sides, in the larger ones, there was a perfect depression reaching to the level of the normal skin, the color of this central portion being yellowish-brown (Lichen annularis). In the right inguinal region there was a group of about ten papules of the same appearance as those on the dorsum of the right hand but without a central depression. On the dorsum of the left hand were a few typical papules, pinpoint to pinhead size. No other part of the cutaneous surface was affected.

The vermilion border of the lower lip showed a copious eruption consisting of groups of pinpoint to pinhead size opaque, white, polygonal and round papules, sharply defined and irregular as well as roundish white opaque plaques of various sizes, some of the round ones having a depressed center (Fig. 2). The margins of all these lesions were slightly raised above the level of the normal portions of the vermilion border, of which there was not much left unaffected. They felt dry and rough to the touch. On the upper and lateral surface of the left margin of the tongue and the lower surface of the right margin there were grayish-white, irregular and streak-like smooth plaques not sharply defined. On the back of the tongue in its posterior half were three slate-colored plaques arranged asymmetrically in the raphe in close proximity one behind another. Their size was about that of a dime, their surface smooth and dull and lacking the distinct papillæ. Their consistence was not different from that of the surrounding normal mucosa. They were not raised. There was no hyperemia or infiltration zone around them. They were round and did not show any trace of their origin from typical mucous papules, while on the borders of the tongue and the vermilion border of the lower lip there were true papules and papular indications in the periphery of the plaques. The clinical symptoms justified the diagnosis of lichen planus.

Patient objected to an excision from the lip or tongue but a piece was excised from a larger lesion of the dorsum of the right hand. It was fixed in Zenker's solution. The paraffin sections were stained in hematoxylin and eosin, Unna's alkaline methylene blue, eosin and carmine and Weigert for elastic fiber.

Microscopic Examination.—(Figs. 3 and 4.) The epidermis as a whole is thickened. The horny layer consists of horny wavy lamellæ and is loosely attached. It is thickened and does not show any nuclei. The granular layer is in places thickened. The stratum spinosum is also thickened and shows widened intercellular spaces especially in its lower portion. Some of the cells show vacuoles and between the lower rows of cells round infiltration cells penetrate from the papillary layer. The pigment is not increased. The epithelial projections are broadened and elongated. The papillæ between these enlarged pegs are also hypertrophied and show a dense infiltration of small round cells which show a tendency to arrangement along the dilated blood and lymph vessels. Typical plasma cells or plasma mast-cells were not found. The subpapillary layer shows the same dense infiltration and beneath this all infiltration ceases abruptly. The reticular layer of the corium is perfectly normal excepting here and there a few rows of cells around blood vessels. The networks of elastic fibers are normal. Follicles and sebaceous glands were not found. Around the lichenoid structure the skin were perfectly normal (Figs. 3 and 4).

Treatment.—This consisted in the administration of pills of reduced iron, arsenious acid in increasing doses and a regulated diet. No local applications were made. The lesions of the skin and of the mucosa showed decided improvement after about three weeks when the patient disappeared from my care.

103 State Street.

[THE DISCUSSION ON DR. LIEBERTHAL'S PAPER IS IN THE BACK PART OF THE JOURNAL, UNDER "DISCUSSIONS."]

The Medical Genius.—The genius in the medical profession is rare. I can not remember that I ever met one, but I have met lots of great big fellows who possessed and made use of the average amount of brains which was theirs. One of the glories of our country is that they are to be found everywhere and in all lines of work.—James F. Percy, M.D., in the *Illinois Med. Jour.*

MYOMATA CUTIS.*

M. L. HEIDINGSFELD, M.D.
CINCINNATI.

Reduplication of the involuntary muscular fibers of the skin to the degree of tumor formation is probably one of the rarest conditions encountered in dermatology, if the limited number of accepted cases thus far reported in the literature is duly considered. It is more rarely encountered if Besnier's[1] commonly accepted classification is observed and those cases which primarily spring from subcutaneous muscular tissue, the dartos, labia, mamma, etc., the so-called dartoic myomata, which are essentially of surgical importance, are properly excluded. Radcliffe Crocker[2] states that his case is the eleventh clearly defined instance in the literature and accords value to the two additional cases of Wolters'[3] doubtful classification. Leslie Roberts[4] asserts in 1900 that his additional case constitutes the fifteenth well defined instance. There have been but few cases reported in recent years, and Huldschinsky[5] maintains that his constitutes the sixteenth additional case.

