REPORT OF A CASE OF FIBROMA MOLLUSCUM.*

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NARRATION OF CASE.

The patient to whom I wish to direct your attention is a young lady, 25 years old, whose parents are living and healthy. She has several brothers and one sister, who are also in perfect health. No member of her family has had skin lesions similar to hers. There is no family predisposition to tuberculosis, carcinoma, malformations, developmental defects, nevi or insanity. Syphilis may be excluded. Her parents are well-to-do. She has always enjoyed the comforts of a good home, and has never been exposed to the inclemencies of weather. She has never done hard work. Her time has been spent in school and in travel. She has never had a severe illness, excepting spinal curvature, which necessitated the use of a spinal brace from the age of 10 to 16 years. She menstruated when 16 years of age and has been regular.

PRESENT CONDITION.—The patient consulted me because of seborrhea of the scalp, which has recently caused considerable loss of hair, and also because of an eruption of the skin which has been present ten years. The eruption does not produce itching or other subjective symptoms; it is annoying simply because of its cosmetic effect. It does not appear in crops; it is a steady, continuous development, constantly increasing, never disappearing, but the increase is very gradual. It is imperceptible from month to month. It can only be noticed by comparing her present condition with her condition as it was several years ago.

On examination we find that there are two kinds of lesions present: spots of pigmentation and tumors.

PIGMENTATION.—The spots of pigmentation are lentigo-like, of a yellowish color, some being of such a light shade of color as to be scarcely perceptible, while others are like freckles, or the pigmentation of senile atrophy of the skin. The disease began ten years ago with the appearance of these pigmentary lesions. They are found scattered here and there over the chest, abdomen, back, arms, upper part of the forearms, thighs and upper part of the legs. They do not coalesce or follow the course of nerves. They occur sometimes in groups of six to ten, and sometimes they show no tendency to grouping. The individual spots are oval or rectangular in form. They are from pinhead to split-pea size, and somewhat larger. They are somewhat darker in the center than on the periphery.

The skin of the feet and lower part of the legs, the hands and lower part of the forearms is normal. The neck is thickly set with split-pea size pigmentations of a bronze color. The skin of the face is of a light bronze color, which, fortunately, is not mottled, hence it is not very noticeable.

The patient and the members of her family are very positive that this pigmentation of the face has been present since birth, and that only the freckle-like lesions are a later development. They believe that the skin of the face is of a darker hue simply because the patient is a brunette.

That it differs from the normal skin may be shown by the contrast of color when the back of the hand is placed near the cheek.

THE TUMORS.—These lesions commenced to appear seven years ago, and three years after spots of pigmentation were first discovered. They begin as flat plates of induration, of a doughy or pasty consistency, situated in the derma. They are oval or rectangular in form, with a long diameter of from one-half to one centimeter. The color of the integument covering the plates is sometimes normal, in which case they can best be detected by palpation. Sometimes it is of a pinkish or rosy hue. Sometimes the skin is slightly elevated, and sometimes there is no elevation. Sometimes plates develop beneath a spot of pigmentation, and again they do not.

Later, the central portion of the plates softens and becomes slightly elevated, presenting a pseudo-vesicular lesion surmounting the disk. In still older lesions this central softening increases, the pseudo-vesicular lesion becomes elevated one-half to one centimeter, and even more, forming a gelatinous teat-like tumor, the apex of which presents an opaque, mother-of-pearl appearance, resembling collodion or the umbilical cord, while the base of the tumors is covered with normal integument. Some appear as if they were about to rupture, a method of involution which has never been observed, nor have any of them disappeared, leaving scars.

The largest of these tumors (Fig. 2) is situated in the popliteal space of the left leg. It is the size of a hazelnut.

One is quite convinced that, if incised, a jelly-like contents may be squeezed out, but such is not the case. They simply bleed profusely. There are about 100 of these tumors scattered irregularly over the entire body. A few are beginning to appear on the face; on the extremities they are situated mostly on the flexor aspect. There is one on one foot and another on a finger.

By placing a finger on one of these nipple-like tumors it may easily be pressed downward into the skin, conveying a sensation as if the integument is pierced by a hole; the wall of this hole is firm and formed by the peripheral portion of the tumor, which has not yet undergone softening. This peculiarity was also observed in Taylor's case. When released, the tumor springs back to its normal position.

On the back are three sessile fibroma molluscum, and one plaque of pigmentation larger than the lentigines. It is about two inches long and one inch wide. There is another similar plaque on one thigh. (See Fig. 2.)

On the anterior surface of the chest there are two or three punctate, bright red, elevated, telangiectases, angioma simplex of Virchow, angioma senilis of Dubreuihl.

The mental condition of the patient is normal. The mucous membrane of the mouth is normal. The finger nails and toe nails and hair are normal. The urine is normal. All visceral organs are normal. The pulse and temperature are normal.

