



RESTLESS LEGS SYNDROME (RLS) IN CHILDREN AND ADOLESCENTS

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ABSTRACT Restless legs syndrome (RLS) is a term which was firstly described this word in mid-1940 by a Swedish neurologist Karl Ekbom. It described as a sleeping disorder characterized by sensory and motor disturbances of limbs, it is usually occurring during rest. It is often known to be growing pains and not an actual situation that should be treated. To get the immediate relief from discomfort or pain, the children or adolescent moves his or her legs, extends his or her leg, shakes and turns, or gets up and walks or runs nearby. Approximately 1.5 million children and adolescents are predicted to have restless legs syndrome (RLS) in the United States and about 35% of patients who informed having RLS and they told that it started before 20 years of age. Adults are affected about 10%. Its exact cause is unknown but some other causes include-diabetes, genetic cause, dietary pattern and low level of iron intake but Some Scholar's thought that it can travel in families through genes, so it may be a genetic issue. RLS is show many type of sign and symptoms like desire to move legs, disturbances in sleep etc.¹

KEYWORDS : Restless legs syndrome, urge, children and adolescents.

1.INTRODUCTION

Restless legs syndrome (RLS) is a term which was firstly described this word in mid-1940 by a Swedish neurologist Karl Ekbom to describe as a sleeping disorder characterized by sensory and motor disturbances of limbs, it is usually occurring during rest. RLS is marked as a desire to move, generally but not affecting the legs all the time but can occur during other times when your legs are in the resting period. It is often known to be growing pains and not an actual situation that should be treated.² To get the immediate relief from discomfort or pain, the children or adolescent moves his or her legs, extends his or her leg, shakes and turns, or gets up and walks or runs nearby. Because of this he or she feels immediate relief. Some Scholar's thought that it can travel in families through genes, so it may be a genetic issue.³

2.DEFINITION

Restless legs syndrome is a sleeping disorder which happens due to a sensory and motor disturbances in which the children and adolescents informed that arises an uncomfortable and uncontrollable desire to move his or her legs.⁴ This desire arises usually occurs at bedtime but can happen at different times when the legs have been resting period, such as a long time sitting for a long period (e.g., during long car rides or while watching a movie without changing the position).⁵

3.Prevalence

Approximately 1.5 million children and adolescents are predicted to have restless legs syndrome (RLS) in the United States and about 35% of patients who informed having RLS and they told that it started before 20 years of age.⁶ Adults are affected about 10%. Almost one third- symptoms earlier to age 18 year and it is more common in female children.⁷

4.Causes

RLS causes are different in child to child but some are as follows:-



But in other children it is caused by,

- Allow iron level
- Diabetes
- Kidney or some neurological diseases.
- It can transmit through gene by parents.
- It can occur too many different types of drugs including those used to treat depression, allergies, and psychiatric disorders may cause RLS as a side effect.⁸

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4.Pathophysiology

It is happening in two different ways. So that is Step-1 or Step-2.

Step-1

The main cause of RLS is still unknown. So it can happen due to family background. It leads to polymorphism in genes of fetal limb development and axon guidance because of this it caused altered central dopamine transmission. It can cause the urge to move with paresthesia at rest (at evening, night, and when lying) or in the hand, it also caused by forced immobilization.⁹

Step-2

Because of blood loss, pregnancy, blood donors and renal insufficiency lead to iron deficiency (serum ferritin <50mg.mL-1) in the brain. It also caused altered central dopamine transmission. It may also be caused by Neuroleptics, antihistamines, and antidepressants. Altered central dopamine transmission is caused by Periodic leg movements awake and during sleep and also can cause the urge to move with paresthesia at rest (in the evening, night, and when lying) or on the other hand, it also caused by forced immobilization. Symptoms of restless legs syndrome (RLS).⁹

Symptoms

Symptoms of restless legs syndrome are as follows:

Leg discomfort or "heebie-jeebies":- it is an awkward type of leg discomfort which is generally characterized by adults as crawling, dragging, tugging, itching, pulling, and burning, pulsating. It has been explained as a sensation of "cola running via the veins". Children may explain these feelings as "got to move, jerked or kick." These types of sensation mainly arise at the sleeping time but it also can happen at the other time when the legs are in a resting period.

Desire to move the legs: - To get rid of leg discomfort, children and adolescents try to shake his or her legs frequently; they do like that when they are in resting and lying down period.

Sleep disturbances: - Children and adolescents needed much time to fall asleep because of the desire to move the legs to get relieve the discomfort. Sometimes it difficult to stay in sleep also.

Behavior problems at bedtime:- Because children have a tough time falling

asleep, they may not remain in bed and sometimes demand to get out of bed to spread their legs to get rid of discomfort.

