Short report

Restless red legs: an association of the restless legs syndrome with arborising telangiectasia of the lower limbs

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SUMMARY Two patients are reported with Ekbom's syndrome of "restless legs" occurring in association with arborising telangiectasia of the lower limbs. Sensory complaints have previously been reported in this skin condition but not described in detail. The co-existence of the two conditions is discussed in the context of previous explanations of the restless legs syndrome.

The syndrome of "restless legs" was fully described by Ekbom in 1944 and 1960.^{1,2} Thomas Willis probably deserves credit for the first clinical description in 1685. In essence, it constitutes an unpleasant sensation in the legs, often difficult to describe, usually bilateral and relieved by movement. In some, the description is of a creeping sensation and, in others pain is the principal discomfort. In Ekbom's original description, the disorder was not associated with any demonstrable disorder of the nervous system but an association with iron deficiency was postulated. Similar types of discomfort in patients with peripheral neuropathy have been described.^{3,4} Spillane⁵ reported on the condition in respiratory failure and considered it to be psychogenic. Treatment is problematical. Ekbom himself preferred diazepam but Matthews⁶ reported success with clonazepam, a finding confirmed by Read *et al*⁷ in the restless legs syndrome of uraemic neuropathy.

Arborising telangiectasia denotes the presence of leashes of branching telangiectatic blood vessels on otherwise healthy skin. Initially it tends to affect the lower legs but it may spread upwards to produce a "generalised essential telangiectasia". It is not associated with varicose veins or with preceding venous thrombosis and its cause remains a mystery. It is commonly dismissed as being of no more than cosmetic significance.

We report two cases where arborising telangiectasia of the legs was followed by a disabling sensory disturbance akin to the "restless legs" syndrome.

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Case reports

Case 1

A 23-year-old female bank clerk presented in 1983 with a history of tingling in the legs. Two years previously she noted the gradual appearance of purplish discolouration of the skin of the legs beginning distally and spreading upwards over a period of two months. Eight months before presentation, she became troubled by intermittent tingling in both feet and in the left leg to mid-tibial level. This was associated with a constant need to move the legs, as a result of which she would have to get up from sitting or bed and pace the floor in search of relief. She complained also of an intermittent tight feeling in the left hand. She developed an aching discomfort in the left anterior tibial compartment which was generally present on exercise and relieved by rest; later this began to trouble her even at rest. No other sensory phenomena were described and there was no weakness. In the past she had had an osteochondroma removed from the left humerus in 1978 and an appendicectomy. For several years she had occasionally experienced Raynaud's phenomenon.

Examination of the legs showed arborising telangiectasia with fine telangiectases extending from the ankles up over the calves and prominent leashes of telangiectatic vessels coursing over the anterior shins. (fig) There was no telangiectasia present elsewhere. There was a variable slight tenderness over the left anterior tibial compartment. There was no neurological abnormality.

She had previously been investigated by angiography and all of the major arterial vessels in the lower limbs were seen to be normal as were the vessel at the left ankle and foot. Further investigations were as follows. ESR, biochemical profile, thyroid function tests, serum B12, serum protein electrophoresis and immunoglobulins were all normal. A full blood count revealed a marginal eosinophilia. Serological tests for syphilis, rheumatoid factor, antinuclear and anti-DNA antibodies were negative. The CSF cell, protein and IgG content were normal. Nerve conduction studies and somatosensory and visual evoked potentials were normal. A

Fig. Arborising telangiectasia in Case 1

full length myelogram showed an irregularity at L5/S1 on the right which was thought to represent a nerve root cyst; there was a minor anterior extradural impression on the contrast column at the levels C3 and C7 without any feature of cord or root compression. Despite a variety of medications, here symptoms remained unchanged.

Case 2

A 61-year-old female cleaner was referred in September 1981 complaining of pain and paraesthesiae affecting the whole of both legs. She described her symptoms as a severe aching of the legs and feet which felt "as if gripped by an ice-cold band". Although present during the day, her discomfort was particularly severe in bed at night when she would gain relief by moving her legs. In the daytime the symptoms were present when walking but became worse if she stopped and sat still for any length of time. Three years previously she had noticed a purple discolouration of the right leg which gradually spread upwards. The other leg became similarly involved one year later. Eleven years earlier she had had surgery for a duodenal ulcer and three years previously she had had shingles on the right side of the face. She was a smoker of 20 cigarettes per day and drank five pints of mild beer per week. The family history was unremarkable.