The thyroid gland is not enlarged, and there are no enlarged lymphatic glands. None of the stigmata of hereditary syphilis are present. There are no tumors about the eyes, and no pterygium.

POSSIBILITIES OF DIAGNOSIS.

We must consider the possibility of this being two distinct and separate diseases in the individual, one of which is a pigmentary disease and the other multiple tumors, and we must also study the case with the possibility in view that this is a single disease, producing both pigmentation and tumors.

Xeroderma pigmentosum requires no serious consideration where there are present lentigo-like pigmentations of long standing, without telangiectasis, atrophy and epitheliomata.

Lipomatosis subepidermalis universalis of Kromeyer,[1] might be considered in connection with the tumors alone.

Kromeyer, you will remember, observed a girl of 10 years of age, who, since infancy, had had lesions on the body, which the mother called blisters. The lesions looked like the bullæ of pemphigus, but were firmer. After incision, fat tissue was squeezed out and microscopical examination of excised tissue showed that the lesions were fatty tumors, situated in the derma.

In Kromeyer's case there was a greater resemblance to bullæ than in my case, and pigmentation was not present.

Inasmuch as Osler[2] has stated that pigmentation of the skin is a common event in splenic anemia, and as there is one case on record of fibroma molluscum in which splenic anemia came into consideration, the case of Webster,[3] the clinician should carefully consider this possibility of diagnosis in all cases where the pigmenta-

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tion is accompanied by enlarged spleen and chronic anemia.

Osler describes the pigmentation of this form of anemia as being of a steel-gray color, like in argyria, and he states that it is possibly produced by arsenic.

Arsenical melanoderma could be excluded in my case, because of the fact that part of the pigmentation, that there are a few cases on record of freckle-like pigmentation occurring in Addison's disease.

The patient had what was diagnosed as curvature of the spine in youth. Why is it not possible that this was tuberculosis of the spinal column, or Potts' disease, and that we now have tuberculosis of the suprarenals? Examination of the spine shows no deformity or thicken-

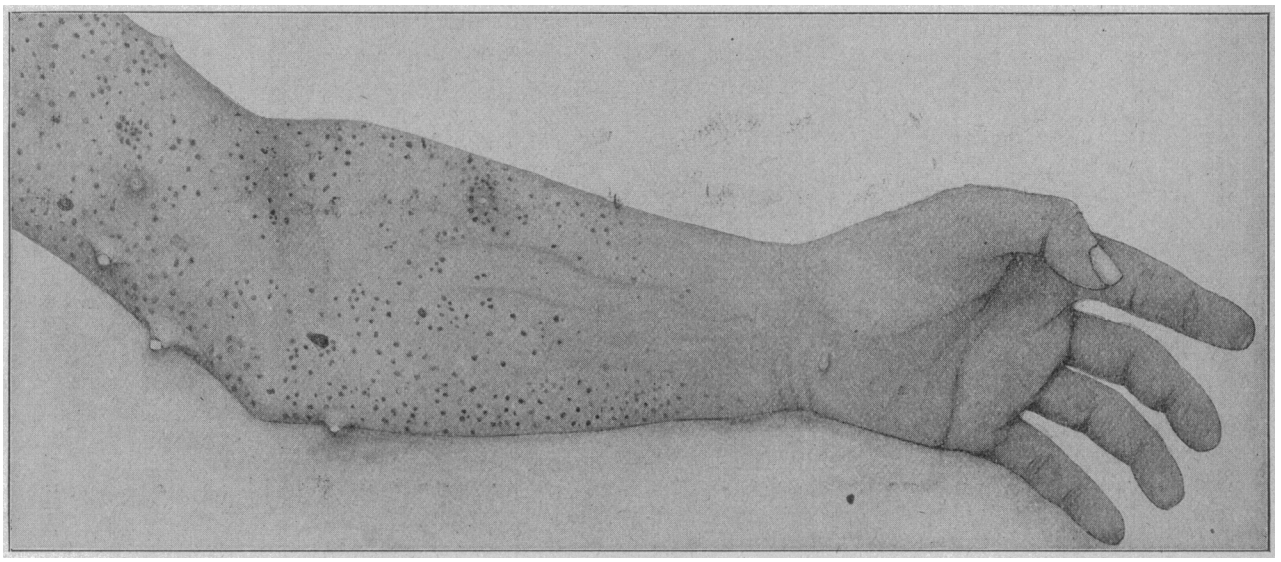

Fig. 1.—The lesions on the arm.

of the face, was present at birth and also because of the fact that the patient took no medicine before the freckle-like eruption appeared, when the patient was 15 years old.

Colloid degeneration of the skin differs from our case in the fact that the tumors in that disease are waxy

ing of the bone. The disease has lasted ten years, and there are only two cases of Addison's disease on record which lasted that length of time.