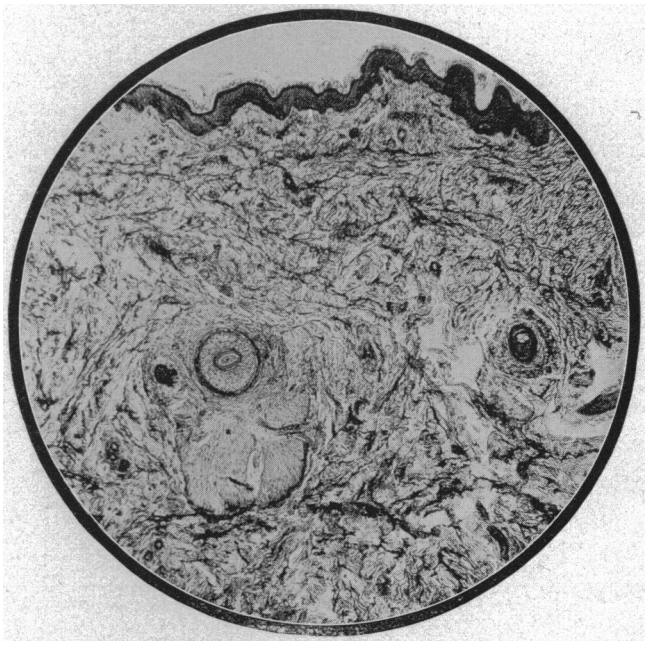

Fig. 1.—Case 1. Incipient growth of myomatous tissue, in proximity to their hair follicle and corresponding to the site of its arrector pili, from which it has probably taken its origin.

A casual survey of the literature reveals a somewhat larger number of cases of myoma cutis, than some of these reports indicate, and this disparity exists because many cases are not credited recognition, since they lack certain clinical characteristics. Myomata cutis present exceedingly varied clinical manifestations, but a fairly uniform, easily recognized, and somewhat characteristic histopathology.

In cutaneous affections it is essential to show a fair degree of consideration to the clinical aspects; it is equally important to give proper attention to the histopathology. It seems particularly unjust and unwarrant-

* Read in the Section on Cutaneous Medicine and Surgery of the American Medical Association at the Fifty-seventh Annual Session, June, 1906.

1. Ann. de Derm., 1880, p. 25; also p. 332.
2. Brit. Jour. Derm., 1897, pp. 1 to 48.
3. Wolters: Arch. f. Derm. u. Syph., 1893, xxv, p. 414.
4. Brit. Jour. Derm., 1900, xii, p. 116.
5. Inaug. Diss., 1901.

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able, to ignore entirely the stable and easily recognized histopathology in behalf of a varied and indeterminate clinical character.

REVIEW OF LITERATURE.

The clinical characteristics as already stated are exceedingly varied. The lesions are single or multiple, congenital or acquired. Single lesions are reported by Förster,[6] Sokolow,[7] Axel-Key,[8] Audry,[9] Santesson,[10] Miglionini,[11] Herzog,[12] etc., and are generally excluded from general recognition. The multiple cases vary from a few to sixty or more as in the case of Lukasiewicz,[13] 100 or more as in Marshalko's[14] case or innumerable as in the cases of Verneuil[15] and Besnier.[1] Some develop in earliest infancy (Hess,[16] Jarisch[17]), the majority during adolescence, and not a few in advanced age. Unna,[18] Darier, Krzysztalowicz[19] and a few other observers attribute a congenital character to the affection, and hold it an additional confirmation of Cohnhein's theory of embryonic remains, puberty, stimulating the developmentally misplaced tissue to renewed activity. Wolters'[20] third case, which occurred over a meningocele and

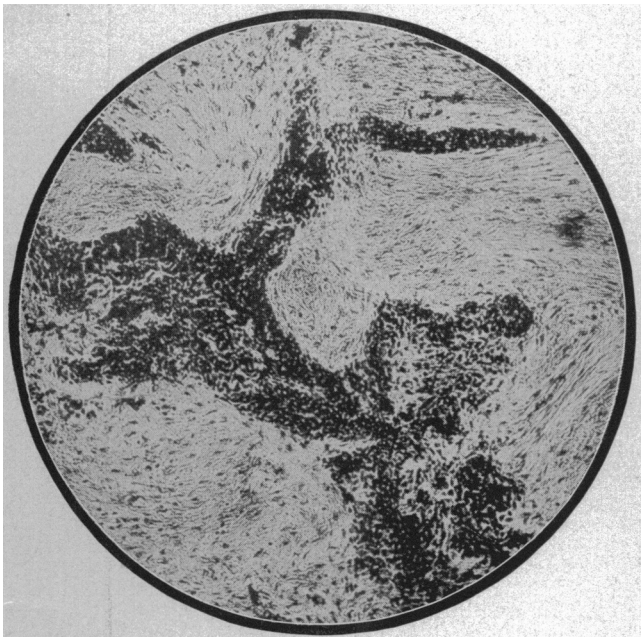

Fig. 2.—Case 1. Interlacing bundles of myomatous tissue and inflammatory exudate, taken from the center of the growth.

Dore's[21] case in a man of 29, whose father was also afflicted with the same condition, are important contributions to the congenital origin of at least some of the cases.