Examination showed extensive arborising telangiectasia extending from the ankles to the thighs with leashes of elevated telangiectatic blood vessels on the medial aspects of the calves. There were no abnormalities in the cardiovascular system and in particular, the peripheral pulses were all present. In the nervous system, the cranial nerves were normal. In the limbs, muscle tone and power, co-ordination and reflexes were normal. The abdominal reflexes were absent. The right plantar response was extensor. Sensory testing revealed diminished vibration sense at the malleoli, minimal errors in joint position estimation and normal pain and light touch appreciation.

A lumbar arteriogram performed prior to referral was reviewed and showed no significant abnormality. Full blood count, ESR, plasma electrolytes and liver function tests were normal. Serum thyroxine and B12 levels were within the normal range and serological tests for syphilis were negative. CSF cells, protein and IgG/protein ratio were normal. Plain radiography demonstrated evidence of cervical and lumbar spondylosis. A myelogram showed no evidence of root or cord compression. Because of difficulties during the examination, good views of the cervical spinal cord could not be obtained. Nerve conduction studies and lower limb somatosensory evoked responses were normal.

She was followed in out-patients over the next two years and her condition remained static. Treatment with baclofen and tricyclic antidepressants produced no improvement and her signs remained unchanged. A recent trial of clonazepam has produced a clear improvement in her discomfort.

Discussion

It is common knowledge that both arterial and venous insufficiency of the lower limbs may cause pain and discomfort. In particular, restless legs are a common symptom of varicose veins.^{8,9} Neither of our patients had evidence of varicosities as such. Arborising or

essential telangiectasia is not discussed in great detail in the literature of dermatology, probably because it is unassociated with systemic disease and other than the cosmetic disfigurement produced, is not regarded as being in itself disabling; indeed minor degrees of the condition are commonplace. In the most comprehensive review available, McGrae and Winkelmann¹⁰ describe 13 patients with essential telangiectasia of whom five mentioned symptoms of numbness, tingling and burning in the dependent limbs. It is not entirely clear from the brief description given, how severe these symptoms were and most subsequent textbook descriptions make no mention of sensory symptoms.

The two cases described here presented with distressing sensory symptoms, the pattern of which conforms to that of the restless legs syndrome described by Ekbom. Minor degrees of such symptoms are common in the general population but disabling manifestations are not. In each case symptoms began shortly after the development of lower limb telangiectasia suggesting the possibility of an aetiological connection between the two disorders. Our second patient had minor neurological signs best explained by a degree of cervical spondylotic myelopathy; although a sensory presentation of cervical myelopathy is well recognised, the description of her symptoms rendered this a most unlikely explanation.

If one excludes those cases where Ekbom's syndrome is associated with a recognised disorder of the nervous system, attempts to explain the pathogenesis have invoked two different disorders. A "neuropathic" theory suggests that a minor disorder of spinal cord or peripheral nerve sensory function produces discomfort, relieved by afferent impulses derived from leg movement. The well recognised relief of symptoms by agents such as clonazepam also implicates nervous mechanisms. A "vascular" hypothesis holds the accumulation of toxic metabolites in the legs to be responsible for the disturbance, leg movements promoting venous flow and dispersal. The association with anaemia, varicose veins and the later stages of pregnancy provides some support for this concept as does the tendency for relief of symptoms by fever and vasodilator drugs.² The restless legs of simple varicosities are reported to respond to 0-(β -hydroxyethyl) rutoside (Paroven Zyma Ltd).^{9,10} This agent, a derivative of the naturally occurring flavonoid rutin, probably acts on the endothelial cell junction reducing capillary permeability and hence interstitial fluid pooling. So far we have not had the opportunity to assess Paroven in our patients.

In conclusion, our present report of arborising telangiectasia in association with the restless legs phenomenon suggests that vascular disturbances play a part in the aetiology of some cases of restless legs. The

converse possibility that neural influences are involved in the development of arborising telangiectasia cannot be ruled out. A "neuropathic" origin of other cases seems likely in view of the recognised association with minor neuropathies.

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