

been made. On December 7 I ordered Whitfield's ointment, which is said to have made the occipital lesion redder, but the smaller patches, which are also red, have not been treated at all. There has never been any suppuration or any other kind of moisture.

The patient has been previously shown to the Section (W. N. Goldsmith and W. Freudenthal (see *Proceedings*, 1935, 28, 1528, Sect. Derm. 62) as a case of epithelioma adenoides cysticum. The tumours were very minute, and some of them had a comedo-like plug. Their origin from hair follicles was demonstrated histologically.

Comment.—At first sight the large lesion looks like a resolving kerion. But it has never suppurated. Moreover, the smaller lesions, which have only been noticed during the last few days have a closely similar appearance to the oldest lesion. Again the examination of numerous stumps failed to reveal any fungus. If it is alopecia areata I cannot account for the inflammation, and still less for the central ulceration in the smaller patches. The stumps have not the exclamation-mark shape. I suppose one must consider lupus erythematosus, but there is no characteristic scaling, and the fall of hair has been very early, before any unmistakable atrophy.

Could there possibly be any connexion with the extensive epithelioma adenoides cysticum?—a neoplasm connected with the hair follicles?

Nodular Non-diabetic Cutaneous Xanthomatosis with Hypercholesterolaemia and Atypical Histological Features.—F. PARKES WEBER, M.D., and W. FREUDENTHAL, M.D.

I.—Clinical Account (F. P. W.)

The patient, D. J. L., a man aged 35, general labourer, began six months ago to suffer from pains and stiffness in various joints, which obliged him to give up work. Since then he has had varying swelling of the knee-joints and of the tendon-sheaths at the backs of the wrists, now hardly noticeable. During the last six months cutaneous nodules (freely movable over the deeper parts) have been appearing over the hands, mostly over the back of the fingers and thumbs, and mostly near the joints; they are hard and reddish, averaging a small pea in size. During the same period similar nodules appeared over the ulnar ridges, up to the size of a cherry over the right olecranon; two pieces were excised for biopsy purposes from the left elbow, and one pea-sized nodule from over the base of the left index-finger. Numerous smaller nodules are to be seen over the external ears, and still smaller ones on the face, especially over the borders of the lips and nostrils. Some of the minute facial nodules have a yellowish-red colour. None of the nodules have been itching or painful or tender to pressure, except the large ones at the elbows.

There is nothing especial in the past history, excepting that the patient had dysentery in 1920 in India. One of his sisters has chronic deforming rheumatism, and has to be wheeled about in a chair. The patient was kindly sent into hospital to me by Dr. M. B. Ray, and he has been in hospital under my observation since November 14, 1936.

In the hospital there was occasional slight fever in November. By ordinary examination of the thorax and abdomen and by X-ray examination of the thorax and bones of the hands and feet nothing abnormal is found; nor is there anything special to be noted in regard to the nervous system and eyes (fundus, normal) and internal parts of the ears, nose and mouth (including the pharynx). There is no thickening of the ulnar nerves at the elbows. The urine shows nothing abnormal (unless very slight excess of urobilinogen), and no alimentary glycosuria follows the ingestion of 50 grm. glucose. Fasting blood-sugar: 0.070%. Blood-sugar curve normal. There is definite hypercholesterolaemia. Blood-serum cholesterol on the first occasion was 230 mgm. %, and on the second 350 mgm. %. Fractional examination of the gastric contents shows complete absence of free hydrochloric



FIG. 1.—Photograph of the right hand, November 14, 1936. This reminds one of D. Adlersberg's fig. 3 (xanthomatosis), *Arch. f. Dermat. u. Syph.*, 1925, vol. 148, p. 504.



FIG. 2.—Photograph of the right elbow, November 14, 1936.

acid, even after a subcutaneous injection of histamine; pepsin present. The blood-serum, which is clear but somewhat over-coloured, gives a negative direct, but definitely abnormally positive indirect Hijmans van den Bergh reaction. Wassermann and Meinicke reactions negative in the blood. Pirquet cuti-reaction negative. Blood-sedimentation, not decidedly accelerated. Blood-urea: 36.5 mgm.%. Blood uric acid: 3.7 mgm.%. Non-protein nitrogen in the blood: 30.5 mgm.%. Blood-serum calcium: 8.5 mgm.%. Blood-count (November 24): Hb. 84%; erythrocytes 4,500,000; leucocytes 3,500; (eosinos. 7%; polymorphonuclear neutrophils 45%; lymphos. 45%; monos. 3%). For the blood-cholesterol and several biochemical data, I have to thank Dr. M. Dannehl. I am also indebted to my house-physician, Dr. A. Schlüter, for help in the examination of the case.

