Restless Leg Syndrome

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Restless leg syndrome (RLS) is a very common medical condition that is under recognized and often misdiagnosed and maltreated in general practice in Pakistan. It is a very distressing condition for patients and often attributed to nutritional deficiencies or labeled as simple cramps. Its cure is rarely possible. In this article the authors intend to discuss the diagnosis and management of this condition.
Key words: Leg syndrome, restless

RLS was first described by a Swedish neurologist Ekbom in 1940. Restless leg syndrome (RLS) is a common neurological disorder characterized by unpleasant sensations in the legs and an urge to move them for relief. Individuals affected with the disorder describe the sensations as pulling, drawing, crawling, wormy, boring, tingling, pins and needles, prickly, and sometimes painful sensations that are usually accompanied by an overwhelming urge to move the legs. Movement provides temporary relief from the discomfort. This condition can be quiet debilitating as sleep is disrupted leading to poor day performance. RLS is often under recognized and becomes apparent only after taking detailed history particularly when one is complaining of leg cramps.

Etiology:
Idiopathic RLS is a poorly understood condition. Although the condition can occur with an Autosomal Dominant familial tendency in up to 50% of patients; the gene for RLS has so far not been recognized. There have been some suggestions of dopaminergic hypo function in the Caudate nucleus and Putamen from PET scan studies[1]. This is supported by the fact that dopamine agonists offer the most effective treatment for RLS.

Diagnosis:
Diagnosis is purely clinical; the symptoms are worse in the evening or at night during rest and are partially relieved by movement. Diagnostic criteria drawn up by the International RLS Study Group[2] should include all the symptoms shown in table 1.

Table 1: Diagnostic criteria

Desire to move the extremities, especially the legs and rarely the arms
Motor restlessness
Symptoms worse at rest with temporary relief by activity
Symptoms worse later in day or at night.

There are no diagnostic tests available but scoring of symptom severity during the Suggested Immobilization Test (SIT) may aid in diagnosis and is useful in clinical trials[3]. In SIT test leg activity is recorded during EMG while subject is awake but asked to sit still. Sleep studies may also be useful in detecting involuntary periodic limb movements, a feature that occurs in normal sleep but with increased frequency in RLS[4]. However it can occur in other sleep and neurological conditions.

It is important to exclude other conditions associated with restless legs or involuntary movements (table 2) before making the diagnosis of Idiopathic RLS. Baseline investigations include TFTs, B12, Folate and Iron levels. A careful history including family history should also be taken as the condition may even exhibit the phenomenon of genetic anticipation[5].

Table 2: Conditions associated with Restless legs or involuntary movements

Pregnancy
Neurological/psychiatric:
Peripheral neuropathy, radiculopathy, akathisia, Parkinson disease
Iron deficiency anaemia
End –stage renal disease
Idiopathic leg cramps
Secondary to medications, e.g. Potent diuretic medications, such as furosemide (Lasix), or the vigorous removal of body fluids even with less potent diuretics can induce cramps by depleting body fluid and sodium. Simultaneously, diuretics often cause the loss of potassium, calcium, and magnesium, which can also cause cramps

Prognosis and treatment
RLS is a life-long condition for which there is no cure. Symptoms may gradually worsen with age. Because symptoms are intensified by inactivity and lying down, RLS patients often have difficulty falling asleep and staying asleep. Left untreated, RLS causes exhaustion and fatigue, which can affect occupational performance, social activities, and family life and patients are predisposed to clinical depression.

Massage and application of cold compresses may provide temporary relief. Some patients find avoidance of caffeine, alcohol or nicotine may me helpful. Macronutrient and micronutrient deficiencies should be corrected. Current research suggests that correction of iron deficiency may improve symptoms for some patients. Medications such as temazepam, clonazepam, levodopa/carbidopa, pergolide mesylate, pramipexole, ropinirole, cabergoline, oxycodone, and codeine are effective in relieving the symptoms[6] as shown in table 3.

Table 3: Drug treatment for restless leg syndrome

Opiates
Benzodiazepines: temazepam, clonazepam
Dopamine agonists: pergolide, pramipexole, ropinirole and cabergoline
L-Dopa; madopar, sinemet with 100-600mg/day L-Dopa

Benzodiazepines are useful only in mild cases. When conservative management doesn't suffice dopamine agonists are preferable to L-Dopa formulations because of fewer side effects. The problem of augmentation or worsening of symptoms can occur with dopaminergic drugs particularly L-Dopa. Doses required are generally much smaller than those used for Parkinson's disease and will be effective in around half of those affected. Benzodiazepines in particular clonazepam and opiates have been tried with varying degrees of success. It is thought that these drugs either promote sleep or reduce sleep arousals.

If initial treatment is not helpful or the diagnosis is in doubt patient should be referred to the local neurology or movement disorder clinic. It is important to recognize that it is a chronic condition and patients are predisposed to clinical depression which should be sought and managed appropriately.

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