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# Malignant squamous cell carcinoma arising in a lumbar dermoid cyst

## A case report

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**Summary.** *A case of malignant transformation to a squamous cell carcinoma in a long-standing lumbar dermoid cyst is described. Progress was slow during 6 years. This type of transformation in a dermoid cyst is extremely uncommon and has never been recorded at this site.*

**Résumé.** *Présentation d'un cas de transformation maligne d'un kyste dermoïde lombaire en carcinome à cellule squameuse chez une femme de 40 ans. La transformation maligne d'un kyste dermoïde est très rare et n'avait jemais été décrite dans cette localisation.*

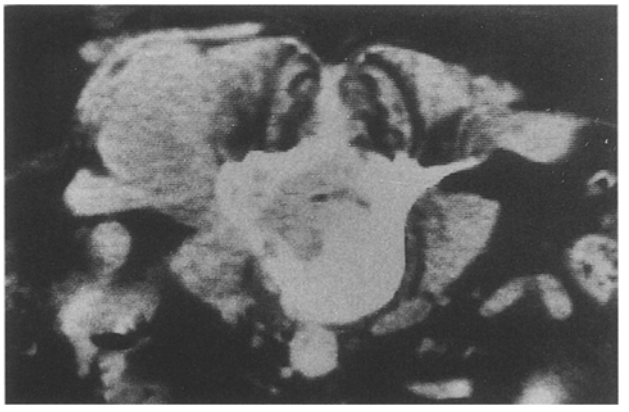

**Fig. 1.** CT scan shows an osteolytic lesion of mixed density with calcification

## Introduction

Dermoid cysts are histologically benign developmental tumours which enlarge by desquamation of keratin and lining cells into a central cavity, and by the growth of skin adnexal components, such as hair follicles. Malignant transformation in a dermoid, although exceptional, has been reported in ovarian [2, 3, 4] and intracerebral sites [5], and also in a lumbosacral subcutaneous cyst [6], but not in a lumbar vertebra.

## Case report

A housewife, who was 40 years of age, was seen in an orthopaedic clinic in October 1985 complaining of swelling over the left hip and a limp associated with backache and pain in the left thigh. She first sought medical advice in August 1984 because of low backache when a needle biopsy showed a dermoid cyst. On examination, she was a healthy-looking woman with no swelling in her lower back, and no abnormal neurological signs. Radiographs and CT scans revealed an osteolytic lesion of mixed density with calcification at the level of the L3 and L4 vertebrae (Fig. 1). Myelography showed a complete block at this vertebral level. Other investigations were normal and the findings were considered consistent with a dermoid cyst.

The lumbar lesion was removed through a L3, L4 and L5 laminectomy and Harrington rods were inserted for stabilisation. The tumour contained hair and pieces of cartilage. The pathological diagnosis was a dermoid cyst.

Four further operations were carried out over the next 2 years in order to remove residual tumour and to reconstruct the vertebral column. The pathological findings never showed any evidence of malignancy.

In September 1991, the osteolytic lesions had extended to both femoral heads (Fig. 2). The serum squamous cell carcinoma associated antigen (SCC) [7] was 24.8 ng/ml. She died of sepsis and liver failure.

At autopsy the osteolytic lesion extended from the L1 vertebra to the femoral heads, and multiple lesions were found in the retroperitoneal and presacral regions. Microscopy

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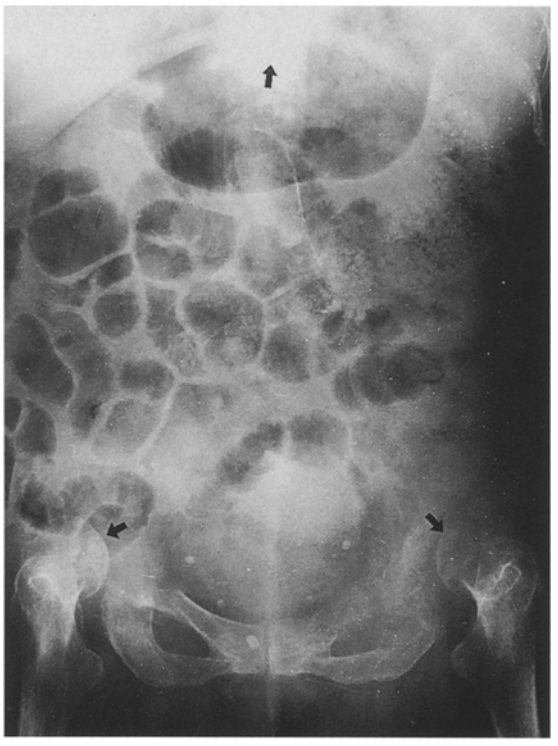

**Fig. 2.** Radiograph 4 weeks before death of the patient. The lumbar vertebra and both femoral heads have disappeared

showed dysplastic features associated with nuclear atypica, loss of keratohyaline granules, parakeratosis and hyperkeratosis in the squamous epithelium (Fig. 3). The tumour was a well differentiated keratinising squamous cell carcinoma.

## Discussion

A squamous cell carcinoma may develop in a dermoid cyst in relation to prolonged chronic inflammation arising in sinus tracks, but there was no evidence of malignancy in the sinuses in our case [8]. The neoplastic transformation occurred only in the squamous epithelium, the other elements showing no evidence of dysplasia or neoplasia. The origin from the lining epithelium suggests that the neoplasm was not a metastasis from an occult primary.

It is uncertain whether the dermoid cyst was transformed into a squamous cell carcinoma or whether the tumour was initially malignant and this was not recognised because the tissues were well differentiated. Many cases of insidious malignant transformation of chronic myeloproliferative disorders have been described [9, 10, 11], but we found no evidence for this in our case. The serum SCC was high when first tested. The osteolytic characteristics of the tumour and the

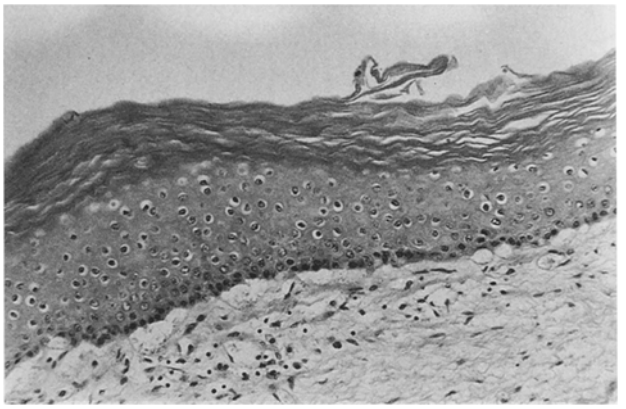

**Fig. 3.** Microscopy at the time of autopsy shows nuclear atypia, loss of keratohyaline granules, parakeratosis and hyperkeratosis. (HE, × 70)

multiple recurrences, in spite of several operations, suggest that the cyst was originally malignant, and then slowly spread.

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