Levin[4] says that the mucous membrane of the mouth is pigmented in 22 per cent. of the cases of Addison's disease. Those parts of the body in which we would

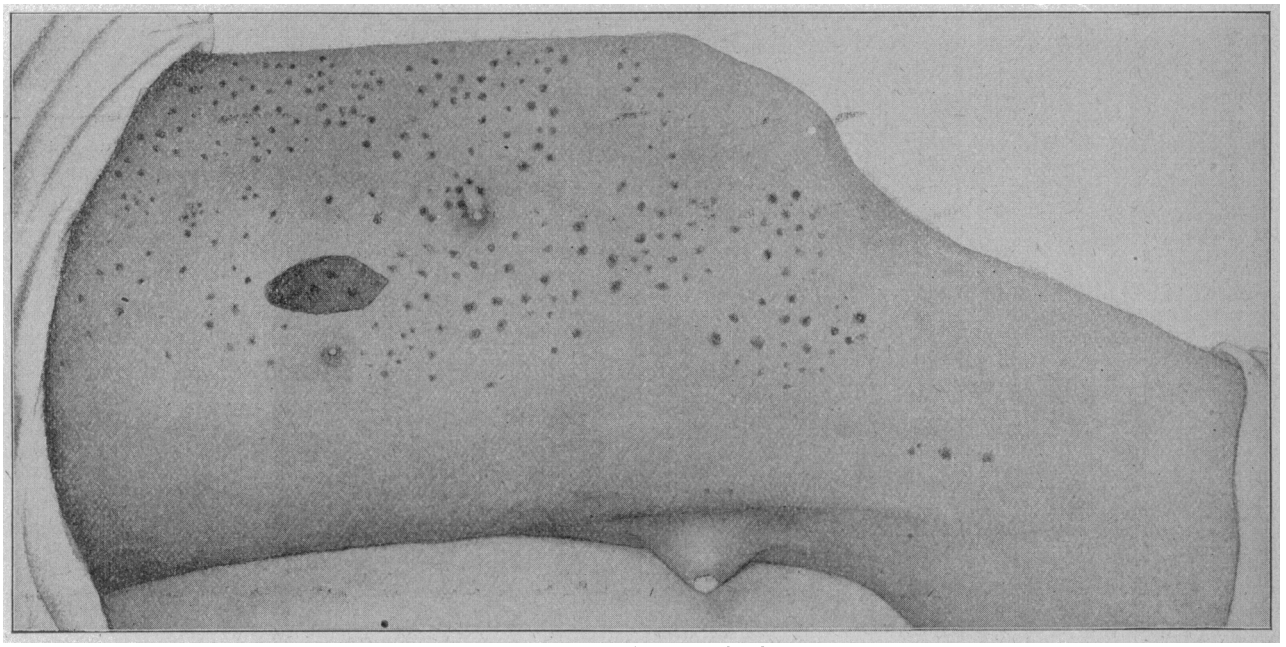

Fig. 2.—The lesions on the leg.

and not so large, so soft or so disseminate, and pigmentation is not present.

Addison's disease should be carefully considered as a possibility of diagnosis, as there are several cases on record in which cutaneous tumors were present, and also because it is possible that the statement of the patient and her family that the bronze pigmentation of the face was present at birth might be incorrect, and

especially expect to find pigmentation, such as the axillary region and nipples, are not especially involved.

Fibroma molluscum is the only other diagnosis which requires serious consideration, and it is also the only diagnosis which is sufficient to explain both the pigmentation and the tumors.

Pigmentation has frequently been observed in this disease. The tumors which we have described are not

the ordinary pedunculated and sessile tumors of fibroma molluscum, but they resemble in many particulars the tumors present in Taylor's case.[5]

Microscopic examination confirms this clinical diagnosis. A spot of pigmentation and also pseudo-vesicular tumor were removed from the arm with a cutaneous punch. The specimens were hardened in Zenker's fluid, passed through Gram's solution, successive strengths of alcohol, imbedded in celloidin, and the sections stained by various methods.

The Pigmentary Lesion.—The stratum corneum is thickened, especially around the follicles. This thickening is not due to an increase in the number of layers of the horny layer of the skin, but to the fact that the individual cells of this layer are less compressed than normal. They are more hexagonal in form than in any other case of fibroma molluscum I have examined. This peculiarity of the stratum corneum is present in all parts of the pigmentary specimen, and also in the tumor specimen. Sections taken from the peripheral portion of the pigmentary lesion show the pigment irregularly scattered through the rete Malpighii, being present in abundance in some parts of a section and almost absent in other parts. It is located especially in the deeper layers of the rete and, in general, resembles the pigmentation of the negro. In the peripheral sections we note some tendency to the downward prolongation and dumb-bell shape of the rete pegs mentioned by Unna in describing pigmentary nevi, certain sarcomas and xeroderma pigmentosum.