In a number of cases the lesions manifested themselves late in life, and were of short duration. Whitfield[22] reports a case in a man 47 years of age, of five to six years' duration. Graham Little's[23] case occurred in a middle-aged woman and was scarcely of six months' duration. In White's[24] case the first lesion occurred four years prior in a man aged 45 years. A traumatic origin has been attributed to a few of the cases. Jadassohn's[25] second case, in a female aged 37, followed vaccination. Brigidi and Maracacci's[26] case in a man aged 54, was preceded by swelling of the dorsum of the right hand without cause, which was followed in three months with the appearance of the nodules, and deep wine stains of telangiectasis. This was followed in eighteen months by the formation of similar lesions on the left hand and feet. Whitfield's[22] case followed an eruption of blisters. The lesions vary in size from a millet seed to a hazel nut, or larger, and are distributed as a rule over limited areas, a portion of the trunk or face, or one of the extremities with no special area of predilection. The color of the lesions varies from red, brown, yellow, blue, purple dark-colored to translucent or colorless. Many are accompanied with marked dilatation of the superficial capillaries and veins of the immediate neighborhood, of sufficient degree to mask the clinical appear-

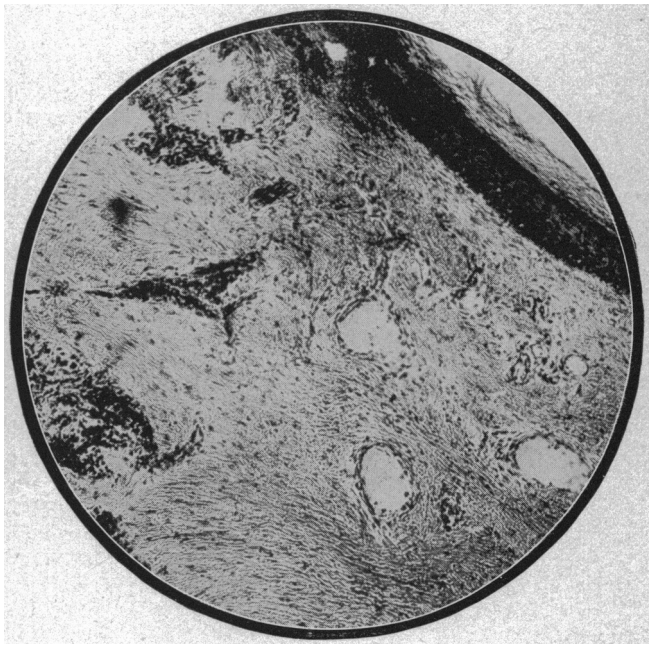

Fig. 3.—Case 1. Myomatous tissue and inflammatory exudate, containing cavernous dilated blood vessels in the superficial portion of the growth.

ance of the myomatous lesions so that the first diagnosis is often that of angioma, or cavernous angioma; for this reason Neumann[27] divides myomata into two classes, (1) pure myomata, tumors of involuntary muscular tissue with a small amount of fibrous and elastic tissue, and (2) cavernous myomata, which are also rich in vascular tissue and cavernous spaces. For the same reason Virchow[28] classes the affection with the erectile tumors under the head of myoma telangiectodes. Severe paroxysmal pain, sharp lancinating, vice-like in nature which may occur spontaneously at any period of the twenty-four hours, or be induced by physical exertion,

6. Wien. med. Wochschr., 1858, p. 130.
7. Virchow's Archives, 1873, lviii, p. 316. Quoted by Neumann.
8. Quoted by Neumann.
9. Ann. de Derm. et de Syph., 1898, ix, p. 182.
10. Quoted by Neumann.
11. Giorn ital. delle Mal. Ven. e della pelle, No. 1, 1905; abst. N.P.D., vol. xl, p. 610.
12. Jour. Cut. Dis., 1898, xvi, p. 527.
13. Arch. f. Derm. u. Syph., xxxiv, 1892, p. 33.
14. Monatschr. f. prakt. Derm., 1900, xxxi, p. 317.
15. Soc. Anat., 1858.
16. Virchow's Archives, 1890, cxx, p. 321.
17. Deutsch. Derm., Gesell., 1895, v, p. 360.
18. Histopathologie der Haut., p. 863.
19. Monatbl. f. prakt. Derm., 1906, xlii, p. 303.
20. Derm. Ztschr., No. 7, 1905.
21. Brit. Jour. Derm., 1902, p. 55.
22. Brit. Jour. Derm., xvii, p. 267.
23. Derm. Soc., London, June 14, 1905; also Brit. Jour. Derm., xvii, p. 265.
24. Jour. Cut. Dis., 1899, xvii, p. 266.
25. Virchow's Archives, 1890, 71, p. 88.
26. Imparziale, 1881. Quoted by Neumann.
27. Arch. f. Derm. u. Syph., xxxix, p. 3; Ann. de Derm. et Syph., 1897, p. 93.
28. Virchow's Archives, 1854, pp. 553-554, Die Krankhaften Geschwülste, vi.

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temperature changes, or local pressure, is present in somewhat over one-half the cases. It is commonly regarded an important diagnostic symptom, but is entirely absent in a large per cent. of the cases. It occurs for the most part in the larger and longer standing lesions, and is explained on the basis of pressure of the muscular tissue on included nerves. Joseph[29] regards it as merely a coincident, without possessing special clinical significance.

The clinical features therefore are of such a varied and indefinite character that the diagnosis is a matter of conjecture in the most favored instances, and generally requires histologic confirmation to merit unqualified acceptance. In many of the cases the diagnosis was not made until the microscopic examination was completed, which resulted in not a few instances in a change from xanthoma, lymphangioma, epithelioma, keloid, adenoma sebaceum, etc., to myoma.

