decided to proceed to orchidectomy, which was performed through a right inguinal incision, the cord being clamped before division. The postoperative course was uneventful.

Histologically the "picture of this tumour is in keeping with the Malignant Teratoma Intermediate (Sub Group A) of the Testicular Tumour Panel and Registry of the Pathological Society of Great Britain and Ireland."

Subsequently the patient received a course of radiotherapy to the right scrotum, the iliac and inguinal lymph nodes, and the para-aortic nodes up to the xiphisternum.

He was alive and well with no evidence of metastases 18 months after operation.

Comment

This case illustrates a distinctly rare presentation of an uncommon tumour. Only one other similar case has been recorded in the literature (Cassie, 1956). There are some dissimilarities between the two cases. Cassie's patient presented

in the outpatient department with a haematocele two weeks after a trivial injury to the scrotum resulting in a painless rupture of a testis harbouring a seminoma, which had already metastasized to the lungs. The present case presented as an acute emergency, the patient complaining of severe pain on the side of the ruptured testis. The tumour was a teratoma without evidence of metastases. He would not admit any history of injury to the scrotum, not even in retrospect, though tumour involvement may have rendered the testis so insensitive that minor trauma to it may have been ignored.

I would like to thank Mr. D. G. Jenkins for permission to report this case. The histological examination was done by Dr N. J. H. Davidson. Radiotherapy was given by Dr. Ian Bell.

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Dermatomyositis with Parenchymal Lung Involvement

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Primary lung involvement in dermatomyositis is not a well recognized clinical entity, in contrast to its occurrence in other connective tissue disorders such as progressive systemic sclerosis, systemic lupus erythematosus, and rheumatoid arthritis (Beerman and Kirshbaum, 1961). We report here a case of dermatomyositis in which pulmonary manifestations were the presenting feature. A good remission of all symptoms was obtained for nine months with corticosteroid therapy.

Case Report

The patient, a 39-year-old housewife, was first seen in September 1970. She gave a four-month history of cough, sputum, and increasing exertional dyspnoea. For two months she had had generalized muscle tenderness, proximal muscle weakness, and arthralgia affecting the metacarpophalangeal and proximal interphalangeal joints of both hands. During the month before admission she had noticed a transient papular rash on the dorsum of both hands and feet and had Raynaud's phenomenon in the hands.

On examination she was pale and orthopnoeic but not cyanosed. She was unable to sit or stand unaided and there was severe proximal muscle weakness and tenderness but no wasting. Heliotrope streaking and scaling of the skin was seen over the dorsum of the metacarpophalangeal joints of the hands. Her respiratory rate was 28/min, chest expansion $\frac{1}{2}$ in (1.3 cm), and there were inspiratory crepitations with diminished air entry at both lung bases. There was no evidence of joint disease.

Haemoglobin was 12.0 g/100 ml, E.S.R. (Westergren) 60 mm/hr, and latex test for rheumatoid factor, antinuclear factor test, and L.E. cell test were all negative; results of other routine tests were normal. A chest x-ray picture showed bilateral widespread interstitial infiltrations. The results of lung function studies are shown in the

Table. The serum creatinine phosphokinase was 1,250 (normal <70) mIU/ml, and serum aldolase 37.9 (normal <7) mIU/ml. Muscle biopsy showed necrosis and regeneration of muscle fibres with an associated inflammatory infiltrate of histiocytes, lymphocytes, plasma cells, and a few eosinophils. The features were consistent with myositis.

Treatment with prednisolone 15 mg daily was started on 1 October 1970. Within a few hours of the first tablet of 5 mg she was able to sit up unaided. By the next day her dyspnoea and the abnormal physical signs in the respiratory system had disappeared. This improvement was maintained and she was discharged home after three weeks. The changes in the serum levels of the muscle enzymes and in the sedimentation rate in response to corticosteroid therapy are shown in the Chart. A cut in prednisolone dosage from 15 mg a day to 10 mg a day in January 1971 was associated with the return of slight muscle weakness and dyspnoea. She was maintained symptom-free on prednisolone 15 mg daily. No further respiratory symptoms or signs developed, and though the chest x-ray picture remained unchanged the lung function tests continued to improve (see Table). No side effects from corticosteroid therapy were recorded.