On cutting the central portion of the pigmentary lesion, we are surprised to discover a microscopical-sized molluscum, the presence of which we did not clinically suspect. It is located around a sebaceous gland. It does not differ in structure from the tumor present in our tumor specimen. The epidermis over it shows far less pigment than sections taken from the periphery of the specimen.

The Tumor.—The mucous layer, especially over the central portion of the tumor, shows pressure atrophy.

Stained with polychrome methylene blue or by Van Gieson's method and examined with the lower power of the microscope, the tumor mass appears to be composed of a gelatinous or colloid mass, showing some fibrous structure in the peripheral portion of the tumor, but absolutely structureless in the central portion, until the diaphragm of the microscope is closed, when it may be seen that it is nowhere devoid of structure.

The gelatinous mass is thickly studded with strongly refracting nuclei of connective tissue cells. Mast cells are not present in this tumor. We have observed them in some cases of fibroma molluscum, always located on the border of the central gelatinous mass. We can not concur in the opinion of Unna that fibroma molluscum is made up of misplaced epithelium cells. It is my opinion that the entire tumor is composed of a myxofibrous connective tissue of embryonic type, the individual cells of which are occasionally round, but usually are spindle-shaped or else show various modifications of the spindle-shape, and that the nuclei which show such great power of refraction are the nuclei of these spindle-shaped embryonic connective tissue cells.

It is extremely difficult to obtain good preparations of the individual cell. The technic which proved most satisfactory in my hands is the following: A thin section is stained with hematoxylin and eosin. The collodion is dissolved out of it. It is shaken in a test tube for one-half hour. This tears the specimen. A minute fragment of the specimen is selected, teased with needles, and mounted in glycerin, or the specimen may be stained with polychrome methylene blue, in which case I decolorize in wood alcohol rather than in 33 per cent. tannic acid, which is employed by Unna.

I agree with those authorities who believe that fibroma molluscum is a developmental defect. Their point of origin has been the subject of much discussion since von Recklinghausen advanced the theory that they develop from nerve sheaths. I concur in the opinion of Crocker, who says that they may originate anywhere in the derma or subdermal tissue.

For some unassignable cause, the embryonic connective tissue cells which are spindle-shaped and have elongated nuclei, retain these characteristics in certain locations, and in extrauterine life these deposits of embryonic connective tissue develop, forming the tumors which we clinically call fibroma molluscum.

Being a developmental defect, we are not surprised that fibroma molluscum should exist in families, though this is by no means as common as some writers would have us believe, nor are we surprised that it should sometimes be accompanied by other developmental defects, such as asymmetrical development of the face, as in the case of Danlos,[6] or generalized ichthyosis, enlarged thyroid and nervousness, possibly Basedow's disease, as in the case of Hallopeau,[7] or fibroid tumors of visceral organs, or mental defect, as in a number of cases, or that accompanying the general pigmentation, the skin of the neck should present the appearance of xeroderma pigmentosum, as in the case of Brigidi,[8] or that there should be present patches, one-half of which were telangiectases and the other half pigmentation, as in Crocker's case.

I believe that telangiectases occur in association with fibroma molluscum far more frequently than is generally believed.

CENTRAL SOFTENING OF FIBROMA MOLLUSCUM.

The point of greatest interest in connection with the tumors of this case is the central softening which was present in the older tumors. Reasoning *a priori*, one would suppose that the central softening was due to degeneration analogous to that which may be observed in uterine fibroids; such is, however, not the case. I can find no difference in the histologic structure of those tumors which clinically show central softening from those which do not show central softening.

I believe central softening is due to location and the manner of growth. Where the tumor is superficially located and tends to spread laterally, as it increases in size, central softening will occur, while where situated more deeply and showing less tendency to lateral development, it will assume the ordinary forms of sessile and pedunculated or subcutaneous fibroma molluscum.

THE PIGMENTATIONS OF FIBROMA MOLLUSCUM.

In my opinion, pigmentation is just as much a part of fibroma molluscum as is tumor formation.

Stelwagon[9] is almost the only author of a text-book who describes these pigmentations. He says: "Other lesions sometimes associated are brownish pigmented stains, sometimes freckle-like, small or large areas, and occasionally more or less defined discolorations. While, as Wickham states, some authors touch on this feature, present in many cases, by others it is entirely ignored. In Wickham's eight generalized cases such pigmentary conditions were present in all."

Brocq[10] says that these pigmentations are nevi and that they are usually present in association with the tumors of fibroma molluscum.

Besnier[11] says the tumors are nevi, but makes no mention of the pigmentations.

There have been a good many cases reported in which pigmentations were present.

The pigmentations are of two kinds—large plaques and lentigines. The large plaques are the more common. They have a distinct outline. They are dollar to hand size, and even larger, and present various shades of yellow and brown color. Sometimes there is but a single patch present, and sometimes the patches are quite numerous. The back is their favorite seat of location.

