proliferated endothelia are crushed, and this process extends to all the normal constituents of the skin with the exception of the lymph vessels, so that the tunica propria of the glands and the sheaths of the nerves are equally alienated. The connective tissue trabeculæ are separated from each other by the development of similar formations, they swell up, and gradually also become hyaline.

The histological examination is likewise unable to answer the question as to the pathogenetic relations of xanthoma. The fact that the affection is sometimes observed to be general has suggested the idea that the origin of xanthoma may be traceable to a diathesis or cachexia; for general disturbances, especially digestive troubles, which occasionally lead to consecutive alterations in the liver, may be associated with its occurrence. Quinquaud,[1] starting from the idea that fatty degeneration of some glandular elements has been found histologically, holds a peculiar accumulation of fat in the blood to be the predisposing factor which leads to various deposits in the organism and the common integument—a view which still lacks confirmation.

TREATMENT.—The new-formed elements in xanthoma which are followed in part by the destruction of the normal tissue and superficial extension, or a neoplastic proliferation with tubercles and formation of tumors, cannot yield to any absorbent or alterative treatment, and where cosmetic improvement is aimed at, we can only resort to surgical manipulation. It is true, a few cases of spontaneous involution have been reported; but we might express some doubts as to the total retrogression of these neoplastic forms of tissue. Both the macular and the tubercular xanthomas should be removed with the knife, and thus disfigurement can be permanently overcome.

5. RHINOSCLEROMA.

The SYMPTOMS of this affection manifest themselves by a profuse formation of tubercles or wheals which, either isolated or confluent, form a large lobulated or grape-like tumor around the nostril, covering both the skin of the alæ nasi and spreading thence inward over the mucous membrane, forming hard structures. The several tubercles are either covered with normally colored skin or traversed by isolated fine vessels; thereby the epidermis often appears smooth and glossy, and, the hair-follicles and sebaceous glands having perished, dry and furrowed. The most striking peculiarity of this tumor is its uncommon hardness—Hebra compared it to ivory—it causes moreover a rather severe pain which is felt only on pressure on the tubercle, but not spontaneously. The occurrence of this new-formation in the above-mentioned locality gives to it such a character that it cannot be identified with any kind of similar structure on other parts of the body. Rhinoscleroma is a pronouncedly chronic disease of slow growth and tedious course which requires a number of years for its full development.

The disease usually begins as a swelling and infiltration of the skin either at the edge of the ala nasi or on the mucous membrane of the nasal septum; the several lobes enlarge, and finally gradually fill the cavity of the nose or cover the parts around the edge of the nose; subsequently the ala is distended by the tumor and broadened. In many cases where the growth of the masses toward the interior is somewhat hindered by

[1] Bulletin de la Société clinique, 1878.

greater resistance of the tissue and the septum, the neoplasm spreads also to the upper lip and enlarges downward in continuity with the point of origin of the tumor. The proliferation rarely goes much beyond the median line of the upper lip, but rather has a tendency to extend into the depth. The disease progresses in the free space until the lumen of the nose is nearly filled, then it extends to the choana, and when it has infiltrated the gums from the upper lip, the new-formed masses unite in the depth through the alveolar process of the hard palate and displace all the normal tissue of the skin and mucous membrane, of the muscles, and bones. At times the alveolar process of the upper maxilla is eroded under the cheeks, and then we find thick, hard wheals under the latter and bulging them out (Kaposi).[1] Sometimes the new-formation extends over the angles of the mouth from the upper to the lower lip and gradually narrows the opening (Mikulicz),[2] and in particularly severe cases proliferating into the pharynx, the isthmus of the fauces may be constricted to a very narrow fissure (Billroth). The disease usually develops only on one side, but a few cases have been observed where both nostrils were affected, the new-formations joining at the palate and extending laterally and downward. It is self-evident that under such circumstances not only the visible parts of the face appear altered, but also the mucous membrane of the nasal and oral cavities are pathologically changed in the same way, that they perish completely in the morbid process, and when the tumid masses pierce the covering integument, they present either with or without a thin cicatricial mucous layer.

It is a special peculiarity of this process that despite the extending alteration brought about by the ascendancy of the morbid tissue, neither inflammatory symptoms nor destruction of the tissue or ulceration occur in the surroundings and at the borders of the focus of the disease. Zeissl,[3] however, reports a single case where a rhinoscleroma was for some time treated as a syphilitic neoplasm; one of the tubercles suppurated and later ulcerated, which led to the destruction of the whole of the ala nasi down to the bone and finally the death of the patient. To the best of my knowledge there are no other similar cases on record. The rhinoscleroma itself not only progresses painlessly, but during its entire course is injurious to the local anatomical structures merely by obstructing the openings to the respiratory organs, and thus not only giving rise to important disturbances of function, but to dyspnœa, which can often be removed by artificial means alone. Rhinoscleroma belongs to the rarer forms of disease.

