case in a lady who had thirty distinct tumors in front of the chest and nine on the back. Some years ago I published some observations among which was a case with one hundred and five separate keloid tumors.[1]

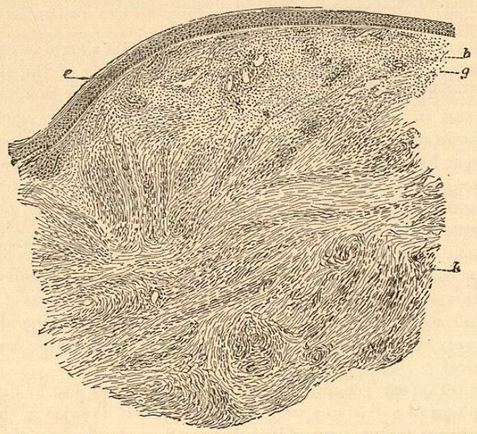

FIG. 58.—KELOID OF SYPHILITIC ORIGIN from the cheek of a girl aged fifteen years ; *e*, moderately atrophic epidermis; *g*, granulating superficial cutis tissue with patent or obliterating proliferating vessels (*b*); *k*, keloid tissue with numerous cells partly arranged in long spindles of stellate form.

The ANATOMICAL ALTERATIONS (Babes) have frequently been the subject of careful examination. While the cicatrix necessarily affects the entire parablast, keloid induces mainly new-formation of the dermatic frame-work. The fact that keloid frequently develops after injuries in place of cicatrices and arises just like the cutaneous cicatrix, renders it probable that the peculiarity of this formation is influenced by that of its points of origin. In recent cicatricial keloid we can observe how the firm cicatricial fibres swell and dissolve into dense bundles of spindle cells which are but a monstrous reproduction of the cicatricial network; at the same time the wall of the peripheral blood-vessels proliferates, while the central vessels appear relatively sparse and narrow. Keloids after syphilitic ulcers (Fig. 58) are distinguished by superabundance of cells and transition into granulations, while those of tubercular or scrofulous origin have few cells and resemble sclerotic connective tissue. In idiopathic keloid, the cicatricial groundwork is absent; it is marked by greater independence and deeper position of the tissue basis, whereby the papillæ are left intact; particularly noticeable is the almost tendinous, regular tumor tissue running parallel with the surface; here we find lymph vessels with endothelial proliferation which run parallel towards the surface, patent and vertical, but probably compressed by the longitudinal growth of the fibres. In some keloids the cellular network bordering the elements of the dermatic frame-work concurs with the latter; especially when the trabeculæ have become sclerotic or hyaline, there is often found between them a network of large stellate or fusiform elements. In multiple keloids the peculiar scar-like quality of the skin seems to furnish the disposition to the new-formation. The following case, most interesting on account of its extent, came under my observation.

[1] Vierteljahresschr. f. Dermatol., l. c., 233.

A girl aged seventeen, of vigorous build, had a keloid reaching from the sternal region almost to the right of the spinal column; it consisted of a large number of tubercles, partly isolated, partly confluent, in size from that of a bean to that of a hazel-nut; firmly seated in the subcutaneous tissue, little movable, moderately painful on pressure. The color was partly that of the normal skin, but here and there they had a reddish shining appearance, some of the formations seeming to be traversed by a larger number of fine vessels. The tubercles, through irregularly placed, are massed together in the space between the fourth to the seventh rib, and thus nearly corresponding to the course of the ribs, they extend across the well-developed mamma in considerable numbers as far as

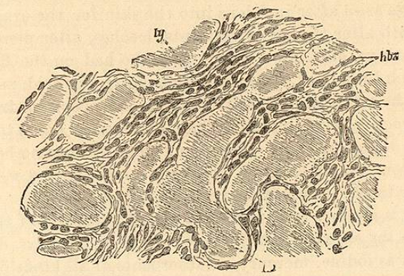

FIG. 59.—KELOID-LIKE NEW-FORMATION from the cheek of an older patient.—Cylindromatous keloid (Hartnack, camera lucida 7): *h b*, connective tissue trabeculæ changed by hyaline swelling into cylindrical masses; *h b z*, swollen connective tissue cells between and on the trabeculæ; *l y*, lymph-vessels. (The tumor was the size of a hazel-nut and exhibited an evident growth. The latter represented a cylindromatous alteration of the dermatic frame-work and was surrounded by a swollen network of cells—one form of the cylindroma of writers.)

the axillary region. While maintaining the character of firm tubercles in the sternal region and the lower part of the mamma, they become much flatter and less prominent within the mammary gland, but they can be well circumscribed throughout, with few processes extending into the glands and the cutaneous tissue.