Herzog's[12] diagnosis was based purely on the histologic examination, the single slowly growing, rather painful lesion on the cheek, which was about two-fifths of an inch in diameter, was previously diagnosed epithelioma, and excised for histologic examination. The prehistologic diagnosis in Krzysztalowicz's[19] case was adenoma sebaceum, with lesions on the ala, and septum of the nose and lip. The cases of Babes,[30] Brigidi and Maracacci[26] are probably derived from nevi and are generally discredited (Unna[19]). The material from Vernieuil's[15] case came from the dissecting room. The lesions in Whitfield's[22] case were so translucent that a lymphangioma was suspected, until fluid failed to exude on puncture, and the biopsy established the myomatous character of the lesion. Neumann[27] remarks the clinical resemblance of his case to xanthoma tuberosum, or urticaria papulosa. Wolters'[20] second case bore a deceptive clinical resemblance to xanthoma diabeticorum, and he states that a case of Crocker's,[2] reported as xanthoma may be rather a case multiple myoma. If the clinical features, neither in point of form, color, consistence, derivation, spontaneous paroxysmal and pressure pain, are not constant enough in themselves to assure a diagnosis, the biopsy, as Max Joseph[29] correctly states, will readily determine the character of the affection; and reduplication of involuntary muscular tissue to the degree of tumor formation, having its origin and development in the skin must be classed myomata cutis, irrespective of its congenital or acquired nature, its traumatic or idiopathic origin, its red, brown, yellow, pink, purplish, translucent or normal skin color, its soft, firm, or elastic consistence, its indolent or painful nature, associated or unassociated telangiectases, multiplicity, distribution, growth and development.

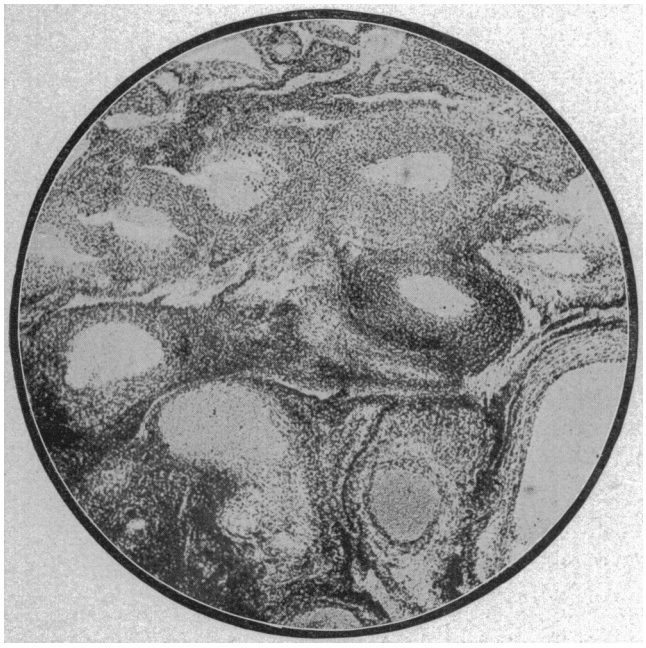

Fig. 4.—Case 1. Vascular meshwork of dilated veins, partially occluded with inflammatory exudate; some completely, others incompletely filled with blood; taken from the deeper layers of the growth.

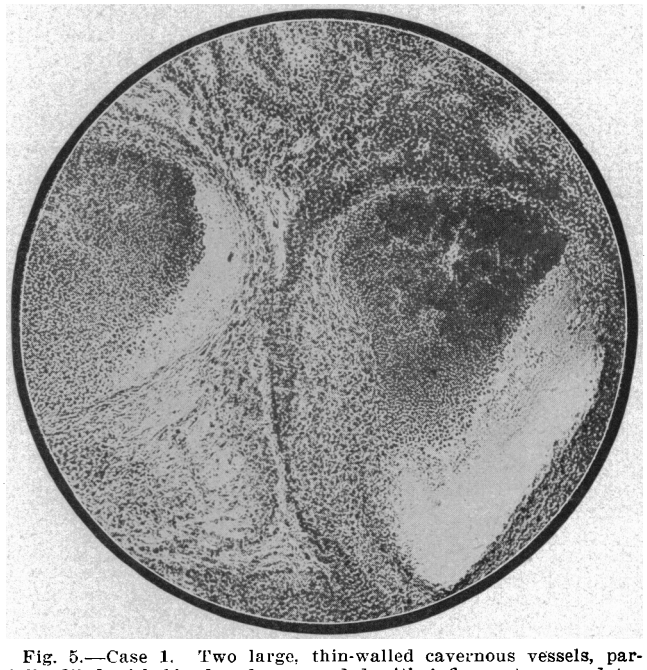

Fig. 5.—Case 1. Two large, thin-walled cavernous vessels, partially filled with blood and surrounded with inflammatory exudate; taken from the deeper layers of the growth.

CASE REPORTS.