The DIAGNOSIS offers some difficulties in so far as, in its first stages of development, it shows great resemblance to syphilitic new-formations. Weinlechner had observed this disease before Hebra's time, in the year 1860, at Professor Schuh's clinic, without being able to ascertain its nature correctly, and had interpreted these cases (seven) partly as syphilitic, partly as carcinomatous. This was the case with most observers, until Hebra's publication called attention to the peculiarities of this affection. The utter failure of antisyphilitic treatment, the hardness of the tumor, the seat of the affection without any analogous forms on the rest of the body, serve to diagnose the disease and to exclude a specific affection. It could not be long mistaken for carcinoma, as the latter is never so extremely hard, leads to ulceration when it extends to the mucous membranes, and differs altogether from rhinoscleroma in the local and general incidents.

Rhinophyma—that neoplasm on the nose which leads to its enlargement and thickening—is a doughy, soft tumor inclosing numerous dilated sebaceous glands, has a reddish lustre, is composed of several lobes, spreads only on and in the skin of the nose without disfiguring or destroying the mucous membrane of the mouth or nares, at most occluding the nostril by increase of the several tumors. It is a tumor developing to an enormous extent from an acne tubercle and, as far as can be learned from the meagre reports, has quite a different character from rhinoscleroma.

[1] "Pathologie und Therapie der Hautkrankheiten," 2. Aufl., p. 633.
[2] Archiv für klin. Chirurgie, 1876, iii. Heft.
[3] Wiener med. Wochenschr., 1880, No. 22.

ANATOMY.—Kaposi found in rhinoscleroma a small-celled dense infiltration of the corium and the papillæ, and placed this formation by the side of the small-celled sarcoma. Substantially the same view was expressed by Weinlechner and Mikulicz.[1]

According to our investigations, the bulk of the tumor consists of a round cell tissue which contains a number of connective tissue trabeculæ and partly destroys the original tissue; it seems that the blood and lymph vessels form the starting-point of the infiltration, for the cells of the adventitia and its surroundings proliferate largely.

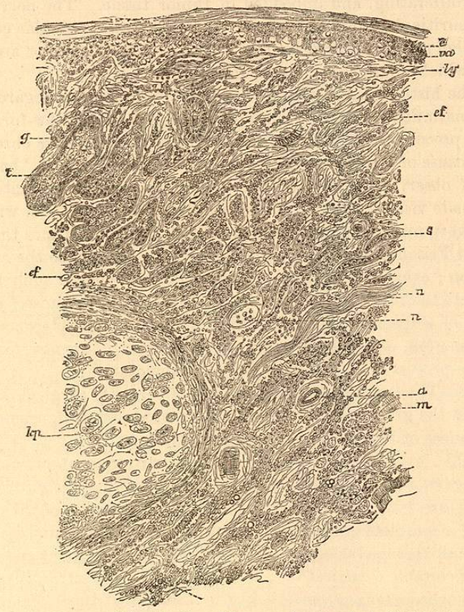

FIG. 65.—Part of a rhinoscleroma of the introitus of the nose, the size of a hen's egg; *e*, epidermis with vacuoles (*v a*); *l y*, lymph spaces; *g*, arborescent tissue resembling granulations; *s*, uncoiled convoluted sweat gland; n_1, nerve with intrafascicular connective tissue exhibiting hyaline swelling; *a*, arteries in the meshes of the cellular network; *m*, hypertrophic or disintegrating muscle fibre; *v*, vein imbedded in the cellular network; *k p*, cartilage; *e f*, elastic fibrous network plentifully imbedded in the tumor; *t*, sebaceous glands.