Still more interesting is the dorsal portion of the trunk, where the isolated tubercles, at the time of admission, were much more largely developed, making the region between the fifth and the ninth rib appear as one tumor sending processes laterally, upward and downward into the healthy skin. They thus formed isolated and confluent tumors which in their partial coalescence represented the shape of a semilunar and irregularly lobulated swelling. The skin over the dorsal tumor, including those at its borders, measured 10 cm. in length and 8 cm. in breadth. As in the preceding case, the epidermis at some points is closely adherent to the tumor, but at others it allows some wrinkling when the lateral edges are pushed together. The entire dorsal tumor is of a reddish color throughout, and there is an absence of the dull white appearance met with in some keloid affections of the isolated form. A delicate capillary network ran over the whole new-formation. The several nodes were neither specially sensitive nor painful; during the entire duration of the disease the patient never had cause to complain of any subjective accidents.

The condition of the skin in general in our patient was remarkable. While the skin of the face showed numerous comedones, there were on the skin of the nucha, the abdomen, the surfaces of the trunk not invaded by keloid, numerous isolated discrete glossy spots resembling a cicatricial formation, and the common integument altogether could be called abnormal.

In this as as well as in a second ease of keloid which had appeared on both auricles and in discrete nodes and tumors reaching from the trunk to the region of the knee, microscopic examination showed the epidermis to be somewhat thickened in the form of papillary cones, here and there thinned ; immediately underneath were several nests

of granulation tissue; then followed a dense layer of wavy elastic fibres and felted masses, as a rule lying parallel, which constituted the bulk of the tumor. Beneath, surrounded by a dense elastic tissue, ran connective tissue trabeculæ in a state of great hyaline swelling, then followed trabeculæ of healthy muscular fibres and slightly sclerotic vessels; a gradual transition into a reticular cartilage, above very rich in elastic fibres, concludes the picture.

The CAUSES of keloid are in general very obscure, and, as above stated, unless we presuppose a peculiar disposition in consequence of which the skin is readily involved in such diseases, and in which local irritations or slight lesions furnish the stimulus to the development of this neoplasm, we can find no other plausible landmark for its origin. I often observed keloids arise after incisions into the skin for the evacuation of abscesses; they are also met with after the use of vesicants, leeches, after piercing the ear lobes for the insertion of ear-rings, etc. In a young man who had on the fingers and the hands numerous warts, which I removed by cauterization with nitric acid, many keloids developed after the healing of the artificial dermatitis, that is, one neoplasm from each suppurating spot. Of morbid processes syphilis might be mentioned as liable to lead to the development of keloids after long-continued ulceration. The age has no bearing on the appearance of this formation; small children are more rarely affected with it than adults; in more advanced age or in old people it is exceedingly rare.

The TREATMENT is absolutely powerless in keloid; removal of the neoplasm by caustics is as fruitless as by surgical interference, the keloid always develops anew. Less energetic agents such as iodine, mercury, or absorbents of all kinds do not act any better. If pains occur in the cicatricial tumor, which is of frequent occurrence, narcotics should be given internally; or externally, chloroform, oleum hyoscyami, opium liniment, which always have their symptomatic value.

FIBROMA, TUMOR FIBROSUS; FIBROID, DESMOID.

This tumor represents a new-formation in which the basis substance consists mainly of connective tissue, with a slight participation of cellular elements.