Why abnormal pigmentation should be present in some cases of fibroma molluscum and not in others is not known.

The histology of pigmentations occurring in association with developmental defects has not been sufficiently studied. Even in the latest reported cases of xeroderma pigmentosum and fibroma molluscum, the microscopic findings of the pigmented areas are not recorded.

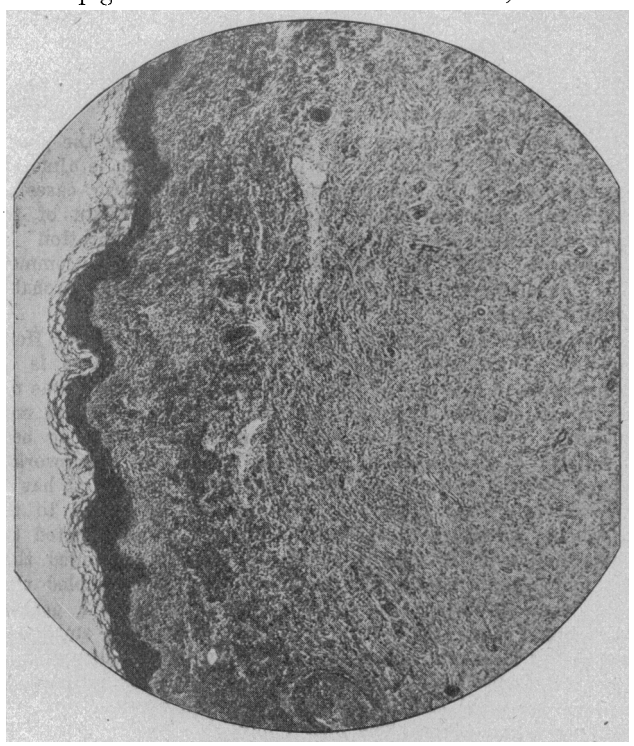

Fig. 3.—Tissue under low power of microscope.

Duhring[12] says: "While, in the white race, pigmentation of the skin is due mainly to the deposit of pigmentation in the mucous layer, the connective tissue of the corium probably plays the principal part in its production. This observation is particularly noticeable in pathologic conditions."

Fibroma molluscum, as is well known, is a common malformation in the colored race. I have observed the large plaque variety of pigmentation on the backs of negroes on several occasions. They stand out prominently from the general pigmented surface, because of a different shade of color. The freckle-like form I have only seen in the white race; it is rare, and when present is usually associated with large plaques and is apt to have an extensive distribution.

Severe and wasting diseases sometimes precipitate the development of both the tumors and the pigmentations; in fact, patients often state that the first evidence of disease was observed after an illness. Careful questioning, however, usually elicits the fact that there were some lesions present since infancy.

I am convinced that some cases of this character have been reported as cases of Addison's disease associated with tumors, and where no disease of the suprarenal capsules was found on postmortem, arsenic has usually been assigned as the cause of the pigmentation. That there could possibly be any relationship between the pigmentation and the tumors is not mentioned in the report of any one of these cases. When once observed, the diagnosis of the pigmentation of fibroma molluscum is not a matter of difficulty. Had my case been seen in infancy, at which time there were no lesions present excepting a light bronze color of the face, contracting with the color of the general integument, we undertake to say that there are but few clinicians who would have diagnosed beginning fibroma molluscum, and yet this diffuse light pigmentation of the face is, in my opinion, one of the characteristics of this condition, worthy of especial attention, as I have seen it in other cases.

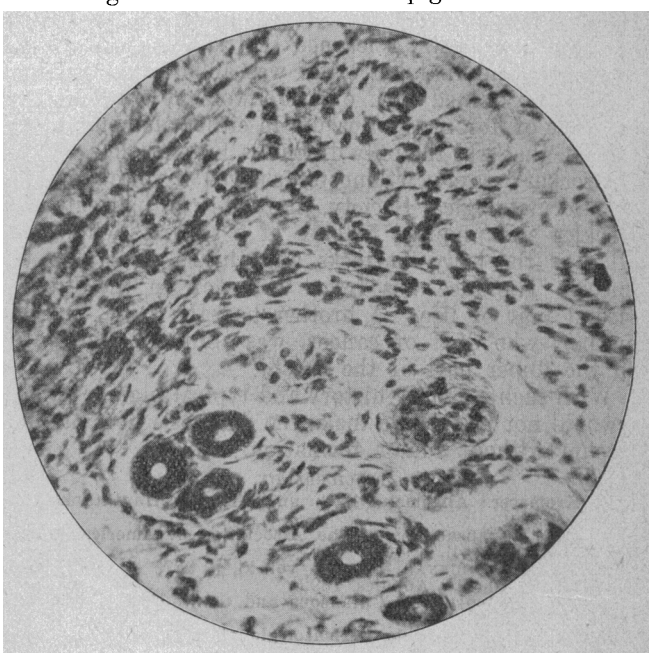

Fig. 4.—Same. High power.