I would point out that in this patient it seems probable that some of the synovial membranes are involved as well as the skin, and in view of the decided hypercholesterolaemia, I am thinking of trying a fat-free diet, as Dr. F. R. B. Atkinson tells me it has been employed with great success by Professor M. Bürger (of Bonn) in a child with the Hand-Schüller-Christian disease.

Additional note (December 17, 1936).—Recently, in December, fresh nodules, mostly red, have appeared about the elbows, over the back of both great trochanters, over the buttocks and over the coccyx in the intergluteal fold. There is now also a conglomerate nodular plaque over the back of both acromial regions—most pronounced on the right side, on which the patient usually lies. His body-weight is 53.2 kilograms, against (apparently) 60 kilograms early in November.

II.—*Histological Report* (W. F.)

The main change seen in the sections is the presence of large masses of cells, which form round or oval, more or less defined areas and are scattered irregularly between the bundles of the collagen tissue in all parts of the cutis. The cells are so numerous that their mass exceeds that of the collagen tissue, the bundles of which are pressed aside rather than destroyed. These cells are conspicuous by their size, which is up to four times that of an epithelial cell. Most of them are multinucleated and have three to five or more bright nuclei (with definite nucleoli), frequently aggregated. They have a well-stained, well-defined, abundant, round, oval or polygonal cytoplasm. Most of the cells are clearly defined; sometimes neighbouring cells are connected by cytoplasmic threads, giving them a certain resemblance to prickle cells. The cytoplasm is homogeneous; even by oil immersion magnification it does not show a foamy structure.

When the sections are stained for fat with sudan III, these cells in some areas show no fat or lipid at all; in other areas the cytoplasm is stained a faint red, which is in some places more distinct. No double refraction.

Even in the areas in which the cells are stained more distinctly the colour is paler than the bright red of the fat cells of the subcutaneous tissue; the colour of the xanthoma cells has the slightest tinge of brown.

In fact it is a question whether these cells ought to be called xanthoma cells at all, for by the term "xanthoma cell" one usually understands a cell the cytoplasm of which is loaded with lipid droplets ("foam cells").

In our sections the cells show either no lipid (visible by our imperfect histochemical method) or lipid in a diffuse form. Merely to call these cells giant cells would scarcely help us. One could perhaps call them "pre-xanthoma cells" to mark their connexion with typical xanthoma cells. It must be admitted that we have no proof that these pre-xanthoma cells actually become xanthoma cells. An explanation is that these cells represent an intermediate stage in the development towards typical foam cells (cf. L. Arzt, *Arch. f. Dermat. u. Syph.*, 1919, 126, 809-946). Yet it is possible that they are not an intermediate stage, but are at the height of their development, and that their peculiar appearance is due to some special

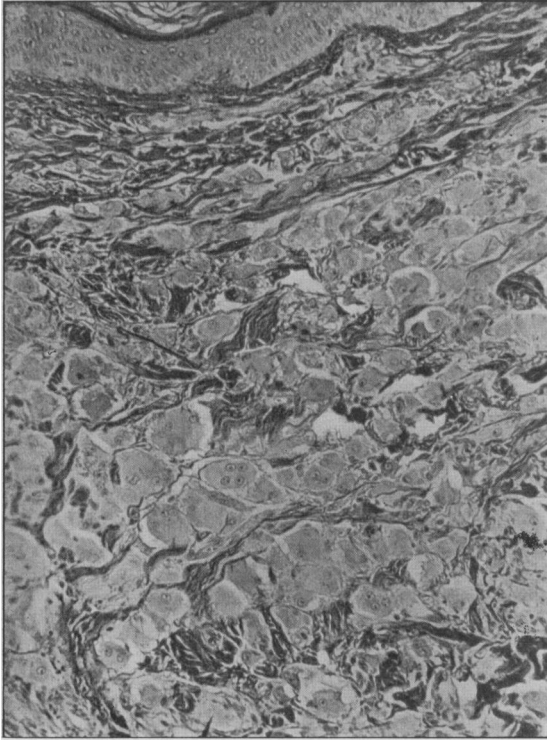


FIG. 3.—Photomicrograph of a section from an excised nodule. The epidermis is seen in the upper part of the figure, and the large size of the "pre-xanthoma cells" is obvious by comparison with the size of the epidermis cells.

