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Restless Leg Syndrome

Restless leg syndrome (RLS) was first described by Ekbom in 1945. It characteristically affects the legs but can occasionally involve the arms. There is an urge to move with associated burning, tingling, aching, fidgeting, throbbing, tightness and occasionally a feeling of insects crawling under your skin. Pain may be a predominant feature. Symptoms tend to be worse in the evening or at night. It affects all age groups but increases with age. RLS is a common cause of insomnia, unrefreshing sleep and excessive day time sleepiness. It has a higher occurrence in Women.

Criteria for diagnosis:

- 1) An urge to move the legs usually with unpleasant sensations.

- 2) The urge to move or the sensations worsen during periods of rest or inactivity.
- 3) The urge to move or the sensations are partially or totally relieved by movement.
- 4) The urge to move or sensations are worse in the evening or night.

Underlying Pathology:

The effect on a hormone called Dopamine, which is produced in the base of the brain

Possible underlying causes:

- 1) Idiopathic (no underlying cause). This has a strong genetic component with a family history of up to 60% in one study.
- 2) Iron deficiency anaemia.
- 3) Pregnancy – RLS becomes more severe over the duration of the pregnancy. The effect may be due to Hormonal changes or Iron deficiency anaemia.
- 4) Chronic Kidney disease.

5) Parkinson's disease, Diabetes, Multiple Sclerosis, Peripheral Neuropathy and Spinal disease are all known associations.

Prevalence: 9-15% in some studies but lower in others. There is a wide variation in age of onset from childhood to older age. 38% have reported the disorder before the age of 20 years and 10% before the age of 10 years.

The prevalence is two times higher in women than men and increases with age. It affects 13.5% - 26.6% of pregnant women and worsens over the period of the pregnancy.

There is a higher prevalence in Northern Europeans and North Americans than African, Middle Eastern, Asian, Hispanic or South Eastern Europeans.

Pathophysiology: Dopamine is a neurotransmitter produced in several areas of the brain including the Substantia Nigra. Desensitisation of Dopamine receptors is highly implicated in RLS.

Iron deficiency is also an important association as it has a role in Dopamine metabolism. Iron stores in the brain have been found to be low in patients with restless leg syndrome.

Low iron may be a contributory factor in pregnancy, although it is more likely a hormonal influence through the action of Oestradiol or Prolactin.

Effect of RLS:

Restless leg syndrome can have a major effect on a patient's quality of life. Difficulty getting to sleep, staying asleep and un-refreshing sleep can lead to excessive day time sleepiness and psychological problems.

A recent extensive review showed that RLS is probably associated with Diabetes, impaired Glucose intolerance, and possibly heart disease.

Management:

Evidence based guidelines have been published including the European Restless Legs Syndrome Study Group (EURLSSG).

Routine screening should include a comprehensive drug history for exacerbating agents such as anti-depressants, anti-psychotics and some anti-histamines.

Serum Ferritin should always be checked as anaemia may not always be present. Patients with a level of less than 50ug/l should be started on treatment.

Only around 20% of patients will require drug treatment. Measures such as avoidance of alcohol, smoking and caffeine may help. Regular exercise, avoidance of stress, sleep deprivation, and over exertion should be advised.

Medical management:

A number of drugs are available which include Levodopa and in particular Dopamine agonists (DA's). The former is no longer first line as it tends to cause augmentation with symptoms occurring during the day as well as at night.

Rotigotine, Ropinirole and Pramipexole are the only licensed Dopamine agonists for the treatment of RLS in United Kingdom. Doses should be kept as low as possible to avoid augmentation of symptoms which can also occur with DA's.

Patients should also be warned about the side effects which include impulse control disorders including pathological gambling, compulsive shopping and hyper sexuality. This may affect up to 20% of patients.

There are a number of other drugs used which include Gabapentin, Pregablin, Sodium Valproate,

Topiramate, Clonazepam, Methadone and Tramadol which have been shown to be effective.

Summary:

Restless leg syndrome is a common disorder which if ignored can lead to a poor quality of life for patients. It is important to follow the diagnostic criteria to make a diagnosis. Simple measures may help but drugs are also available to ease the misery of this condition.