

c) *Paraffin and Oil Warts*. It is necessary to distinguish between pseudo-warts and true warts. The pseudo-warts are, according to Ullmann, cutaneous folds of a swollen, edematous, and inflamed scrotal skin. The epidermis of such lesions displays a lack of abnormal or appreciable keratosis and acanthosis. As the perivascular, round-cell infiltrations present in the cutis are free from bacteria, these cutaneous projections are considered results of a chemical irritation of the upper, cutaneous layers, causing an epidermal hyperplasia and cutaneous inflammation.

The epidermis of the true, papillomatous warts, found in the skin of the scrotum and other parts of the body, is thick, contains acanthotic, intraepidermal changes, and is covered by a broad, horny layer. The basal layer is often widened and composed of two or three rows of cells, among which peculiarly elongated cells are found. Solid, epithelial-cell pegs, sometimes consisting of atypical cells, which contain unusually large nuclei (evidence of disintegration) and numerous mitoses, extend at the base of the warts into the connective tissue. The connective tissue of the papillomatous cores and of the base is very vascular. A marked, inflammatory, round-cellular reaction of the stroma is a characteristic feature of these flat, palisade-like verrucosities, and distinguishes them from the ordinary warts. Sometimes, epithelial defects with ulcerations are observed.

d) *Carcinomas*. The warty excrescences with their epithelial abnormalities furnish one source from which epitheliomata may arise in the skin of oil and paraffin workers. Others may originate from epithelial hyperplasias and anomalies formed in the epithelial lining of the hair follicles. A third source of malignant developments in the skin of oil and paraffin workers is represented by primary, small, atypical, intraepidermal and epithelial foci. While the great majority of such proliferative lesions never advances beyond a rudimentary stage, a few of them take a progressive course and become carcinomas. They arise also abruptly within an apparently normal skin (Ehrlich). The epitheliomata produced by oil or paraffin are practically always highly cornified, squamous-cell carcinomas. The malignant growth is usually walled off from the surrounding, connective tissue by a broad zone of lymphocytes and plasma cells.

XIII. EXPERIMENTAL OIL AND PARAFFIN CANCER

The first attempts to reproduce paraffin cancer experimentally were made by Brosch (1900), who excised, in rabbits, a piece of skin of the interscapular region and applied repeatedly to this defect for three months a solution of paraffin in xylol. Brosch hoped that the production of a status of chronic irritation in connection with the epithelial regeneration might result in the development of cancer. The histological examination of the treated skin showed atypical, epithelial proliferations with cornified pearls resembling morphologically carcinomatous growth. In the production of these inflammatory and re-