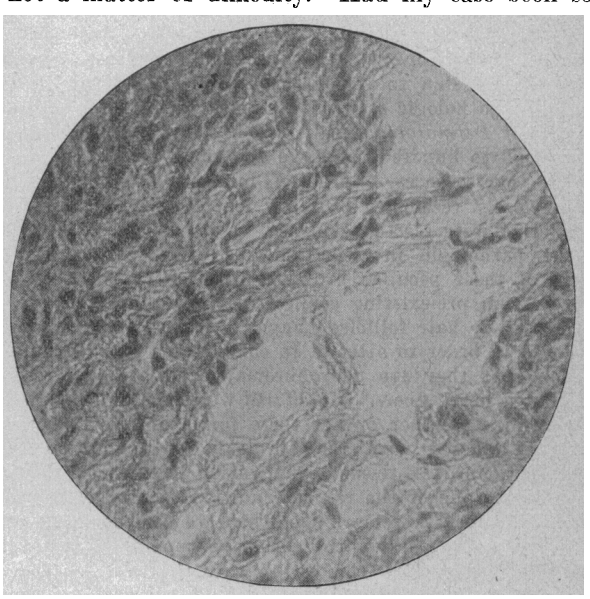

Fig. 5.—Teased specimen of tissue.

Cases may be observed in which tumors are present without pigmentations. Cases may be observed in which both tumors and pigmentations are present, and I believe cases may be observed in which pigmentations are present without tumors.

A few years ago I observed a lady who presented a peculiar pigmentation of the face. It was diffuse, of a light yellow shade of color, very noticeable, limited to the face and neck. I learned that she had always had this color and that her sister was afflicted in the same way. I examined both of these women, but found no evidence of fibroma molluscum in either of them; nevertheless, that was the only diagnosis I could offer.

Crocker[13] says: "Sangster showed a young man to the Dermatological Society, in 1893, who had extensive freckles and pigment patches of a square inch in size all over the body, buttocks and thighs, nearly to the knees. The face was free. It began in the first or second year of life. A brother had the same, and his mother, who died of cancer, was similarly pigmented on the upper part of the chest."

With such a family history and typical pigmentations, I would not hesitate to make the diagnosis fibroma molluscum without tumor formation.

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DISCUSSION.

DR. M. L. HEIDINGSFELD, Cincinnati—Dr. Anthony's instructive paper appeals to my particular interest, because I have had occasion to report some clinical data and the results of a pathologic study of a typical case in the *American Journal of Dermatology*, July, 1900. This case also showed, in addition to hundreds of large and small sessile and pedunculated excrescences, a large number of pigmentations which closely resembled ordinary lentigines. Small areas of leucoderma were also in evidence. I endeavored to determine in the pathologic investigation the exact nature and the origin of these peculiar growths, whether or not they were derived from pre-existing connective tissue (Rokitansky) fat, (Virchow) or hair follicles (Fagge). No special technic was employed in order to attempt to confirm von Recklinghausen's opinion that they are neurofibromata and are derived from medullated nerve fibers. My efforts were particularly directed to determine whether or not these forms of growth could be distinctly classed with the fibromata or connective tissue tumors. Connective tissue reduplication in the form of tumor formation is one of the rarest conditions encountered in dermatology, which is remarkable when we consider with what frequency and facility the other elements of the skin, glands, epidermis, fat, etc., reduplicate themselves. There is only one distinct form which can be readily classed with the true fibroconnective tissue tumors, and that is true keloid. False keloid, because it shows no tendency to enlarge or progress beyond a certain point, can scarcely be classed with the fibroconnective tissue tumors. The cells of the molluscum fibromata contained irregularly or oval-shaped nuclei, uniformly distributed in an almost homogeneous intracellular substance, which is faintly fibrillated, but the fibrils can not be traced to any distance, as in the case of the ordinary forms of fibroconnective tissue, and even embryonic connective tissue. Although the cells are somewhat spindle-shaped, there is no marked progressive change towards elongated connective tissue-like spindles, and nowhere is there any evidence of a distinct connective tissue formation, which is an important link, when we try to class these growths with the embryonic connective tissue group. There are many minor distinguishing features which also serve to distinguish these growths from each other and place them in separate classes. In other respects my findings conform to those of Dr. Anthony. Hair follicles were present, but showed no cystic dilatation and no hypertrophy, but rather pressure atrophy. Mast cells were abundantly present, particularly at the periphery of the growth in the surrounding connective tissue.