DEVELOPMENT OF FIBROMAS AND OF SOME RELATED FORMS.—Fibroma develops in the form of firm and dense connective-tissue trabeculæ which, according to their arrangement, represent harder or softer structures. Hence we can speak of hard and soft fibromas; but there are certain intermediate forms, such as the papillary and verrucose fibromas, in which increase of epithelium ensues, and the entire tumor shows a tendency to malignant epithelial formations. A frequent neoplasm of the skin, histologically related to fibroma, in which greater or less participation of the epithelium can be demonstrated, is formed by the papilloma. In the beginning the enlarged papillæ generally do not bulge out the covering layers of the skin, and the surface appears smooth; not until the thickened or œdematous epidermis degenerates close beneath the corneous layer and disintegrates with desquamation and rupture, do the papillomas appear separate and visible. At times the loosened interpapillary tumors—exhibiting colloid or œdematous strips and being even strangulated—are still encapsulated in the corneous layer; in other cases the papillomas remain connected by a cornified epithelial layer, as in hard warts, cutaneous horns, etc. As has been stated, these peculiar papillary proliferations are transitional forms between fibromas and other connective tissue new-formations, among which belong also, clinically, some cauliflower growths, such as the proliferations of the skin in elephantiasis which Virchow includes among the fibromas, as well as the papillary new-formations in pachydermia, the neuromata developing from the nerve sheaths, etc. Some forms of papillary warts which must be termed fibromas sometimes show indubitable relations to the nervous system, such as the congenital nerve nævi, often corresponding unilaterally to the distribution of peripheral nerves.

The soft fibroma (Fibroma areolare; F. molluscum, Molluscum fibrosum) represents firm tumors consisting of connective tissue covered with normal skin. They appear as barely visible formations the size of a pin's head, but are usually as large as a bean, and may form large tumors, as in a case recently reported by Schultze, where the tumor covered the greater part of the head and face;[1] they may also reach a colossal size, as in a case described some time ago by Marcacci,[2] where the molluscum, in the shape of a scar-like neoplasm, acquired such dimensions that thorax and back seemed completely enveloped by it. Generally, however, these fibromas occur as hemispherical isolated or multiple tumors, either imbedded in the cutis or provided with a usually short pedicle. Where large tumors are met with, we generally find smaller formations scattered over the body. The skin above the tumor, though generally unchanged, is frequently rugous and warty, and when the fibromas are seated close together, the entire surface of the skin acquires a grape-like appearance. At times we can also feel in the depth tubercles belonging to these formations which may be interpreted as fusiform thickenings of the nerves. Some fibromas appear as even, flat thickenings of smaller or larger portions of the skin; they then form pure hypertrophies of the skin—a sort of pachydermia and elephantiasis (fibroma molluscum planum).

Such a flat form we observed on the forehead of a boy aged fourteen, in the shape of a whitish tumor connected with the surroundings by lobular cords; it was covered with tense immovable skin, and was about the size of a dollar. Microscopic examination showed under the epidermis, which had lost its papillæ, a dense undulating connective tissue with indistinct fibrillæ, here and there proliferating vessels (*b*); the bulk of the tumor extended from there into the depth in lobules between the columns of fat, in the shape of an ordinary periarterial (*a*) and perineural areolar new-formation.

The soft fibromas are usually congenital, spring generally from the portions of the parablast which form sheaths, *i. e.*, the adventitia of the vessels, the nerve sheaths, and the interfascicular connective tissue, from the tunica propria of the glands, at times also, according to Virchow,[3] from the framework of the subcutaneous fat-tissue. They are quite painless, becoming inflamed only through external irritations. The isolated tumors are easily enucleated, are often wide-meshed, loose, sometimes with nodular processes, the cut surface smooth and whitish; frequently they can be disentangled as tumid convolutions (Czerny, Recklinghausen). In the skin covering the molluscum we sometimes find sebaceous glands filled with sebum which can be expressed so that they lose a part of their contents, as the so-called molluscum sebaceum s. contagiosum. This should be borne in mind, because where tubercular formations are plentiful, we often find, besides fibroma molluscum, also those nodes filled with masses of sebum (M. contagiosum).

Within the framework of the fibroma isolated nerve fibres and vessels are occasionally found. Whether there are indeed intimate relations existing with the nerve substance and whether the tumors spring from it cannot be clearly proved.