CASE 1.—*History.*—Nov. 18, 1904, J. R., tailor, aged 36, presented himself for a painful lesion over the left knee the size of a silver quarter. It followed a fall from a bicycle, which the patient received 9 years ago while trying simultaneously to avoid a wagon and a street car coming in opposite directions. He was thrown violently against the wagon and sustained a severe contusion of the left knee. The injured area was covered with an ecchymosis the size of a silver dollar, and accompanied with extensive swelling, confining the patient to his bed for five days and inducing partial disability for almost a subsequent week. The ecchymosis underwent the characteristic changes from red to purple and brown, and the adjacent swelling disappeared. The central area, however, gradually took on a bluish red discoloration, and in the course of 6 months or a year became enlarged and painful, presenting as nearly as patient can determine its present characteristics.

Examination.—Over the external tuberosity of the tibia there was an irregular elliptical area about the size of a silver quarter, bluish red in color, and covered with four or five soft, easily compressible swellings, which presented all the clinical features of tortuous, dilated, superficial veins, and from their appearance prompted the diagnosis of a cavernous angioma of the skin. Closer examination also revealed five or six small, rounded, slightly elevated, smooth, glistening nodules, yellowish brown in color, varying from pinhead to a split pea. Patient stated that the lesion was the site of severe paroxysmal, lancinating pain, which was easily induced by pressure, but was often spontaneous and induced by such slight causes as the pressure of the undergarments or trouser leg. The excruciating

29. "Gutartige Neubildungen," Mracek's Handb., 1904.
30. Wien. med. Wochschr., 1856, p. 130.

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character of the pain induced the patient to seek attention, and the lesion was promptly excised under cocain anesthesia. The pains persisted for a short period after the excision, but gradually disappeared, and there has been no recurrence, either of the tumor or pain after an interval of over one year.

Histologic Examination.—The growth was sectioned in serials and revealed two distinct types of pathologic change. Some of the areas presented dense masses of interwoven bundles of involuntary muscular fibers, distributed for the most part in the superficial layer of the cutis, extending to the epidermis, invading the papillæ and entirely obliterating the latter over large areas by pressure atrophy. The nuclei of these muscular bundles preserved their characteristic rod shape appearance and were cut variously longitudinally, crosswise and obliquely in accordance with the interlaced distribution of the respective bundles. They were imbedded in finely fibrillated protoplasm, with no demarcation between the various cells. The general direction of the bundles was for the most part parallel to the surface of the skin. In the apparently older, denser and more central areas, they had replaced all other structures, save a few well-preserved capillaries, with a moderate amount of endothelial proliferation and perivascular inflammation, and lymph spaces which were widely distended and extensively surrounded with mononuclear lymphocytes. The muscular tissue was free from elastic fibers which were well preserved and

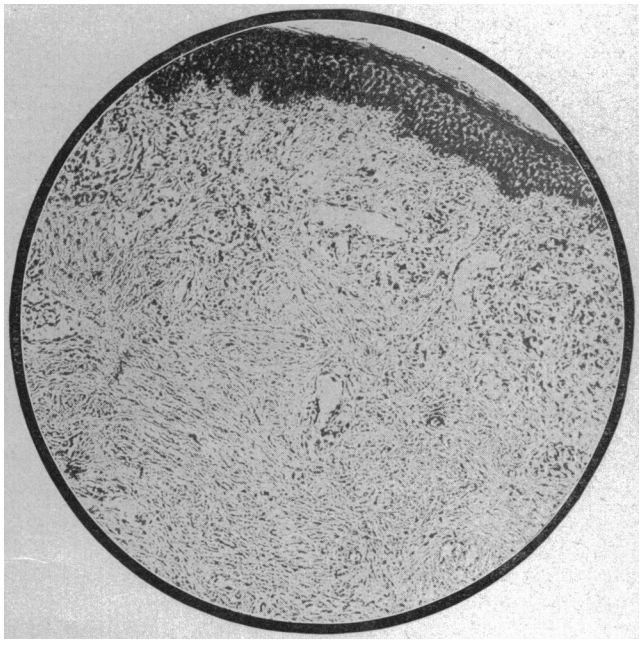

Fig. 6.—Case 2. Myomatous tissue taken from a mixed type of nevus linearis.

abundantly present in the surrounding tissue as far as the confines of the tumor masses (Figs. 1 and 2).

Elsewhere in the deeper layers of the corium were areas which consisted of closely aggregated vessels, with their widely distended lumina surrounded by thin walls, filled with circulating blood, or walls thickened with extensive endothelial proliferation, having the character of well preserved mononuclear lymphocytes, until the lumen was partially or completely occluded. These intensely vascular areas, which had the appearance of pure venous angio-cavernous tissue, were also free from elastic fibers, and often merged with the masses of involuntary muscular tissue (Figs. 3-5).

Hair follicles were here and there well preserved in the muscular masses; sweat glands were well preserved, but there was no evidence of sebaceous glands. In the more normal appearing outlying areas of the specimen were numerous hair follicles, which on careful examination revealed arrectors pili in various stages of hypertrophy from a single thickened club shape strand to lobulated masses. Some of the tumor masses of muscular tissue could also be readily traced to the arrectors of hair follicles, which made it evident that they were the origin. This was further confirmed by the normal appearance of the muscular coats of the blood vessels and the absence of any direct connection, as nearly as could be discerned between the muscularis vasorum and the tumor mass. There was no well defined muscular net around the free lying sweat glands, and the entire absence of sebaceous glands served to render these structures an improbable origin. The only additional pathologic change was a moderate amount of inflammatory infiltration between the muscular cells in limited areas of the tumor mass, consisting chiefly of the mononuclear lymphocytes and epithelioid cells.

