Acquired Ichthyosis from Breast Cancer

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Non-metastatic skin manifestations of malignant disease are well recognized (*Med. Clin. N. Amer.*, 1965). They include acquired ichthyosis, which is not uncommon in association with malignant lymphomas (Sneddon, 1955) but is rare in patients with cancer. Van Dijk (1963) described one case with lung cancer and from the literature collected 28 others associated with malignant disease, only one being cancer, and this was of the breast.

A case is described of disseminated breast cancer and acquired ichthyosis.

CASE REPORT

A 67-year-old woman was admitted to hospital under the care of Dr. E. W. Skipper in May 1966 with increasing pain in the shoulders, ribs, and spine of six months' duration. Her skin had been dry and itchy for three months. She denied any visual impairment.

On examination she was moderately obese with no signs of weight loss. Spinal movements were extremely painful, and the thoracic spine was kyphotic from compression fractures. The liver edge was palpable, and there was a small left pleural effusion. The

Photograph of patient's legs on admission, showing ichthyosis.

eyes were normal except for slight conjunctival injection. The skin showed generalized scaliness and dryness, and was slightly red and pigmented (see Fig.) A large carcinoma of the right breast was present with enlarged axillary lymph nodes, one of which showed metastatic breast cancer on biopsy. Malignant cells were found in the pleural effusion. Skin biopsy from the right arm was consistent with ichthyosis, and no carcinoma cells were seen. Spine

and chest x-ray films showed extensive osteolytic deposits. The fasting serum carotene and folate activity were 13 $\mu\text{g.}/100\text{ ml.}$ and 1.3 $\text{m}\mu\text{g.}/\text{ml.}$ respectively on admission and 86 $\mu\text{g.}/100\text{ ml.}$ and 3.9 $\text{m}\mu\text{g.}/\text{ml.}$ in November 1966. Faecal fat excretion over six days averaged 3.1 g./day. Other investigations, including full blood count, urinalysis, liver-function tests, blood electrolytes, cholesterol, iron, calcium, and phosphate, were essentially normal.

Stilboestrol 20 mg. daily was started on admission, and soon after she needed bendrofluazide 5 mg. daily to control leg oedema. A course of deep x-ray therapy was given to the spine, and a spinal support was supplied. One halibut oil tablet and 15 mg. of folic acid daily were given in addition for the first month. She responded well to treatment, and within six weeks her pruritus and ichthyosis disappeared and her bone pains cleared, leaving her with discomfort on spinal movements only. She remained in satisfactory health with no return of ichthyosis six months after admission.

COMMENT

There seems no doubt that the ichthyosis in this patient was related to the malignancy. On suppressive therapy her symptoms abated, general health improved, and the ichthyosis disappeared. The cause of ichthyosis in association with malignant disease is obscure. The fact that it may regress after treatment of the malignancy, as in this patient, suggests either that the neoplasm produces a metabolite causing the skin reaction or that it results from a deficiency of some substance taken up in high quantities by the neoplastic process.

Low serum vitamin-A levels as in this case have been noted in some patients. The reason is obscure and the low levels may be incidental. Our patient's dietary intake of vitamin A appeared normal, and she showed no evidence of malnutrition. Liver damage with impairment of vitamin-A storage has been suggested as a cause (Glazebrook and Tomaszewski, 1947), but it is unlikely in our patient. Vitamin-A absorption from the intestine is reduced in steatorrhoea, and Stephens and Rhodes (1964) reported the case of a patient suffering from ichthyosis, abdominal Hodgkin's disease, and steatorrhoea in whom histology of jejunal mucosa was characteristic of idiopathic steatorrhoea. Vitamin-A levels were not ascertained. No evidence of disordered bowel function was present in our patient. Ichthyosis has been reported after the use of cholesterol-lowering drugs, but our patient received no drug treatment before admission. High uptake by the cancer may have been the cause.

Ichthyosis is not described as a manifestation of vitamin-A deficiency. The skin may be dry, but hyperkeratinization in follicular and visual symptoms is usually the earliest manifestation. The absence of eye symptoms and signs and the marked skin involvement would not suggest low vitamin-A levels per se as the cause of the ichthyosis in the above case.

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