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[1] Deutsche Zeitschr. für Chirurgie, 1880, 5 u. 6 Heft.
[2] Giornale italiano delle malat. della pelle, 1879, p. 131.
[3] "Die Lehre von den Geschwülsten," Bd. i., p. 221.

The firm or hard fibroma forms a new-formation of connective tissue fibres compacted into a dense structure; it occurs on the trunk or the extremities, usually isolated, and from the size of a pin's head, may develop into tumors nearly one-third metre in diameter. The several tumors are generally seated deep in the cutis, are sharply circumscribed, covered with a smooth epidermis, and only when several formations coalesce, the surface acquires a grape-like appearance. As they maintain the physiological type of the connective tissue, these fibromas develop most readily from the connective tissue portions of the skin, but also with equal facility from the connective tissue of the muscles and nerve sheaths, in which latter case they are called neuromas. The cut surface of

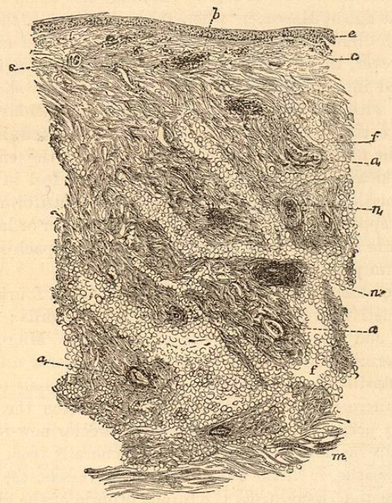

FIG. 60.—FIBROMA MOLLUSCUM PLANUM FROM THE FOREHEAD: *e*, atrophic epidermis; *c*, superficial layer of cutis with *b*, partly obliterated vessels; *s*, convoluted sweat gland; *f*, subcutaneous columns of fat; between the latter the tumor, consisting of succulent wavy connective tissue, extends downward; *a* and a_1, arteries; *n* and n_1, nerves; *m*, muscle-fibres.

the single tumor has a whitish, glossy aspect, is smooth, dry, bears some resemblance to tendons, and has homogeneous layers.

The hard fibroma develops very slowly, and as it forms, as it were, from out of the cutis, it causes atrophy of the normal surroundings by its firm consistence. In that case, the single tumor can not only be clearly circumscribed, but be completely enucleated; we may can find central vascular or nerve sheaths before the tumors have become too old. Recklinghausen[1] has called particular attention to the latter circumstance, and his investigations showed that the nerves play a prominent part in the development of fibromas; for the connective tissue tumors forming from their sheaths gradually displace the nervous elements, a true fibroma having arisen from the original neuro-fibroma. The grouped fibromas and the so-called true irritable tumors therefore bear an unmistakable relation to the nerves; they usually form subcutaneous nodules the

[1] "Die multiplen Fibrome der Haut," u. s. w. Berlin, 1882.

size of a lentil, often also larger tubercles having a marked sensibility. Such an irritable fibroma is depicted in Fig. 61. The centres of the deep-seated tumor, with concentric fibres, are formed by a thick-walled vessel. The tumor continues into the depth in the shape of a pedicle containing loose nerve bundles; at the periphery are found nerves imbedded in sclerotic tissue; the tumor consists of thin, long fibres, with here and there fusiform and club-shaped swellings, and provided with nuclei; it contains a moderate number of capillaries and comparatively numerous lymph-spaces. In the centre are scattered myelinic and amyelinic nerve fibres, here and there between them a cell resembling a ganglion. (Comp. Fig. 62.)

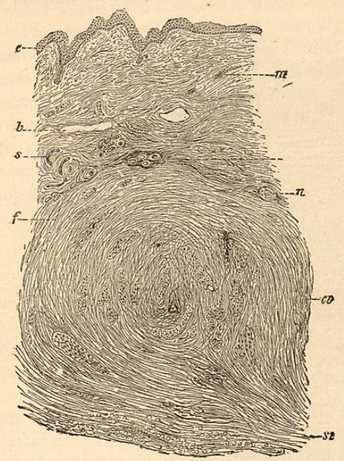

FIG. 61.

