

## ON THE HISTOLOGICAL RESEMBLANCES OF ORIENTAL SORE TO EPITHELIOMA.

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WHILE in the East the writer had the opportunity of examining histologically a number of excised skin lesions of the type of Oriental sore, sometimes called Baghdad boil, Delhi sore, etc. Most of them showed the characters of a chronic ulcer, those of greater chronicity having some epithelial downgrowth at the margin, but in two instances the histological characters were such as to be practically indistinguishable from a squamous-celled carcinoma.

Accounts of the histopathology of these 'Leishmania' lesions have been given in various communications and in text-books of tropical medicine. The chief point emphasized is the resemblance to the histological appearances of a chronic granuloma. Wright,<sup>1</sup> in his original paper, says that the lesion consists essentially of a very extensive infiltration of the corium and papillæ by round cells, viz., various types of lymphoid cells, plasma cells, and numerous large endothelial cells, containing a single vesicular nucleus and a relatively large amount of cytoplasm. Balfour and Thomson<sup>2</sup> describe the presence of cell-nests associated with epithelial proliferation in two cases of the non-ulcerating or keloid type of Oriental sore. They consider that, although there are long branching epithelial down-growths into the underlying tissues, there is no actual invasive process, nor are there any isolated masses of prickle cells, the condition in these respects resembling a papilloma. Archibald<sup>3</sup> has described another case which presented ulcerated as well as nodular lesions, while histological examination showed a few cell-nests and isolated masses of cell infiltration. As will be seen, in the cases described below, there is a very extensive epithelial invasion of the underlying tissues, with the formation of numerous cell-nests, so as to present very marked histological resemblances to squamous-celled carcinoma.

The first specimen was a sore of quite typical naked-eye appearance. It had appeared about three months before coming under the writer's observation, as a tiny papule on the forearm of a private, while the man was on service in Mesopotamia. When first seen, it was a shallow ulcer with slightly heaped-up edges about three-quarters of an inch in diameter, and covered by a thin yellowish scab, while the surrounding skin was quite healthy looking. There was no enlargement of the associated lymph-glands. Excision of the sore was carried out, not because there was any reason to suspect early malignancy, but simply because it was considered to be the most rapid method of cure, the sore, as is not infrequent, being a solitary one. The specimen was cut through its centre. One portion was examined by making smears from the pinkish granulation-like material in the cutis

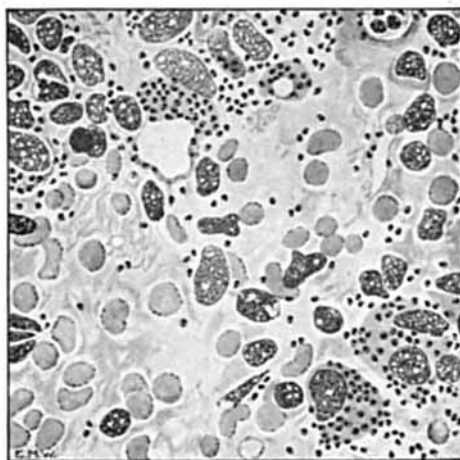


FIG. 400.—*Leishmania tropica*. Drawn from smear of granulation-like material of excised ulcer histologically resembling a squamous-celled carcinoma.

vera, and on applying Leishman's stain, typical *Leishmania tropica* bodies were found to be present in large numbers. (See Fig. 400). The other half was submitted to histological examination, and a drawing of a section stained by hæmalum and eosin, taken from the edge of the ulcer, is shown in Fig. 401.

The base of the ulcer shows numerous down-growths of squamous epithelium associated with considerable round-celled infiltration. Its edge is somewhat abrupt. The surface epithelium is moderately keratinized. The downward infiltration by epithelial proliferation is seen to be extremely marked, while in parts cell-nests are a characteristic feature. Blood-vessels are well formed, but there is no evidence of endothelial proliferation within them. There is considerable round-celled infiltration, the cells being mostly lymphocytes and large endothelial cells. No giant cells are seen, although those of the 'foreign body' type were found in other sores examined.