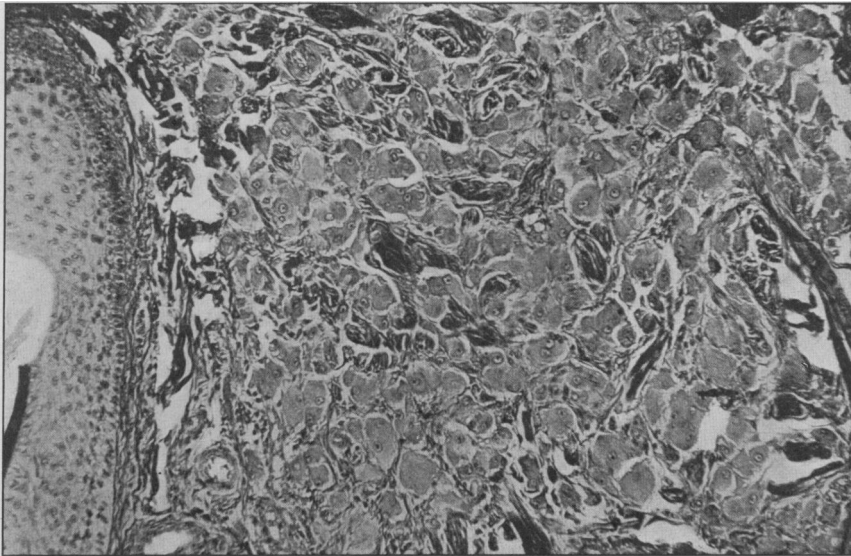


FIG. 4.—Photomicrograph of a section from an excised nodule. Hair-follicle on the left.

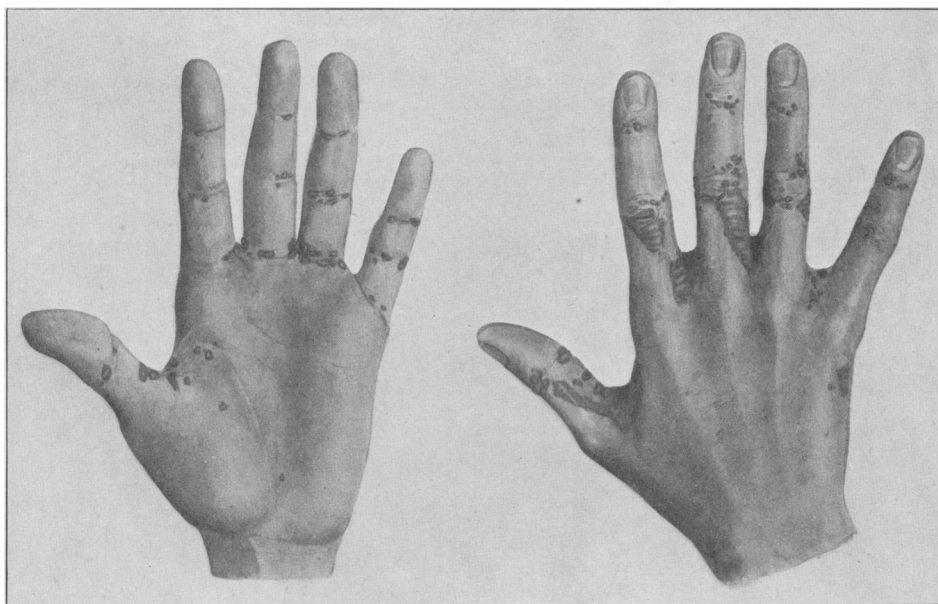
lipoid they contain. Microscopically, it must be admitted, they show a marked resemblance to Gaucher cells.

POSTSCRIPT (February 20, 1937).—Under a fat-poor diet the blood-serum cholesterol fell to 140 mgm.% (Feb. 1, 1937). Later (Feb. 19) it was only 110 mgm.%. The nodules have decreased, notably the patches over the back of the acromial regions.

Owing to a suggestion that the nodules were a kind of ganglion-celled neuroma, Professor J. G. Greenfield kindly stained a section (fixed in formalin) by the Gros-Bielschowsky method and found that nerve fibres were absent. He thought that the appearances did not suggest either a nerve-cell or neuroglial tumour. [F. P. W.]

Cutaneous Xanthomatosis, associated with Established Diabetes Mellitus.—G. B. MITCHELL HEGGS, M.D. (for SIR WILLIAM WILLCOX, K.C.I.E., M.D.).

The patient, a boy aged 16, was an established diabetic. Blood-sugar before treatment was 0.25%; urine loaded with sugar and acetone. Blood-cholesterol before treatment, 580 mgm. of cholesterol per 100 c.c. of plasma. After six weeks' treatment it had dropped to 520 mgm. There were numerous orange-coloured tumours, varying in size from 1 to 8 mm. and distributed on the extensor and inner aspect of the elbows, front of the knees, buttocks, cleft between the fingers and palmar and dorsal aspects of the hands (see fig.). After drainage of an antrum, dietetic treatment and



Cutaneous xanthomatosis in a case of diabetes.

administration of insulin, the diabetes was kept under control. The xanthomatous lesions, however, did not disappear. I understand from my colleague, Dr. Bernstein, that similar cases were seen, in Germany, in which the tumours had not disappeared when the diabetes was apparently under control, but they did so later, during the Great War, when there was an acute shortage of fat in the national dietary.