MULTICENTRIC ORIGIN OF A RODENT ULCER.

By SIR G. LENTHAL CHEATLE, LONDON.

THE main object of this article is to direct particular attention to the remarkable changes in the basal layers of the epidermis and hair follicles which occurred in the skin round a rodent ulcer. The skin was described by Mr. Percy Legg as being infiltrated and not nodular.

Fig. 518.—A bird's-eye view of the rodent ulcer. Eight or nine deeply-stained and isolated groups of cells are seen in the basal layer of the epidermis on the right of the ulcer. X indicates the portion shown in *Fig. 518A*.

Fig. 518A.—Two of the groups are seen under a higher power, and are dipping into subjacent dermis, in which there are signs of chronic inflammation.

Fig. 519.—A bird's-eye view of the 'infiltrated' skin at some distance from the ulcer in *Fig. 518*. X indicates the portion enlarged in *Fig. 519A*.

Fig. 519A.—Two foci of affected cells under a higher power. Two or three cells only are affected in the lower part of the drawing.

I must make it perfectly clear that these changes occurred in separated, isolated patches which were not in continuity with the rodent ulcer or with each other, and they were not pigmented.

Figs. 518 and 519 are bird's-eye views of the rodent ulcer and 'infiltrated' skin respectively. In these figures many darkly-stained, isolated, and small patches of cells are seen in the basal layer of epithelium; these are situated near the rodent ulcer in *Fig. 518*, and at some distance from it in the 'infiltrated' skin in *Fig. 519*. *Fig. 521, B* shows the same appearances occurring in the basal layer of epithelium in a hair follicle.

Under a high power the following changes may be observed: The pathological process appears to be a gradual one and occurs only in the basal layer of the epidermis and some hair follicles. Two or three epithelial cells stain more deeply than their neigh-

Fig. 520.—A larger area of affected basal cells. Their multiplication is marked. They are surrounded by coagulated fluid (A) in the section.

Fig. 521.—The affected cells indicated by the upper line at B are in the basal layer of a hair follicle. A, Epidermis.

Fig. 522.—Shows a group of alien cells at A above the basal layer in the epidermis taken one inch away from the edge of another rodent ulcer.

bours, and are irregular in size and shape in the smallest lesions. (See *Fig. 519A*.) A further stage exhibits eight or ten cells of the same appearances, but in addition they have multiplied, and penetrated into deeper structures. (See *Figs. 518A* and *519A*, and the hair follicle in *Fig. 521, B*.)

A still more extensive area is seen affected in *Fig. 520*, where some fifty or sixty cells are implicated, and their greater multiplication has resulted in a more definite invasion of deeper parts. Invasion is occurring in a branched and forked manner in other parts. There is chronic inflammation surrounding many of the spots where the epithelial changes

have taken place, and it is noticeable that coagulated fluid is encircling every point of epithelial change. (*Fig. 520, A.*)

These remarkable appearances in the skin round the rodent ulcer suggest a multicentric origin of this disease.

The tissues above described were removed by Mr. Percy Legg from the chest of an elderly unmarried female who was under the care of Dr. Arthur Whitfield. I thank them for their permission to refer to these tissues, and they are not responsible for the observations I have made.

The result of the examination of the skin surrounding the rodent ulcer of Dr. Whitfield's patient induced me to examine the skin surrounding other rodent ulcers.

Fig. 522 is a reproduction of the epidermis taken one inch from the edge of a rodent ulcer; a small group of cells can be seen at A, above the basal layer; they are larger, more irregular in shape, and more deeply stained than the normal cells around them. They are not pigmented. It is impossible to say how long they had been in that state and position.

Origin of Rodent Ulcers.—There is some confusion in the minds of authors as to whether rodent ulcers originate in the basal layer of epidermis, hair follicles, sebaceous fluids, or sweat glands. The changes seen in the rodent ulcer of *Figs. 518* and *519* indicate that their genesis is in the epithelial cells in the basal layer of epidermis and in the basal layer of hair follicles.