Dates and Results of Pulmonary Function Studies

	24/9/70	9/10/70	23/3/71
FVC (l.)	1.33	1.59	1.93
FVC (% predicted value)	43	51	62
FEV ₁ (l.)	1.14	1.35	1.64
FEV ₁ /FVC (%)	85	85	85
Pao ₂ (mm Hg)	82.2	94.2	94.1
Paco ₂ (mm Hg)	33.6	32.4	33.6
pH	7.470	7.444	7.391
A-aDo ₂ (mm Hg)	33.9	24	6

Comment

The diagnosis of dermatomyositis was confirmed by the raised serum levels of muscle enzymes and the histological evidence of myositis. The clinical features accorded with type 2 described by Walton and Adams (1958). The lung function studies showed hypoxaemia associated with restriction of the vital capacity but without airways obstruction. The increase in alveolar-arterial oxygen gradient (A-aDo₂) indicated ventilation-perfusion imbalance or diffusion block. Transfer factor for carbon monoxide was reduced to 15.2 ml/min/mm Hg (predicted normal value 19-29) on 9 February 1971, the one occasion when it was measured. The abnormal A-aDo₂ resolved on treatment but the vital capacity remained restricted to 62% of the predicted normal value, possibly signifying some restriction of chest wall movement.

Three types of pulmonary involvement have been recorded in dermatomyositis (Hepper *et al.*, 1964). Primary pulmonary

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Response to corticosteroid therapy.

involvement occurs rarely in dermatomyositis. The clinical and physiological findings in this case accord with those of the previous 16 cases of dermatomyositis with pulmonary involvement (Dubowitz and Dubowitz, 1964; Garcia and Toledo,

1964; Hyun *et al.*, 1962; Mills and Mathews, 1956; Pace *et al.*, 1963). In nearly all these cases the respiratory symptoms preceded those of the myositis by weeks or months, as occurred in this patient.

In the present case the respiratory symptoms responded well to corticosteroid treatment in moderate doses and the improvement was maintained for nine months, apart from one relapse after reduction in the dosage of prednisolone (see Chart). In the previous 16 patients with dermatomyositis and parenchymal lung involvement a good response to corticosteroids was recorded initially in some patients (Goldfischer and Rubin, 1959; Hepper *et al.*, 1964; Weaver *et al.*, 1968). This was sustained for more than six months in only one patient (Weaver *et al.*, 1968), in whom chest x-ray findings were normal after treatment, but lung function studies did not show the improvement recorded in the present case.

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Rhabdomyolysis Caused by Hornet Venom

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Rhabdomyolysis, or acute necrosis of skeletal muscle fibres, is relatively rare. Among the many agents known to cause such necrosis is animal venom but so far this refers only to that of certain species of snakes (Marsden and Reid, 1961; Furtado and Lester, 1968; Rowlands *et al.*, 1969). We report a different type of venom which may produce this lesion. Severe muscle necrosis developed in two patients who sustained multiple stings by insects of the Order Hymenoptera, the hornet *Vespa affinis*.

Case 1

A 37-year-old Tamil man was attacked by a hive of hornets nesting in a tree he was felling. He sustained 250 stings and was admitted directly to hospital in Sandakan, Sabah. Apart from the multiple sting sites and the local swelling they caused there were no

immediate effects or allergic manifestations. After 24 hours he complained of generalized aches and pains and had nausea and some vomiting. By the fourth day it became apparent that he was oliguric, having passed only a small amount of dark urine. The blood urea was raised to 139 mg/100 ml, and when this reached 288 mg/100 ml on the fifth day he was transferred by aircraft to the renal unit in Singapore.

He was drowsy, had a tachycardia with extrasystoles, and the E.C.G. showed hyperkalaemic effects; 50 ml of urine obtained by catheterization was dark, acidic, and contained albumin. He was treated by peritoneal dialysis but over the next two days continued to deteriorate with the onset of a severe chest infection. He died nine days after envenomation. Apart from the encrusted sting sites on the skin the main gross finding at necropsy was extensive bilateral bronchopneumonia.

Skeletal muscles were widely sampled for microscopical examination and nearly all showed rhabdomyolysis to a greater or less degree. This varied from almost confluent necrosis in parts of some muscles (Fig. 1) to spotty necrosis of single fibres. A striking feature was the isomorphic proliferation of sarcolemmal nuclei which extended as chains to form myotubes and which were associated with basophilic cytoplasm (Fig. 2). Numbers of mitoses provided further evidence of regeneration. There was a moderate leucocytic and macrophage cellular reaction. Cardiac and smooth muscle remained unaffected. There was renal tubular necrosis with early tubular epithelial regeneration. Widespread focal necrosis had occurred in the liver.

Case 2

A 19-year-old Tamil man was attacked by a hive of insects. He sustained about 180 stings and was admitted to hospital. There were no features of an allergic response. Within 12 hours he had muscle cramps and pains and at 24 hours his urinary output had diminished. The blood urea level was raised to 66 mg/100 ml at 48 hours and he was transferred to the renal unit.

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