The epidermis appears moderately atrophic, here and there devoid of papillæ, contains vacuoles, and is provided at intervals with sparse hairs. The sebaceous glands proliferate in places (*t*); in the depth are some sweat glands whose convolutions have

[1] Archiv für klin. Chirurgie, Bd. xx., 1876.

perished. Wide lymph and blood-vessels extend immediately under the epidermis; between them is an almost embryonal loose tissue; then follows, especially around the sweat glands, whose veins, capillaries and walls it implicates, a network of dense, small-round-celled and short-spindle-celled proliferation, the wide interspaces of which are filled either with arteries (*a*), having a much thickened and sclerotic adventitia with a very profuse network of elastic fibres (*ef*), or a connective tissue abounding with a similar elastic tissue. The density of the cellular proliferation increases in the depth, where it represents a tissue with alveolar grouping, the cells of which are rather broad, often exhibiting hyaline or mucous swelling; within them are occasionally nuclei in indirect division. The part of the nasal cartilage (*kp*) imbedded in the tumor has become fibrous in its peripheral portions, here and there calcified, even ossified, proliferating; in the depth almost cystic in places by proliferation and degeneration of the elements. The muscle fibres, sebaceous and sweat glands in the tumor are here and there hypertrophic, proliferating, and imbedded in tumor tissue. The nerves partly show all the stages of neuritic degeneration (*n*), in part their interfascicular connective tissue is enormously swollen and structureless (n_1). In and around the tumor are many mast cells, the granules of which might be mistaken for bacteria.

Therefore the histological results furnish some information regarding the nature of rhinoscleroma, inasmuch as we can consider it a small-celled new-formation related to the sarcomatous process, while other authors included it among the chronic inflammatory processes. The cause of the affection is not yet quite clear. Frisch,[1] basing his view on a series (twelve) of observations, stated that within the cellular formation bacteria occur which can be made visible as small short bacilli by staining them with aniline colors; these bacilli are very numerous in distended cells three or four times the diameter of embryonal cells, and Frisch holds this enlargement of the cells to be the consequence of the bacterial irritation; even in the spindle-shaped cellular elements such bacteria could be demonstrated. As the result of his observation, Frisch thinks himself justified in assuming the existence of a special form of bacteria peculiar to rhinoscleroma—a theory which still lacks confirmation, as in the present era of bacteria every new form which appears must undergo the process of purification and experimentation.

TREATMENT.—The treatment of rhinoscleroma is purely surgical, and operation will be called for when the growth of the tumor either produces disfigurement or is followed by grave disturbances of respiration and deglutition.[2]

If it be possible, by ablation with the knife or galvano-cautery, not only to remove the morbid tissue, but also so much of the healthy tissue that the entire surroundings of the diseased patch are extirpated, thus preventing a re-formation of the original affection, it could be called a complete cure; but the nature of the disease and its course along the tissues rarely permit this operation on account of the disfigurement and the sequels which would prevent a favorable cicatrization; we must restrict ourselves, therefore, to keeping the nasal passages open as long as possible by the insertion of tubes of rubber, caoutchouc, and lead, and to extirpating particularly troublesome proliferations from time to time.

[1] Wiener med. Wochenschr. 1882, No. 32.

[2] While this work was passing through the press, I received an article by J. Lang (Wien. med. Woch., 1883, Nos. 24 and 25) who instituted strict antiseptic treatment with favorable result.

PARABLASTIC TUMORS WHICH PRESENT IN THEMSELVES THE CONDITIONS NECESSARY TO STASIS.

BY

VICTOR BABES, M.D.

1. LIPOMA.

THE term lipoma of the subcutaneous adipose tissue is applied to new formations of true fat tissue; probably in the main new-formation of the fat-depositing vascular apparatus with insufficiency of the arrangements for carrying off the fat. Obesity becomes a diffuse tumor, hereditary lipomatosis (polysarcia), when these conditions are diffusely present. The cause is frequently to be found in hereditary tendency. Circumscribed hypertrophy of the adipose tissue of the face, neck, toes (often with atrophy or hypertrophy of the bones) is also sometimes congenital.

Similar conditions may also be of neurotic nature; *e. g.*, many cases of circumscribed lipomatosis, pseudo-hypertrophy of the extremities.

When the body emaciates, there often remain circumscribed deposits of fat—lipomata—probably as the expression of abnormal vascular arrangement. But similar tumors arise independently in the subcutaneous cellular tissue, often in locations which are he seat of fatty excrescences in certain human races and species of animals; they are very frequent on the nates, the back, the axillæ, the abdominal wall, the thighs, the head. Finally lipomata may occur in consequence of traumatic irritations. Forms springing from cicatrices are not rare.

Circumscribed lipomata usually form movable tumors, ranging in size from quite small to very large; in the latter case they are prominent, often pendulous; the skin covering them is rarely thickened, brownish, generally thinned; the structure is coarsely lobulated which becomes evident when the investing skin is made tense. They are sometimes found subdivided into smaller lobules; more rarely they are smooth, roundish, often so soft as to be almost fluctuating, sometimes crepitating under pressure; in other cases the tumor is firmer to coarsely fibrous (lipoma fibrosum). The development of lipoma becomes particularly distinct in nævus lipomatodes.