

has called special attention to ichthyosis of the tongue as a cause of carcinoma. It has been well known for a long time that this superficial inflammation of the tongue frequently precedes carcinoma.

Another inflammatory product, very often the starting point of carcinoma, is the wart. Warts on the forehead, cheeks and hands of aged persons, "verruca senilis," most frequently undergo such malignant transition. The inflammatory process is undoubtedly concerned in laying the histologic foundation for carcinoma by causing the penetration of embryonic epithelial cells into the inflammatory product, where they are brought into contact with vascular tissue, which increases their vegetative activity and alters their habits of life.

The influence of chronic inflammatory processes involving the epithelial cells of glandular organs and the surface of the skin and mucous membranes as one of the causes of carcinoma should receive more careful attention than has been devoted to it. Extensive and reliable statistics on this phase of the etiology of carcinoma is what is needed in the further elucidation of this subject.

*Scar Tissue.*—The origin of carcinoma in scar tissue has been so often observed that German surgeons designate it as "Narbenkrebs." The tumor almost invariably begins as a subepidermal nodule from a matrix of embryonic epithelial cells buried in the mesoblastic tissues during the process of healing by granulation of the injury or lesion which gave rise to the tissue defect.

Trauma, irritation, inflammation and cicatrization as causes of carcinoma undoubtedly play a double role in lighting up the disease in persons predisposed to it, as any of them may be the means of transporting the essential tumor elements, epithelial cells, from their normal vascular physiologic habitat into a vascular district and may likewise be concerned in stimulating their vegetative life by diminishing the normal physiologic resistance of the adjacent tissues.

*Benign Tumors.*—The frequency with which benign epithelial tumors undergo transformation into carcinoma remains a matter of individual opinion and isolated experience. In papilloma and adenoma the epithelial cells which make up the parenchyma of the tumors are not in touch with the blood vessels. Any and all influences, local and general, which are capable of stimulating cell growth beyond the limits observed in benign tumors and which result in penetration of the membrana propria by embryonic epithelial cells, are the causes on