Pre-Cancerous Dermatoses.

R. Briffa, B.Sc., M.D.
Lecturer on Dermatology and Venereology

There are some dermatoses in which or on the basis of which carcinoma may develop in predisposed persons.

MacKee and Cipollaro give the following alphabetical list of such dermatoses:

Cicatrix
Cornu cutaneum
Erythroplasia
Farmer's or sailor's skin
Keratoses: Arsenical
Seborrhoeic
Senile
Occupational (Tar, oils etc.)
Kraurosis vulvae
Leucoplakia
Lupus erythematosus
Lupus vulgaris
Naevi
Radio-dermatitis
Sebaceous cysts
Syphilis (leucoplakia, interstitial glossitis, scars)
Ulcers
Xerodermia pigmentosum

Other authors add Bowen's disease and Paget's disease of the nipple and areola of the breast in women. Quite rightly these have not been listed above as they present sufficient changes to have been considered as malignant from the start by most authors and so they are included with the carcinomata and not with the pre-canceroses.

The actual incidence of malignant degeneration is not very high in all of the above. In Xerodermia pigmentosum malignant degeneration is the rule. About 15% of senile keratoses turn malignant in time. All the same the doctor should always have a high index of suspicion in presence of the rest of the dermatoses mentioned in the list and should always be on the alert to institute appropriate treatment to forestall such degeneration.

In this article only the cutaneous lesions will be considered. These may develop into basal or squamous carcinomata unlike those on the mucous surfaces which always develop into squamous-celled neoplasias.

CICATRIX (Scar). The scars following Roentgen and radium ulcers are especially prone to malignant degeneration. When Lupus vulgaris and Lupus erythematosus were treated with X-rays, carcinomatous degeneration of the scar tissue was not infreqent. Cancer may develop on scars of burns. It usually begins on the edges of the lesions. Occasionally cancer develops on old syphilitic scars. It is thought that constant irritation is the cause of such degeneration.

CORNU CUTANEUM (Cutaneous horn). A rare form of neoplasia. The horn may may be very small or of large size. It may begin on apparently normal skin or on a senile keratosis. Some cases undergo spontaneous cure. In about 10% of cases malignancy sets in. The horn falls and the base becomes carcinomatous.

FARMER'S OR SAILOR'S SKIN. People who are continuously exposed to the sun may develop in the long run what is known as Chronic Actinic Dermatitis. This is common amongst persons who have lived in the tropics and amongst farmers, sailors and gardeners especially in sub-tropical climates. The exposed parts of the skin (hands, face and neck), get atrophied and pigmented. Later on hyperkeratosis sets in with the development of wart-like neoplasias which are potentially malignant. Similar changes are common in Australia, in fair people especially if red-haired and blue-eyed. Prospective Maltese emigrants to Australia who belong to the latter category should be dissuaded from excessive sun exposure when "down under".

KERATOSES. These are localised areas of hypekeratosis. The etiology varies but the clinical type is essentially the same viz. small, warty excrescences of a yellowish or a dark colour.

Etiology: Senile. The senile keratoses are the most common and the ones most liable to malignant degeneration. They usually appear after the sixth decade but younger people with a senile type of skin may develop these lesions prematurely. They may be single or multiple and favour the exposed parts of the skin. Each keratosis begins as an erythematous, slightly atrophied, scaly region. The scales are adherent and removed with some difficulty. If bleeding follows such detachment, this usually means that the lesion has already become malignant; 15% of these keratoses usually become carcinomatous.

Occupational. It has been known since some time that sufficient exposure to tar (and other coal tar distillates such as pitch, creosote and anthracene) results in the formation of keratoses which are definitely pre-malignant. It is well known that the first studies in experimental carcinogenesis were undertaken on the skin of rabbits and mice with the use of tar and its derivatives.

Tar keratoses are located usually on the arms, hands and scrotum. They develop on a chronic hyperplastic dermatitis and eventually malignant degeneration sets in.

Arsenical. Arsenic as a cause of carcinoma was recognised by Hutchinson in 1880. Inorganic arsenic is far more dangerous than organic. Keratoses appear as early as one month and as late as thirty years after the first ingestion of the chemical. Carcinoma develops in about 26% of the keratoses. Men are more affected than women. The hyperkeratosis usually shows itself on the palms.

At one time it was the universal practice to give Liquor Fowleri over prolonged periods in nearly all skin diseases. Nowadays Liquor Fowleri is used with more discretion and hence arsenical hyperkeratosis is very much rarer.