CASE 2.—*History.*—H. C., aged 10, presented herself March 12, 1900, with a nevus situated over the left portion of the forehead, face, neck and left ear and encroaching to the median line anteriorly on the neck. It was present from birth and had undergone no material change.

Examination.—The lesions on the forehead were linear in form and grouped closely together into a yellowish, slightly elevated patch about the size of a postage stamp. The remainder consisted of rounded macules and papules, varying in size from a pinhead to a split pea. Some were elevated, rounded and glistening, yellowish and reddish brown in color, others darkly pigmented, firm in character and insensitive to touch. Some were soft, purplish or red in color and telangiectic in character. The remainder were flat and appeared to be pigmented macules, varying from black to light brown in color. The clinical diag-

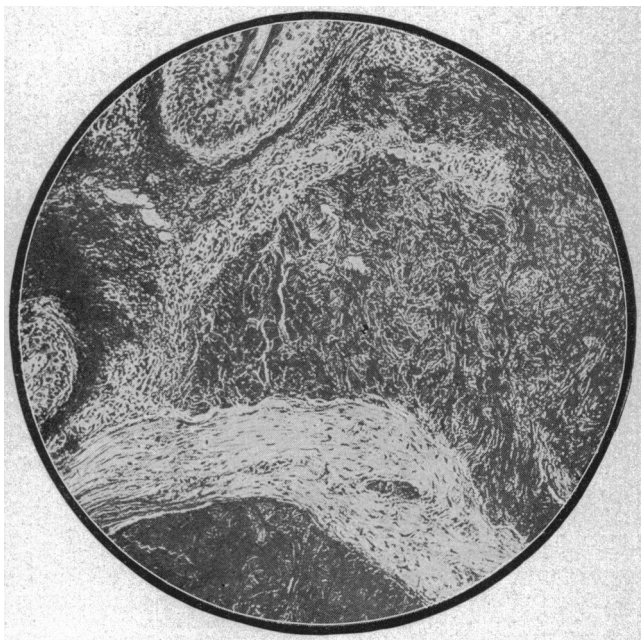

Fig. 7.—Hypertrophy of involuntary muscular tissue, taking its origin from an arrector pili in a case of pityriasis rubra pilaris.

nosis was nevus linearis. Pain was constantly absent. On June 23, 1904, patient was seen the second time and the lesions had multiplied enormously in point of number, extending over the left shoulder and down the chest as far as the nipple. The appearance and character of the lesions remained the same. Pain was constantly absent.

Histologic Examination.—The lesion on the forehead was shown to be essentially an adenoma of the sebaceous glands. The smaller lesions, when examined histologically, revealed a great variety of pathologic change. The linear, yellowish, elevated lesions on the forehead bore the structure of an adenoma of the sebaceous flands. Pigmented lesions showed a vast amount of pigment in the lower layers of the rete and cells pregnant with same, in the stratum papillaris and a general structure similar to the common pigmented mole, with which it bore a deceptive clinical resemblance. Others showed larger masses of fibro-connective tissue in the corium, similar in structure and appearance to that of a true keloid. Others, the sarcomatous appearance that is not uncommonly encountered in the ordinary pigmented mole. A few lesions which were clinically somewhat warty in appearance bore the structure of a papilloma. The lesions which were clinically small rounded

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firm, slightly elevated, reddish brown in color, and telangiectic in appearance, showed histologically dense masses of interwoven bundles of involuntary muscular fibers, distributed for the most part in the papillary portion of the cutis. The elongated nuclei, with rounded extremities were abundantly present and characteristic in appearance and imbedded in faintly-fibrillated cellular substance, which was moderately infiltrated with lymphocytes. The masses of muscular tissue were well supplied with small vessels, with rather thick muscular coats; the muscular tissue seemed to be distributed for the most part around the larger vessels, and a direct connection was apparently evident at some points, which permitted the origin of the muscular tumor to be attributed to the muscularis vasorum. Elastic fibers were well conserved around the mass of involuntary muscular tissue and extended themselves in well-defined septa between the interwoven muscular bundles; well preserved hair follicles were present in normal number and appearance and apparently did not share the muscular hypertrophy. The arrectors pili were not in evidence. Remnants of sebaceous glands were conserved in close proximity of the hair. Sweat glands were absent, and the only remaining pathologic change of any note was a moderate dilatation of a few deeper vessels of the cutis (Figs. 6 and 7).

