Case Reports

Dermatomyositis associated with small cell carcinoma of the lung: dramatic response to corticosteroid therapy

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Introduction

The exact relationship between dermatomyositis and neoplasm remains a point of debate (1). In association with malignancy, dermatomyositis is classically regarded as resistant to treatment with steroids, and results after excision or treatment of the tumour are variable (2). We describe a patient who showed a dramatic response to steroid treatment with marked enhancement of her quality of life.

Case Report

A 52-year-old female smoker with a history of previous alcohol excess presented with a 3-month history of a dry cough with weight loss. For the previous 2 months, she had experienced debilitating weakness especially on standing from sitting and on lifting her arms above her head. She had become bed-bound for 1 month. Complete dysphagia for solid food prompted admission, when she admitted to dysphagia for liquids over the proceeding week. She had abstained from alcohol for 2 months.

On examination, the patient was thin and dehydrated. There was a widespread scaly and eczematous purplish rash, especially on areas exposed to sunlight and around the eyes (Plate 1). There was no finger clubbing but the nailbeds were erythematous. In the chest, there were signs of a collapsed left lower lobe. There were no stigmata of chronic liver disease. Examination of the limbs demonstrated a marked proximal weakness with muscles tender and woody on palpation. The upper limbs displayed flexion contractions at the elbows. There was no evidence of a peripheral neuropathy. Urinalysis was negative.

A clinical diagnosis of bronchial carcinoma complicated by dermatomyositis was made. Chest radiography and computed tomographic (CT) scan of thorax confirmed left lower lobe collapse with widening of the mediastinum. Bronchoscopy demonstrated tumour occluding the left lower lobe bronchus with histology of small cell undifferentiated carcinoma. Creatinine phosphokinase (CK) was elevated at 1221 U l⁻¹ on admission. Barium swallow showed slow initiation of swallowing with no intraluminal lesion, but extrinsic compression below the level of the left main bronchus was noted. An electrocardiograph series was normal.

The patient was admitted to hospital and received intravenous fluid rehydration. She remained unable to swallow and so weak that she could not sit up in bed without assistance. Methylprednisolone 40 mg daily was given intravenously. Symptomatic relief was evident within 3
days of starting steroids when the serum CK had fallen to 440 U l\(^{-1}\). After 1 week of treatment with steroids, she was able to mobilize and could wash and dress independently. Her swallowing improved such that she could take a soft solid diet. Her muscles were no longer tender and they had lost their woody feel. The apparent contractures of the upper limb resolved without formal physiotherapy. Treatment was converted to soluble prednisolone 30 mg daily. On Day 9, the serum CK was 188 U l\(^{-1}\) and she was allowed home prior to commencing cyclical combination chemotherapy. She remained well on oral steroid therapy without clinical evidence of relapse. Unfortunately, she was found dead in bed at home just before her second cycle of chemotherapy was due, some 5 weeks after discharge from hospital. Permission for an autopsy was not granted.

Discussion

We report a case of dermatomyositis temporally associated with diagnosing small cell carcinoma of the lung. A dramatic clinical and biochemical response to corticosteroid therapy was demonstrated.

In this case, the carcinoma was proven. Muscle biopsy was not performed to confirm dermatomyositis, but the diagnosis was supported by the clinical history and examination findings supported by an elevated serum CK. Her muscles, rash and oesophageal dysmotility all displayed an impressive subjective and objective response to treatment. There was no relapse in her condition on converting from intravenous methylprednisolone to soluble prednisolone. In this individual, treatment with steroids yielded a dramatic and worthwhile improvement in her quality of life.

Dermatomyositis in adults may be idiopathic, associated with collagen vascular disease or associated with neoplasia. Malignancy is noted in up to 30% of cases of adult dermatomyositis (3). Mortality rates of up to 50% have been reported due to the underlying malignancy and lack of response to therapy (4). Despite such therapeutic nihilism, we suggest that a trial of steroid therapy is warranted in patients with dermatomyositis, even if associated with a tumour with little chance of cure. The possible benefits in terms of enhanced quality of life are worthwhile.

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References


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**Hypomagnesaemic tetany associated with repeated courses of intravenous tobramycin in a patient with cystic fibrosis**

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**Introduction**

Intravenous aminoglycoside therapy may cause reversible renal tubular damage and symptomatic hypomagnesaemia.

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We report the case of an adult patient with cystic fibrosis who developed hypomagnesaemic, hypocalcaemic tetany following repeated courses of intravenous tobramycin.

Magnesium deficiency is usually secondary to either gastrointestinal or renal loss. The kidneys control the fine regulation of magnesium metabolism, re-absorption occurring mostly in the thick ascending limb of Henle (50–70%) and the proximal convoluted tubule (15–20%) (1). In normal homeostasis, urinary magnesium loss can be