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Malignant change in dermatitis artefacta

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Summary: Dermatitis artefacta is a chronic skin lesion produced by self-trauma. Avoidance of further trauma, topical steroids and psychological therapy all play a part in the treatment of such lesions. Unresolved lesions may become large and disfiguring and subject to infection. We report a case of one such lesion in an elderly woman who persistently excoriated a cholecystectomy scar over 40 years. Malignant transformation occurred in a manner analogous to the neoplastic change observed in other types of chronic ulcer (Marjolin's ulcer). The squamous cell carcinoma presented with widespread metastases from which the patient eventually died. Recent literature concerning Marjolin's ulcers is reviewed and it is noted that this is the first reported case of death caused by malignant change in dermatitis artefacta.

Introduction

Dermatitis artefacta is the term applied to a skin lesion produced, or significantly exacerbated by, self-inflicted trauma.¹ Recurrent excoriation causes

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skin inflammation and lichenification; the resultant irritation and pruritus leads to further self-trauma and chronic dermatitis. The condition may arise on previously normal skin or may complicate an otherwise insignificant patch of eczema. In the mildest form there are no features of major psychological or psychiatric disturbance and the excoriation may be the result of a simple 'tic'. Some subjects with mild neuroses may regularly abrade patches of skin when in stressful situations and may be unaware of the habit until it is brought to their attention. In other cases, subjects with major psychoses or the Munchausen syndrome can deliberately self-mutilate leading to chronic skin damage. Such patients may strongly refute any suggestion that the dermatitis is self-inflicted.

The dermatitis will resolve if treated with mild topical steroids and if further injury ceases.² In more severe cases, where self-trauma continues, skin lesions can become very large and disfiguring with secondary infection. We report a case of chronic dermatitis artefacta with malignant transformation and fatal metastases.

Case history

A 74 year old woman presented with severe lower back pain and increasing immobility. The patient was reluctant to allow physical examination but after some persuasion agreed to undress. In the right upper quadrant of the abdomen and extending into the flank was an ulcer measuring 19 cm × 11 cm. The ulcer involved the underlying subcutaneous tissues and had a rolled edge; it appeared to be arising from an old cholecystectomy scar (Figure 1). A smaller ulcer measuring 3 cm × 3 cm was also present in the right axilla.

From the relatives it was possible to obtain a clinical history. A cholecystectomy had been performed 40 years previously. The patient had self-traumatized the scar which eventually ulcerated. She had kept the ulcer hidden from her husband for many years. Her husband had died a few months previously and the family sought nursing care at home for their mother. The district nurse then became aware of the lesion but the patient refused to allow her general practitioner to examine the area. The patient had become increasingly immobile and complained of back pain which precipitated her admission to hospital. The family stated that their mother had always been rather quiet and withdrawn but there was no history of psychiatric disease. On admission the patient was too unwell to undergo psychiatric assessment.

Radiographs of the lumbar spine showed destruction of L3 consistent with a metastatic deposit. A chest X-ray showed multiple pulmonary nodules also consistent with metastatic disease.

Figure 1 Malignant ulcer arising from cholecystectomy scar.

Liver function tests, alkaline phosphatase and serum calcium were normal. Several days after her admission she complained of severe pain in the left arm and examination revealed a compound fracture of the left humerus. Radiographs confirmed a pathological fracture with an apparent bony metastasis. Despite full nursing and medical care she deteriorated and died.

At postmortem multiple nodules were found in both lungs and the liver. The lumbar vertebrae (L3 and L4) and the left humerus also showed macroscopic features consistent with malignant infiltration. Histological examination of both the skin lesions and the tumour found in the lungs, liver and bones showed a poorly differentiated squamous cell carcinoma. It was felt that the large skin lesion was the primary tumour and that malignant change had arisen within the chronic ulcer. It is considered unlikely that both the large abdominal ulcer and the smaller ulcer in the axilla could have undergone simultaneous transformation and it is possible that the malignant cells had been seeded into the smaller ulcer by the patient's hands.

Discussion

Macroscopically the chronic abdominal ulcer had typical malignant features and no other primary

tumour was detected at postmortem. The histological similarities in the tumour from all sites suggests that this woman had metastatic spread from a single primary tumour; the histological type and chronological relationship of the metastatic disease to the cutaneous ulcer support the hypothesis that the skin lesion was the site of the primary tumour.

Malignant change may rarely occur in chronic ulcers complicated by persisting infection.^{3,4} Similar neoplasms may arise in the scars of burns and have been reported complicating chronic scarring of the forehead following an avulsion injury,⁵ urinary fistulas,⁶ insertion of a joint prosthesis⁷ and acne conglobata.⁸ The term 'Marjolin's ulcer' is often applied to these lesions, although there is some dispute as to whether Marjolin was the first to describe the condition.⁹

Our patient presented at an older age than the average of 59 years reported in a recent review.¹⁰ However, the 40 year time span between her original cholecystectomy and the development of malignant change is in keeping with the observation that the mean interval from time of original injury to appearance of neoplasm is approximately 35 years.

Once malignant change has occurred, the disease may prove aggressive. Patients with Marjolin's ulcers of the hand have been reported to have a recurrence rate of 9% and regional lymph node metastases in 33% of cases.¹¹ Treatment with wide local skin excision and regional lymphadenectomy is required. Split skin grafts may be required and the patient must be regularly observed for local or distant recurrence.

Dermatitis artefacta results in disfigurement and may cause considerable diagnostic and management problems especially when the patient will not admit the aetiological self-trauma. However, we believe this is the first report of malignant transformation with systemic metastases and death supervening in a case of dermatitis artefacta. It is also noteworthy that the elderly may successfully conceal large and disfiguring lesions from even their closest relatives for many years. It is vital to remove all coverings from skin lesions and inspect them carefully during the physical examination of patients. The less willing the patient is to have the skin examined, the more important is discreet but diligent inspection.

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