FIG. 401.—Drawing ( $\times 62$ ) of vertical section of edge of Oriental sore, showing marked epithelial down-growths and extensive cell-nest formation. There is considerable round-celled infiltration, chiefly lymphocytes and large endothelial cells.

A snipping of an ulcer of the lip, from another case with multiple Oriental sores, presented a similar histological appearance, as well as showing the presence of 'Leishmania tropica' in smears. All the lesions, including the one which had the histological appearance of a squamous-celled carcinoma, healed up readily under treatment with intravenous injections of antimony tartrate. Sores examined from five other cases had the appearance of chronic granulomata, some showing giant-cell formation. It was not possible to examine a larger number, as excision was only carried out under special circumstances. The writer, however, while in India came in touch with two other cases of ulcerating skin lesions which had been reported, on histological examination, as squamous-celled carcinoma, and which had subsequently reacted readily to antimony treatment.

There is the possibility that a certain number of these ulcers in their chronicity may

take on the characters of a true carcinoma, although it is to be noted that in most instances, even when untreated, Leishmaniasis appears to be a self-limited infection. In the two cases described there is no evidence of clinical malignancy. They were both of relatively short duration; they had not the usual naked-eye characters of a chronic or callous ulcer; while in one instance the wound healed by first intention after excision, and the other cleared up speedily after intravenous injections of antimony tartrate. It may also be mentioned that lower animals have been infected with Oriental sores by inoculation, but there is no record of any carcinomatous lesions having resulted from such experiment. It is of interest, however, to remember that lesions of true carcinoma have been described by Ferguson<sup>4</sup> as following the papillomatous proliferation of the mucous membrane of the bladder produced by one of the entozoa, viz., *Bilharzia haematobium*.

Another difficulty of diagnosis is that, in a sore of some duration where early malignancy may be a probability, it may be impossible to detect the *Leishmania tropica*, for the parasites tend to disappear in lesions of some months' standing. In the present instances this difficulty was not encountered. Considerable care has to be taken in the selection of material for the preparation of smears. It is quite futile to examine the base of the ulcer, or the purulent secretion of the surface. In the recent sore, serum drawn off by a capillary pipette from the hyperæmic edge, or preferably from the tiny vesicles often present, and the smear stained by Leishman's or Giemsa's stain, may reveal the presence of the Leishman-Donovan bodies in large numbers. In the more chronic lesions it is often necessary to obtain the smear material from a deeper level of the ulcer, and a small Volkmann's spoon is often found useful in obtaining the softish granulation-like tissue, which usually shows the parasites in largest numbers in such cases. Sometimes, especially in the nodular or keloid type of Oriental sore, as in a case kindly shown to the writer by Dr. Row, of Bombay, although the Leishmania bodies cannot be detected in smears, it is possible to demonstrate the presence of the parasites by cultural methods.

Detection of the infecting agent by such means is of great importance, in view of the fact that the histological appearances of the lesion may sometimes bear such a striking resemblance to squamous-celled carcinoma. From the practical standpoint, these observations may be of some surgical interest, especially at the present time, when so many men have recently returned to civilian life after residence in countries where Leishmaniasis is endemic. Certainly, suspicion that the condition is not one of ordinary epithelioma ought always to be aroused when such epithelial down-growths and cell-nest formation, as above described, are found associated with a markedly granulomatous type of lesion.

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#### REFERENCES.

- <sup>1</sup> WRIGHT, *Jour. of Medical Research*, 1903, x, 472.
- <sup>2</sup> BALFOUR AND THOMSON, *Fourth Report of Wellcome Tropical Research Laboratories, Khartoum*, 1911, Vol. A, 191.
- <sup>3</sup> ARCHIBALD, *Ibid.*, 207.
- <sup>4</sup> FERGUSON, *Glasgow Med. Jour.*, 1913, lxxix, 14.