EPITHELIOMA DEVELOPING IN PELLAGROUS
DERMATITIS

SECOND REPORT

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Received for publication February 9, 1917

In his report of a histological study of the skin lesions of pellagra, Gurd (1) has called attention to a degeneration of the superficial layers of the corium together with the phenomena of a mild acute inflammatory reaction in the erythematous and bullous stage of the dermatitis and a later reparative process evidenced by an increased cellularity of the corium and the presence of fibroblasts. Harris (2) in confirming an observation by Babes and Sion calls attention to peculiar homogenous metachromatic masses beneath the epithelium in the skin lesions of pellagra, which Gurd takes to be degenerated corium. These writers also call attention to a dilatation of and increase in number of the capillaries of the skin and apparently in consequence thereof to an increased proliferation of the epithelium leading to a thickening of the epidermis. Gurd says, "In the later stages, in an effort to secure a firm basement membrane, the epithelium is seen to dip down deeply into the rarified connective tissue." In comparing these changes to those described as a result of the action of the Roentgen light, this last author finds the analogy between the two so marked that "we are justified in considering that the direct agents in their production are probably similar."

From Wolbach's (3) studies upon X-ray dermatitis and carcinoma we have learned not only of the skin changes which ordinarily result from X-ray burns but have also gained valua-
ble information concerning the development of squamous epithelioma.

The analogy between the skin lesions produced by pellagra and by the Roentgen light has not been previously carried further than the observation by Gurd that in pellagra the epithelium penetrates deeply into the diseased corium to gain a firm basement membrane, which may be taken to mean the same as the statement by Wolbach that in the changes produced by the Roentgen light it penetrates to a better nutrition. It has not until recently been shown that in pellagra a further penetration and an assumption of parasitism by the epithelium leading to the development of epithelioma, even as has resulted in X-ray dermatitis, may occur.

In a recent article I (4) reported the development of squamous epithelioma in a pellagrous skin ulcer of the thigh. This was in a negro woman who had died of a severe attack of pellagra. The epitheliomatous infiltration was purely a microscopic affair and was discovered in the routine histological post mortem examination. There was no growth manifest to the naked eye. Since no determination could be made as to whether or not any further penetration of the epithelium in this case would have taken place, the following case, which came under observation after the first report, is reported with interest in confirmation of the possibility of epithelioma developing from pellagrous dermatitis.

D. C., white, male, streetsweeper, seventy-five years of age, came to the dispensary of the Roper Hospital in Charleston March 29, 1916, with an acute vesiculo-erythematous eruption covering the skin of the backs of both hands. This he said had been present for three days and he thought was the result of sun-burn. There was no diarrhoea at the time. On March 30, 1916, his second visit to the dispensary, the dermatitis was exaggerated and it continued so until April 3, when it was improved. On April 12, his last visit in the spring, the dermatitis was still further improved, but he had developed a well marked diarrhea. A diagnosis of pellagra was made. He returned to the dispensary on September 23, at which time he complained of diarrhoea and pain in the epigastrium. The skin of the back of the left hand was then
rough and scaly and somewhat red. That of the right was very red, ulcerated and moist, and surrounding the ulcerated area, which covered about one-half of the surface of the back of the hand centrally, was a fungoid irregular growth forming an interrupted circle of small, firm, red nodules. The skin in the intervals of and outside this circle was brawny, red, and rough. This marginal tumefaction was suspected of being epitheliomatous but the patient refused to have it sectioned or treated surgically. About this time a lay "cancer quack" treated the hand with an application of some sort. On November 21 he came to the dispensary complaining of weakness, and again on January 3 with indigestion.

My attention was called to him by the chief of the dispensary, Dr. E. L. Jager, about November 22, 1916. At this time the skin of the left hand had a reddish color and was somewhat rough. That of the right had healed over, the skin of the central part for an area about 1½ inches in diameter being thin, pink, newly formed, and free from hair. Surrounding this area was a zone of elevated, somewhat fungoid nodular, brawny, reddish tissue with the epiderm intact. He had no diarrhea at this time.

A few days after this I obtained a section from this circular growth. The histology of this section is similar to that of the case previously reported. The epithelium is very thick, the prickle cells and the horny layer being especially overgrown. From the epithelium of the surface there extend throughout the section, which includes some of the subcutaneous connective tissue, cords of epithelium composed of cells representing all the layers. The cells are of a large vegetative appearance, the prickle cells are abundant, and there are many hyaline "cancer bodies" and pearly bodies in the center of the cords. The outer part of the corium in this section, as in the previous case, is rarified, the degenerative change of the connective tissue cells being apparently of a lipoid nature, producing large rounded cells with a dark central nucleus and a loose reticulated cytoplasm similar to those seen occasionally in the connective tissue of chronic inflammatory processes. The blood vessels of this superficial corium are not numerous but they are plentiful toward the base of the section. In the lower part of the corium there is a progressive growth of new fibrous tissue with lymphocytic and plasma cell infiltration surrounding the cords of epithelium.

I saw the man again on January 18, 1917, at which time his hands were in about the same condition as in November, 1916. He had no diarrhea and was going about his work. He has kept the right hand covered during this time.
This report, then, is confirmatory to that of the case encountered previously (4), and brings to attention the possibility of such a result of pellagrous dermatitis in persons who have apparently recovered from the disease. It is not probable that these are the only instances of this occurrence. There have probably been others in which death from pellagra arrested the epitheliomatous development before it had become apparent and others in which the connection was not seen between previous pellagra and the subsequent appearance of an epithelioma. If the analogy between the skin changes which occur in pellagra and those which result from the action of the Roentgen light is to be considered as marked as believed by Gurd, it appears that the development of epithelioma from pellagrous dermatitis may be postponed for a much longer time than in the two cases reported.

In so far as such an application can be made, the observation of epithelioma formation in pellagrous dermatitis seems to draw the skin lesions resulting from the action of the Roentgen light, from sun-burn, including the malignant degeneration of the skin in xeroderma pigmentosum, and from pellagra closer together, and to lend support to the belief that the action of light is concerned in the development of the dermatitis in pellagra.

REFERENCES

(1) Gurd: Jour. Exp. Medicine, 1911, xiii, 98.