These cases present the following clinical and pathologic characteristics: The chief clinical feature of Case 1, characteristic of myomata cutis, are the paroxysmal pain, which at times was spontaneous, at times induced by insignificant physical agencies: the yellowish red color, firm character, and rounded appearance of the myomatous lesions. The bluish red dilatation of the cutaneous vessels, which induced the pre-biopsical diagnosis of cavernous angioma, possesses some degree of confirmatory value, inasmuch as it is reported to accompany a considerable number of the cases thus far recorded. The unusual clinical features are the predisposing trauma; the localization of the lesions to a comparatively small area, without evidencing much tendency to multiply in number or increase in size. In Case 2 the individual lesions bear a clinical resemblance, in size, color and form, to most of the cases currently reported, and were multiplied materially in number; some of the lesions also showed characteristic telangiectases. Unquestionably, from a purely clinical standpoint, it can be grouped with the linear nevi, as evidenced by the clinical appearance, and the histopathology of a large majority of the lesions. The entire absence of pain also militated against the clinical diagnosis of myoma. Its early development and congenital nature can be regarded as evidence for as well as against its myomatous nature.

From a purely pathologic standpoint both cases were unquestionably myomata cutis. Both showed interlacing bundles of involuntary muscular fibers, situated for the most part in the upper layers of the cutis, reaching or invading the papillæ and obliterating them by pressure atrophy. They contained the characteristic long rod shaped nuclei with rounded extremities, imbedded in a matrix of finely fibrillated protoplasm, with no line of distinct demarcation between the cells. The point of origin in the first case was apparently the arrector pili, in the second the muscularis vasorum. In other words there was a preponderating overgrowth of involuntary muscular fiber, originating and developing in the cutis, i. e., myomata cutis.

MICROSCOPIC EXAMINATION.

The diagnosis of myoma cutis in probably the vast majority of cases, one might say nearly all the cases, has been stumbled on with aid of the microscope. In some no diagnosis was essayed until after the histologic examination was completed. In not a few the microscope effected a change of diagnosis, from keloid, xanthoma, angioma, zoster, lymphangioma, etc., to myoma, and doubtless *vice versa,* from myoma to other affections. Cases without histologic confirmation would doubtless be accorded doubtful classification value. Recently I saw a woman, with two small circumscribed patches, the size of a bean, on the lobe of the right ear, each containing a number of glistening, elevated, translucent papules, of two years' duration, which failed to exude any fluid on puncture. The affected ear was the site of severe paroxysmal pain, of spontaneous nature. My diagnosis wavered between myoma and lymphangioma, in favor of the former, until the latter diagnosis was confirmed by histologic examination.

In an affection of this character, in which the microscope plays the essential and important rôle in establishing the diagnosis beyond a question of mere conjecture, reduplication of involuntary muscular tissue to the degree of tumor formation must be classed myoma cutis, irrespective of its congenital or acquired nature, idiopathic or traumatic origin, its red, yellow, brown, pink, translucent or normal skin color, its firm, soft, or elastic consistence, its single or multiple character, its development from arrectors pili, tunica media vasorum, or glandular elements, its simple character or associated hypertrophy of blood or lymph vessels, or other elements. These associated conditions may be qualified by such attributive terms as solitary, multiple, congenital acquired, traumatic, idiopathic, lympho, angio, fibro, etc. If these considerations are properly observed, the total number of cases is materially increased, and the affection, though doubtless frequently overlooked, or mistaken for other cutaneous affections, is not as uncommon as certain well accepted reports indicate.

Simple hypertrophy of involuntary muscular fiber is by no means uncommon. It accompanies many of the chronic inflammations of the skin, particularly those which are accompanied with chronic cutis anserina, and creepy and chilly sensations. I have found it constantly associated with pityriasis rubra pilaris, and present in severe cases to an extreme degree. Likewise in porokeratosis, chronic dermatitis, and other chronic paresthetic cutaneous affections. If its simple hypertrophy is easily affected by often slight and dissociated influences, its overgrowth from direct or special agencies is not unlikely.

Of special interest in this direction are the experiments of Vignolo Lutati[31] on animals in reference to the effect of intoxications of the general metabolism on the involuntary muscular fibers and their karyonetic response to stimulating influences. Many cases are reported in the literature without histologic examination, and reported under the head of lymphangioma, lymphangioma cysticum, angioma, xanthoma, keloid, etc., some with, some without histologic reports, that doubtless may have found a place for themselves, with careful and proper observation, under the classification of myomata. A very conservative estimate of well defined cases, worthy of general acceptance, will readily place the number of cases which can be enumerated at the present day, at thirty, and possibly forty.

From our present state of knowledge, the diagnosis must depend largely on the pathologic findings. At least this is the opinion which is most generally expressed, and which has received the most ready accept-

31. Arch. f. Derm. u. Syph., lviii, p. 323.

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ance. Those who reserve for the affection a purely clinical classification, admit in a measure its shortcomings; one of the most representative of these, Crocker,[2] states:

With all these variations in symptomatology it is difficult to find any one symptom absolutely constant; but on the whole the most characteristic features are: The extremely slow and progressive development of the tumors in number and size, the tendency to group into close and semicoalescing patches, and their asymmetrical distributions; the moderate size attained by the tumors, which were seldom larger than a pea; the dull red color, and firm consistence of the tumors, with a normal epidermis over them, and their mobility over subjacent parts; their painless character at first with the subsequent strong tendency to most severe paroxysmal spontaneous and provoked pains; and finally they do not recur on removal.