Seborrhoeic. Carcinomatous degeneration is very rare. Their only importance, apart from being a cosmetical blemish, lies in the differential diagnosis between them and the senile type. They usually appear rather earlier in life than the latter, being fairly common thereafter. They are very much like the senile warts, but unlike these they are covered with a greasy or waxy scale ("candle-grease scale") which can usually be scraped off easily, leaving no bleeding surface. They are more commonly encountered on covered parts of the body—chest, back, abdomen and arms—the face being rarely affected.

LUPUS ERYTHEMATOSUS AND LUPUS VULGARIS. Some years ago carcinomatous degeneration was fairly frequent in these diseases, probably because of the irritant treatments then in vogue, namely scarification, chemical caustics etc. With the advent of more biological lines of treatment it seems that such degenerations can be totally eliminated.

NAEVI. Although all naevi can undergo malignant degeneration, the real danger lies only with "lentigo maligna". Contrary to the common belief, moles of any variety whether pigmented or not pigmented, hairy or not hairy, may undergo malignant degeneration. This usually takes place in adult life, but cases in a younger age are anything but uncommon. The mole may suddenly start growing and form a large brown or black pigmented plaque or a warty elevation. The tumour usually feels hard to the touch but eventually tends to ulcerate. New lesions may appear in the vicinity. The glands are involved early and visceral metastases are common. Any mole should be treated

with great respect. They should be either excised completely, preferably surgically, or left well alone. Any sort of constant irritation is liable to precipitate malignant degeneration.

RADIO-DERMATITIS. This may be produced by radium or X-rays. It is a definitely pre-malignant condition. Thanks to reliable dosimeters and modern technique this type of dermatitis is now very rare. I have only seen one case in Malta and that many years ago.

SEBACEOUS CYSTS. (Steatoma). This is usually seen on the scalp (where it is known as a "wen",) but can also occur on the back, scrotum or other parts of the body including the prepuce. The clinical picture is known to every doctor. The cysts may persist for years or may disappear spontaneously. Frequently they may become infected and very rarely malignant degeneration takes place in old people.

SYPHILIS. Tertiary syphilides have been long considered as liable to malignant degeneration. The carcinogenetic factor in this case is the long continued phlogistic inflammation. It seems that the same factor plays a part in the development of carcinoma on leprosy. I have seen three such cases in our leprosy hospital within the last five years.

ULCERS. Any ulcer of very long standing, whatever its etiology, may undergo carcinomatous degeneration. Non-rational treatment and constant irritation probably play the major role in the change although the chronic hyperplastic element is not to be ignored.

XERODERMIA PIGMENTOSUM. This is luckily a rare disease which begins at an early age. The patients rarely survive early youth. It may affect several members of the family. The parents of such persons are usually closely related. Clinically the disease corresponds to "farmer's and sailor's skin" already described, viz. permanent freckling, telangiectases, atrophy of the skin and the formation of warty tumours which in this case inevitably become malignant.

I have only seen two cases in Malta of this disease a brother and a sister. The parents of the patient's were first cousins. The sister was one year younger than her brother and died at the age of twelve. The brother is now at the St. Vincent de Paule Hospital and is about twenty-one years old. This unfortunate young man has already undergone some twelve operations for epitheliomata and is now sinking fast.

It has been proved beyond any doubt that patients suffering from this disease have an idiosyncrasy to the actinic rays of light.

PROPHYLAXIS. 1. Strict industrial hygiene for workers in tar and coal-tar derivatives.

2 Discriminations in the therapeutic use of inorganic arsenic.

3. X-rays and radio-active substances to be handled only by experienced specialists.

4. Exposure to the sun should not be excessive and should not be prolonged. Fair-skin people with blue eyes and red or auburn hair should be specially careful.

5. Last but not least the prevention of constant traumatic irritation (whether chemical, physical or parasitic) to any pre-cancerous lesion.

TREATMENT. The main principle of skin onchology is: when in doubt excise. Radium, x-rays and CO_2 have all their advocates, but at their best they can only act like the old-fashioned caustic pastes. One can never be sure that every malignant cell has been destroyed. At their worst they may even act as irritants and so hasten the malignant process. Surgical excision ought to be the treatment of choice. Furthermore no biopsy is to be performed unless removal of the neoplasia (if proved malignant) can be undertaken immediately.