Restless leg syndrome relieved by cessation of smoking

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Restless leg syndrome, or Ekbom's syndrome, which may occur with or without myoclonic jerks,[1] is a common, ill understood, difficult-to-treat condition that tends to affect middle-aged women more often than men. This report describes a patient who finally obtained long-term relief by giving up cigarette smoking.

Case report

A 70-year-old woman, living alone but active in the community, had complained bitterly for years of insomnia caused by restlessness of her legs. During the day, when she was active, her legs did not bother her. She did not nap in the afternoon, fearing that she would then have even more difficulty sleeping at night. When she went to bed at night a prickling, itching, tickling and crawling sensation would develop in her legs. The sensation would intensify until it became unbearable, forcing her to get up and walk around. This cycle was repeated several times each night. She did not appear to have myoclonic spasms when asleep. There was no family history of this condition, and there had been no precipitating factors when it first appeared, in her mid-50s.

She also suffered from low back pain without radiation into her legs or weakness of the extremities. She had extensive osteoporosis, having spontaneously undergone menopause at the age of 31. In 1966 she had undergone laminectomy and discotomy followed by spinal fusion. She had also undergone fusion of the right hip. At no time had she suffered from emotional problems. For many years she had had chronic asthma with no evidence of bronchiectasis.

She took large numbers of 222 tablets (acetylsalicylic acid and codeine) for her back pain, as well as 200 mg of oxtriphylline and two inhalations of salbutamol four times a day. She did not drink alcohol but had smoked about 25 cigarettes per day for 50 years.

She appeared somewhat frail and weighed 47 kg. There were inspiratory and expiratory rhonchi throughout her chest, but she had no cyanosis or clubbing. Straight-leg raising was very limited on the right side; the left leg could be raised to 70°. Her reflexes were 3+ bilaterally at the knee, 2+ at the right ankle and absent at the left ankle. She had full motor power in the lower legs, and her responses to pin prick, cold and vibration were normal. All peripheral pulses were also normal. She did not appear depressed or agitated.

Laboratory investigation ruled out iron-deficiency anemia, folate deficiency, diabetes mellitus and uremia (all known causes of restless leg syndrome[2]). The only abnormality detected was a calcium bone mass measurement of 0.68.

Over the years physicians had recommended that she stop smoking, but to no avail. They had given her codeine for back pain, chlorpheniramine maleate for allergies, dihydrocodeine for unproductive cough, diazepam, oxazepam and chlorpromazine at various times for insomnia, multiple vitamins and folic acid, all of which have traditionally been used in an attempt to bring relief from the restless leg syndrome.[2] She had also applied hot-water bottles and ice packs to her legs, worn elastic stockings in bed and used a bed cradle.[2] Nothing had helped.

Early in 1985 her chest condition deteriorated and she was given steroid therapy in hospital; it had no effect on her leg restlessness. Shortly thereafter she suffered a fracture through the neck of the right humerus and became depressed at being unable to care for herself. Amitriptyline hydrochloride therapy caused a short-lived reduction in the restless leg syndrome. When her mood improved, the drug was discontinued.

Even though she did not appear to suffer from myoclonus in addition to leg restlessness, she was given clonazepam, as recommended by Boghen.[3] This drug had to be discontinued before an adequate trial was completed because of side effects. Carbamazepine was then tried, as suggested by Telstad and colleagues,[4] but it brought no relief.

Shortly thereafter, following yet another stay

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in hospital for her asthma, the patient abruptly stopped smoking for the first time in 50 years. There was no subjective improvement in her chest condition, and pulmonary function tests showed no change. However, 7 weeks later she reported that the restlessness of her legs had completely disappeared about a month after she had stopped smoking and that she was sleeping better than she had in many years. Four months later she was still free of restlessness in her legs.

Comments

This woman did not suffer from uremia, diabetes mellitus, a malignant disorder, barbiturate withdrawal or general avitaminosis and had not had prolonged exposure to cold[2] or psychiatric problems, all of which are sometimes implicated in restless leg syndrome.[2] She did have a chronic chest problem, but it was unchanged after the disappearance of her leg restlessness.

Many of the medications traditionally used to relieve this condition had not been helpful. Propranolol therapy[2] was thought to be unwise in view of her bronchospasm. Imipramine hydrochloride,[4] levodopa with benserazide,[5] and restricted drugs such as methadone[3] and oxycodone[3] have been suggested as helpful in this condition. Fortunately these drugs were not required for this patient.

It appears that about 1 month elapsed between the patient's abrupt cessation of smoking and the relief of her leg restlessness. During this period no further medication or other form of therapy was introduced, and her asthma did not lessen. No one had suggested to her that discontinuing smoking would relieve the restlessness in her legs. Her peripheral nervous system and arterial pulses had always been normal, so it is difficult to explain the mechanism of cure of restless leg syndrome in this case.

References

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