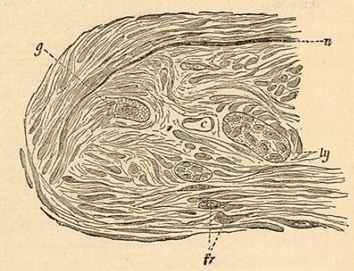

FIG. 62.

FIG. 61.—NEURO-FIBROMA (GANGLION) DOLOROSUM FROM THE BACK (Hartnack, Camera lucida 2): *e*, thin, wrinkled epidermis; beneath it, a very loose succulent layer; this is followed by a wavy connective tissue, with thick fibres; *m*, smooth muscle fibres independent in the connective tissue; *b*, dilated lymph-spaces; *s*, convoluted sweat-gland; *g* and *n*, vessels and nerves in the sclerotic tissue having thickened sheaths; *cv*, vein in the centre of the tumor; *st*, stem-like connective tissue bundles containing atrophic nerves.

FIG. 62.—A PART OF THE SAME TUMOR (Hartnack, Camera lucida, Immersion No. 9): *fz*, connective-tissue fibres, with cellular swellings; *n*, scattered nerve fibres; *g*, ganglion cell (?); *c*, blood capillaries; *ly*, lymph-vessels, with distended endothelia.

Attention should here be called to still another form of fibroma which occurs mainly with hypertrophy of the skin, and which we have found in a case of angioma racemosum of the skin of the finger; on the nerves with fibrous thickening were seen oval corpuscles the size of a lentil which might perhaps be designated as fibromatous Pacinian corpuscles.

The clinical importance of the fibroma depends not only on the density of the new-formation, but also on the disturbance it causes in the neighborhood of the tissue in which it is imbedded; probably it never gives rise to malignant accidents, except by the increase of its cellular and disappearance of its connective tissue elements; but then the fibroma changes into a sarcomatous form and loses its original clinical and histological character.

The termination of the hard fibroma is manifold; sometimes it undergoes fatty degeneration, sometimes ossification or calcification; there may also occur a sort of softening through increased abundance of blood within the tumor; at times, too, a telangiectatic form, with transition into true blood cysts, caused by vascular dilatation. Such a hemorrhagic fibroma cyst is represented in Fig. 63.

DIAGNOSIS.—The above-described qualities of fibroma, it seems to us, leave no difficulty in deciding whether we have to deal with a soft or hard connective tissue tumor. It could be most readily confounded with molluscum sebaceum or contagiosum. Attention should therefore be given to the peculiarities enumerated in the symptomatology of fibroma, especially to the smooth, even surface of the skin, while in the formations due

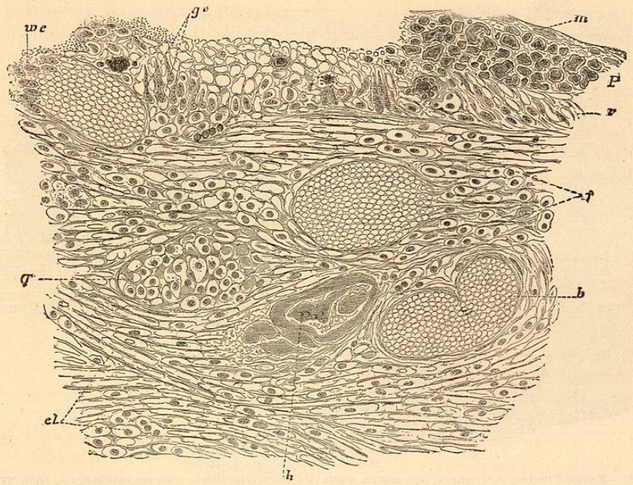

FIG. 63.—FIBROMATOUS BLOOD CYST FROM THE SUBCUTANEOUS TISSUE OF THE HAND; *m*, neomembrane of the blood cyst; *P*, a layer of pigment flakes beneath the neomembrane; *r*, a second layer consisting of hyaline reticular unyielding tissue, with swollen connective tissue cells (*g'*); *w e*, proliferated endothelia of a superficial blood-vessel; *f*, fibres of the fibroma tissue with elongated plasmatic channels containing cells; *b*, ectatic blood-vessels; *q*, transverse section of a fasciculus with ectatic plasmatic channels; *g b*, swollen connective tissue cells; *e l*, ectatic lymph channels; *h*, hyaline flakes in a transversely cut vessel.