DR. L. DUNCAN BULKLEY, New York—In regard to therapeutic measures in these cases of molluscum, we know nothing to do for them as a rule but excision. I have a man under my care who must have had many thousands of these little tumors. I have been using on some of these little tumors a high-frequency electric current with a carbon electrode. The effect of this is to inflame them and cause a superficial slough; under this many of them have shrunken down and are disappearing. As far as I know this is a new method of treating multiple fibroma. In the three or four weeks I have been applying this method many of the tumors have shrunken and disappeared. I merely suggest it, but would like to have those who have static machines try it.

DR. JOHN A. FORDYCE, New York—I find among the photographs which I brought to the meeting one which is almost a counterpart of Dr. Anthony's. I have seen two cases of molluscum fibrosum with pigmentation of the skin of the type he describes. Minor grades of pigmentation in connection with the affection are not so uncommon. The development of the two conditions are probably closely related.

DR. HENRY G. ANTHONY, Chicago—In answer to Dr. Heidingsfeld, I excluded xeroderma pigmentosum. There is no leucoderma in this case; I did not mention it because I was not trying to embrace everything known regarding fibroma molluscum. The histology of fibroma molluscum has long been a subject of discussion and a great many men have worked along the line of trying to determine what relation it has to the nerves. They have not paid sufficient attention to the histologic structure of the cells. When I had separated the individual cells so that I could see them I concluded they were embryonic connective tissue cells; they resembled that more than anything else. I took my specimen to a general pathologist and asked, "Do you think those are embryonic connective tissues?" He said, "Certainly! where did you get them?" Then I consulted another man without telling him where I obtained the tissue, and asked him what it was. He said the same thing. The idea I have in mind is this: We know that the cells of the embryo are first round and then they become spindle-shaped with a marked nucleus, and under normal conditions these embryonic cells are transformed into connective tissue cells in the latter part of intrauterine life. For some reason, possibly the presence of the toxins of the chronic infectious diseases, this change does not properly proceed in certain locations, scattered here and there over the surface of the body. Then the individual is born with deposits of embryonic connective cells, the presence of which is not suspected until the system is subjected to a severe strain, such as puberty, as in my case; then these hidden deposits of embryonic connective tissue grow and produce the tumors which we call fibroma molluscum. Supposing the strain which caused these deposits of embryonic connective tissue to develop should be tuberculosis of the apex of the lung, when the diagnosis which has always been made up to this time has been tuberculosis of the lung, pigmentations of Addison's disease, from tuberculosis of the suprarenal capsule and "tumors which the dermatologist calls fibroma molluscum." In other words, the clinician does not realize that there is a relationship between the tumors and the pigmentation. As I have shown, any pathologic condition of the derma may cause a hypertrophy of pigment in the epidermis, hence were concealed deposits of embryonic connective tissue cells present in the derma they could easily produce a case in

which pigmentation would be present without tumor formation.

The case Dr. Fordyce shows closely resembles mine and the fact that pigmentation was also present in his case should convince every one that I am right in stating that it is an essential part of fibroma molluscum.

THE TREATMENT OF LEPROSY.

DISCUSSION ON THE PAPER READ AT NEW ORLEANS BY A. H. OHMANN-DUMESNIL, ST. LOUIS.*

DR. JAY F. SCHAMBERG, Philadelphia—Some of those present will doubtless remember the reports published by Dr. Dyer a few years ago on the results of antivenomous serum in the treatment of leprosy. I had occasion, three or four years ago, to use in the Municipal Hospital of Philadelphia some antivenene, obtained from Dr. Calmette of Lille, France. The leprous patient received 9 injections of this serum, each injection being followed by a febrile reaction. At the end of the ninth injection the temperature rose to a considerable degree and the patient passed through a long febrile course which was recognized as a typical typhoid fever, which disease was prevailing to an alarming extent in Philadelphia at the time. The development of typhoid fever was, of course, a pure coincidence. The leprous manifestations were not influenced by the serum nor by the typhoid fever, and the fever itself was not in any way modified by the chronic infectious disease from which the patient was suffering.

DR. J. H. DUNCAN, St. Louis—We do not see much of leprosy in St. Louis. About two years ago I had a patient living in one of the Gulf cities. I exhibited the case to our Willan Dermatological Society. Examination was made of sections from the nodules by Dr. Engman, and it was pronounced leprosy. One case of leprosy from St. Louis had been to Unna and returned after two or three years apparently cured; there were no lesions and the patient seemed well, as our cases of syphilis seem well. I was not prepared to treat leprosy, and at the suggestion of Dr. Engman I referred this lady to Unna, and she went. That is over two years ago, and she has written me probably three letters, each letter stating that she is improving, the disease is disappearing, but the Doctor tells her she must stay a year or two longer. A few months ago her brother came to me with letters and pictures from her, photographs of the condition of parts of the body taken when she went to Unna and of the same parts taken eighteen months after she went there, and the change in the appearance of the part to me, who am not very familiar with leprosy, was most marked. She wrote most glowing letters about the disappearance of the lesions.