These symptoms, singly and collectively, are not absolutely characteristic of the affection. Each occurs in other affections, and may be entirely absent in myoma; all collectively present, without a pathologic confirmation, could not establish beyond reasonable question the diagnosis. Pain is absent in probably one-half the cases, and when present may be attributed to neuromata or other forms of painful new growths. Wolters'[20] second cases developed acutely and showed a symmetrical distribution. The lesion in Miglionini's[11] case was single, as large as a hazel-nut, and situated on the knuckle. Herzog's[12] was single, on the cheek; Förster,[6] Sokolow,[7] Santesson[10] and Axel-Key[18] were all solitary cases. Jarisch's[17] case was probably of congenital origin, and Wolter's[20] third case situated over a meningocele, can likewise be attributed a similar origin. The remaining clinical features are sufficiently varied to require no special comment.

The histogenesis of myomata cutis presents some features, which are scarcely less interesting, because of their varied character, than the clinical history. Those who have made histologic studies in this direction are about equally divided in their results: a fairly representative number express their conviction that the derivation of the muscular overgrowth can be traced to the muscular coats of the vessels of the skin, arrectors pili, or the muscular appendages of glandular elements: the remainder frankly admit that their painstaking efforts in establishing a true derivation have been negative in character or purely conjectural. Jadassohn,[25] in his second case, Roberts,[4] Nobl,[32] Neumann,[27] Marschalko,[14] Audry,[9] Broelemann[33] attribute the derivation to the arrectors pili; Crocker,[2] Jadassohn[25] in his first case, Hardaway[34] and Hess[16] to the muscular coats of capillaries; Wolters, Brigidi and Maracacci[26] to the involuntary muscular fibers of the glandular elements and hair follicles. Krzysztalowicz[19] admits his inability to arrive at any definite opinion, but the peripheral portions bore evidence of arrector pili derivation. Jarisch[17] and Lukasiewicz'[13] derivations are indeterminate as respects arrectors pili, glands, or blood vessels. Huldschinsky[5] attributes to the blood vessels a probable derivation. Wolters[20] attributes the probable derivation of his third case to the capillaries, although glandular elements were sparingly in evidence, and a portion of the growth could be readily traced to arrectors pili. Interesting, if not amusing, is the latter's conjectural explanation of the growth and development of the myoma which was seated over a meningocele, on the basis of a compensatory hypertrophy, on the part of Nature to arrest the efforts of the pulsating meningocele to effect a rupture. Personal observation leads me to suspect from the peripheral appearance that the arrectors pili fostered strongly the myomatous hypertrophy in the first case and the musculi vasorum in the second.

It is impossible to determine, however, beyond purely conjectural speculation, whether the muscular hypertrophy had its origin and development in these two respective areas, or whether these structural areas yielded to the general stimulus, which expended itself on all involuntary muscular tissue of the affected area, in degree proportionate to the amount of each present, and its more favored distribution. The latter explanation seems to be the more plausible one, and is analogous to the hypertrophy of all glanduar and epithelial tissue in the immediate neighborhood of an epithelioma, which owes its overgrowth to a similar form of stimulating influence.

On this basis the diversified character of the histogenesis, from glands, arrectors pili, vessels, and all forms of involuntary muscular tissue, is readily explained. All the diversified clinical and physical phenomena find their best explanation on the basis of some such unknown influence, which stimulates the involuntary muscular tissue of the skin to a preponderating development and overgrowth, irrespective of age, area, predisposing causes, and similar inconstant conditions.

The tendency may be inherited, present from birth, and called into activity by the influences of puberty, trauma, etc. Inasmuch as all tissue in general is subject to similar changes, involuntary muscular tissue is probably no exception, and doubtless shares in all the variations of pathologic change, from single hypertrophy to preponderating and irregular conglomerate overgrowth, with all the corresponding gradations of clinical and physical change. In that event the microscope affords the easiest, best and most accurate determination as regards what constitutes, in a generally accepted sense, myomata cutis.[35]

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32. Arch. f. Derm. u. Syph., 1906. lxxix, p. 31.
33. Arch. f. Derm. u. Syph., 1904, p. 163.
34. Am. Jour. Med. Sci., April, 1886, p. 511; also Jour. Cut. Dis., 1904, p. 375.

35. For further literature the reader is referred to Arzovan and Vaillard: Ann. de Derm. et. Syph., 1881, p. 60; Fox: Brit. Jour. Derm., 1902, p. 56; Klob: "Path. Anat. d. Weibl. Sexualorg," 1864, p. 482; Vidal: Jour. Cut. Dis., 1885.

LATE PHLEBITIS FOLLOWING CLEAN ABDOMINAL OPERATIONS.

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Many surgeons have seen iliac and crural phlebitis develop from the tenth to the twentieth day (usually about two weeks) after abdominal operation which had been aseptic throughout and followed by prompt and perfect healing of the wound.

A disease which appears so unexpectedly and converts a simple operation, with the promise of speedy recovery, into one of suffering, inconvenience and prolonged confinement and disability, merits further study and consideration. Though seldom fatal, it is always a most unwelcome complication and a vexatious disappointment to both patient and surgeon.

The typical cases seem to occur after an interval operation, for example, a clean appendectomy.

In 1903 I expressed the opinion[1] that I had never seen

1. "The Sequels and Complications of Appendicitis," Colorado Medicine, April, 1903.

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