to disease of the sebaceous glands the efferent duct of the latter will always be found, and pressure on the tumor will expel the contents in the shape of a sebum-like, pasty mass, and at the same time cause a relaxation of the skin. We have stated above that such formations may also be associated with fibroma, in which case the molluscum sebaceum can be more easily distinguished from the fibroma after its contents have been expressed; should, however, a small amount of sebum be expelled from a fibroma (through accidental transformation of a sebaceous gland into a fibroma tubercle), the connective-tissue frame-work of the latter will still be preserved, and although the formation will be somewhat relaxed, it will not be diminished in size.

Fibromas, when they occur as multiple neoplasms on the integument, strike the eye by the number and consistence of the several tumors, and the histological examination will easily elucidate their nature. Even the rare forms of general disease of the

lymph glands, in which all the lymph glands represent lobulated, grape-like, painless tumors,[1] will permit a correct diagnosis from the seat of these tumors and the evident enlargement here and there of the lymph vessels. Behrend[2] also points out the possible confounding with Cysticercus cellulosæ: the latter affection is exceedingly rare, the several tumors are of equal size and not different as in fibroma; they always show, moreover, a firm, uniform consistence.

The CAUSES of fibroma are quite obscure, often a hereditary tendency was assumed, but frequently cannot be demonstrated; in the majority of the cases the fibromas appear in earliest youth. In some cases local irritations were cited as causes, but fibromas are seen to occur where such irritations cannot be demonstrated.

The TREATMENT of fibromas can only be surgical, and in cases where they call for interference owing to disfigurement, or of spreading of the tumors, ablation of the neoplasm is indicated, whether by simple ligature, the knife, scissors, or the galvanocautery. As these tumors are provided with numerous blood-vessels, hemorrhage should be guarded against during operative removal. Should the fibromas reach such an extent that surgical interference is out of the question, or if they could not be readily removed on account of their multiplicity, these dermatological curiosities may be left alone, as they do not at any rate endanger life.

4. XANTHOMA (XANTHELASMA VITILIGOIDEA).

SYMPTOMS.—The term xanthoma is applied to a form of macular or nodular formations which occur on the common integument in the shape of light or dark yellow (the shades range from straw to sulphur yellow) stripes, plates, or protuberances, partly discrete, partly confluent, which present no subjective symptoms, and are incapable of spontaneous involution. The persistence of the affection, and the fact that in some cases it has a strong tendency to spread to different parts of the body, justify us in regarding this disease clinically as a neoplastic formation, and this view is fully borne out by histological examination.

Rayer[3] was the first to describe this affection; he speaks of it as a special disease in which we sometimes observe on and around the eyelids yellowish plaques which, "slightly salient, soft, without causing heat or redness, are symmetrically placed on the skin." Subsequently Addison and Gull described this affection independently, and applied to it the name vitiligoidea. These authors, too, were the first to distinguish two varieties, namely, a flat and a nodular form (vitiligoidea plana et tuberculosa). The title xanthoma was given to this disease by Smith,[4] and xanthelasma by Erasmus Wilson; the number of observations has been considerably enlarged within the last few years, so that this affection can no longer be called rare, though it is not one of the most frequent diseases.

We retain the clinical division of Addison and Gull as the most appropriate, and describe xanthoma in its two forms as follows:

1. *Xanthoma planum* forms yellowish white or citron yellow spots the size of a thumb nail or larger, usually occurring at the canthi of the eyes or the eyelids of both sides, and generally symmetrically; they are met with also on other portions of the face, the

[1] Amicis, Annales de Dermatologie et Syphiligrafie, 1882, p. 452.
[2] "Lehrbuch der Hautkrankheiten," Berlin, 1882, p. 399.
[3] "Traité des malad. de la peau." Paris, 1835, avec Atlas.
[4] Journal of Cut. Medic., 1869, iii., p. 241.