Dr Dumesnil speaks of a cure. I do not know what he means, but the case which came back from Unna three years ago is to all appearances well. I am told he still takes internal medicine.

DR. M. P. VANDERHORCK, Minneapolis—I have had some experience with leprosy in Minneapolis. We have in Minnesota on record some 78 or 79 cases, mostly among Norwegians. In the treatment of those under my care I use local applications of chrysarobin, and I have seen nodules disappear in a day or two by being covered with chrysarobin paste. We have gotten good results from chaulmoogra oil; it always improves them. I had one patient who had lost one eye and had ulcers all over the body, the nodules being very pronounced. At the time he came under my care he weighed 120 pounds; he was taken to the City Hospital and isolated. We put him on chaulmoogra oil, with good food and hygiene, and later on he weighed from 190 to 200 pounds, and kept in good health ten years, until he died from an attack of pneumonia. None of these cases has been cured; relapses would come after the medicine was stopped, and sometimes the symptoms were graver than before. We have no ideal treatment for it; there is no cure we know of, but we all hope much from serum therapy. Our health officer has been watching the cases throughout the state, and with improved hygienic conditions is getting good results. The first case I mentioned came under my care in the fall of 1888, and I had him under close observation for ten years. He died in good condition so far as the leprosy was concerned. Others have died from tuberculosis.

DR. J. N. ROUSSEL, New Orleans—I would like to report a case in a man treated with chlorate of potash. The man was 50 years old. He had had the disease two or three years. The foreleg and feet were very much tumefied from about the middle third of the foreleg, with many ulcers present. The hands were also badly involved with tubercles and ulcers. The disease was of the tubercular type, and, strange to say, one side (the right side) was always worse than the other. He had lost the power of sensation entirely. I could apply the cautery to him without pain. After two months' use of the chlorate of potash the tumefaction began to disappear, sensation began to return, the ulcers all healed, and to-day, after about a year, he seems to be apparently well. He has no ulcerations, feels well, sensation is normal, and in every respect he is apparently well.

DR. JOHN A. FORDYCE, New York—In the class of infectious granulomata to which leprosy belongs it is not unusual to see the tumors disappear by spontaneous involution. We see it in syphilis. I have had a good many lepers under observation in the hospital, and under better hygienic conditions and chaulmoogra oil the tumors disappear, but they usually come back again, while the patient's general condition grows worse. I have personal knowledge of one case in which a cure has resulted. This patient, a well-to-do woman, was under the care of Dr. Morrow of New York. She showed the pigmentary lesions of anesthetic leprosy. The Doctor informs me that he saw her within the last year and that all the skin lesions and the anesthesia had disappeared. She had had no recurrence after eight or ten years. That is the only case in which I have personal knowledge of a cure. I think in the anesthetic type the prognosis is much more favorable and a certain number of cases do get well, but they are usually badly deformed. In this particular case there seemed to be an absolute cure with little evidence of the disease having been present.

DR. A. H. OHMANN-DUMESNIL, in closing the discussion, said: Of course, we can all detail apparent cures. For instance, in the case of a woman from Mexico, a case of tuberculo-anesthetic leprosy, sensation was entirely gone all over the body. Under heavy doses of ichthyol internally, four grams three times a day, she had a well-pronounced ichthyolic fetor; in two weeks the tumors disappeared, and if I passed a fine hair over her neck she felt it. Unfortunately, she did not live long; in the St. Louis cyclone she fell dead of fright. I have been very unfortunate in not being able to follow cases for years. I have seen a cured (?) case of Unna's. In this pyrogallic acid was used for the tubercular lesions, and he gave her internal treatment with ichthyol. She improved some until she arrived in St. Louis, when she gradually got worse and worse and suddenly disappeared. So far as the cure is concerned, I found in these cases when I went deeply into the tissues I could find microbic changes indicative of the lepra process or the bacillus of Hansen. Until everything gives reactions and permits us to see that the tissues are all normal and the absence of specific bacteria is demonstrated, we can not say a case is cured. I am doubtful of the cure of a case of leprosy up to the present because we have had no opportunity of proving the matter definitely. Another thing, there is a question as to whether a supposed cure of leprosy is placed under conditions which will prevent a relapse. Is the patient so placed that there is no possibility of environment favoring a relapse? If the patient can be segregated for a number of years we can argue from that basis, but if other conditions are permitted to work, if there is the possibility of the original potential condition, it is difficult in order to secure proof of a cure to eliminate all the factors which may be potential in the development of the disease.

*The paper appeared in THE JOURNAL, May 16. 1903.

The Degenerate Thermometer.—Some physicians have been testing thermometers in common use in hospitals, and find them to vary in some cases as much as two and one-half degrees. In connection with the advertisements of cheap thermometers and of thermometers given as premiums, the warning is timely.