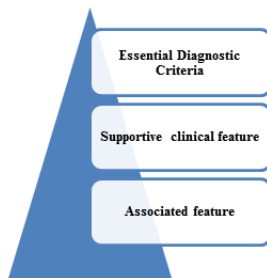
Lack of sleep in Daytime: - Difficulty with falling sleeping and staying asleep can happen out of sleep in the daytime.

Behavior and school performance problems: - Repeatedly, due to disturbances in sleep, many problems can arise in a child's academic performance or in daytime behavior like frequent irritating mood, melancholy, lack of concentration, and learning disability, etc. 10 Diagnostic Evaluation

There is no any medical test to diagnose RLS but diagnosis is based on symptoms. 11

- Check the medical history
- Do complete physical exam

Some diagnostic criteria are as follows:



Essential Diagnostic Criteria:

- Check the urge to shake the legs, implicated disturbing sensation in the arms or torso. Disturbed Motor function with inactivity (lying down, sitting).
- Check the deterioration of symptoms in the evening or at night time.

II. Supportive Clinical Feature:

- Check family history
- Assess the acknowledgment to dopamine agonist
- Check the presence of PLMs.

III. Associated Feature:

- Check the medical history
- Do complete physical exam
- Check the actual progress course of disorder
- Check the sleeping pattern or disturbances during sleep.

Management

- Daily exercise: - Do the calm exercise such as a walk or cycling can be tiring. At bedtime, try to escape heavy workout within a few hours.
- Avoid caffeine: - Try to avoid caffeine-containing products such as chocolates, coffee, teas, colas, and some type of medicines, which can make the RLS condition very worse.
- Use local comfortable devices for legs: - Try to use a heating pad, cold compressions, or allow rubbing your legs to give temporary relief to the trouble in your legs and also do massage, walking, acupressure, light exercise, or use other relaxation methods.
- Assess the levels of iron: - As per your physician order, check the levels of iron and folic acid in your child, if necessary. The low level of these substances can reduce symptoms in RLS. Take iron or foliate supplements as per your doctor's recommendation.
- Attention regarding medication options: - Adult used medication mostly to treat the RLS which have not been approved by the Food and Drug Administration in the pediatric population because they have not been studied in children at large scale. So try to take prescribed medicine.
- Cast out unnecessary medications: - Consult to your doctor regarding taking unnecessary medications that are prescribed or over-the-counter and the herbal products your child may be taking because that may be because your RLS worse and also consult with your doctor before taking some type of medications like to treat nausea, colds, allergies,

and depression.

- Convey a dietary review: - You can review this with your consultant doctor by taking a child's dietary pattern which is healthy or not and try to provide your child with a balanced and healthy diet. 12

CONCLUSION

Restless legs syndrome is a sleeping disorder that happens due to sensory and motor disturbances in which the children and adolescents and its exact cause are unknown but some other causes include - diabetes, genetic cause, dietary pattern, and low level of iron intake. RLS is shown many types of signs and symptoms like the desire to move legs, disturbances in sleep, etc. RLS is diagnosed by different types of criteria and it can be treated by daily exercise, avoid taking more amount of caffeine, taking the prescribed medication, take a high level of iron and also use home comfortable devices and provide a balanced diet and take review by your consultant doctor.

REFERENCES

1. Odin P, Mrowka M, Shing M. Restless leg syndrome. *Eur J Neurol*. 2002;9(suppl3):59-67
2. Ekbom K A. Restless legs: a clinical study. *Acta Med Scand*. 1945;158(suppl):1-122.
3. Brenning R. Growing pains. *Acta Soc Med Ups*. 1960;65:185-201.
4. Rajaram S, Walters AS, England S, Mehta D, Nizam F. Some children with growing pains may actually have restless leg syndrome. *Sleep*. 2004;27:767-773.
5. Ekbom K A. Growing pains and restless legs. *Acta Paediatr Scand*. 1975;64:264-266.
6. Desautels A, Turecki G, Montplaisir J, et al. Restless leg syndrome: confirmation of linkage to chromosome 12q, genetic heterogeneity, and evidence of complexity. *Arch Neurol*. 2005;62:591-596.
7. Diagnostic and Coding Manual. 2nd ed. Westchester, Ill: American Academy of Sleep Medicine; 2005. International Classification of Sleep Disorders.
8. Chervin RD, Dillon JE, Archibold KH, Ruzicka DL. Conduct problems and symptoms of sleep disorders in children. *J Am Acad Child Adolesc Psychiatry*. 2003;42:201-208.]
9. Allen RP, Picchietti D, Hening WA, Trenkwalder C, Walters AS, Montplaisir J. Restless legs syndrome: diagnostic criteria, special considerations, and epidemiology. A report from the restless legs syndrome diagnosis and epidemiology workshop at the National Institutes of Health. *Sleep Med*. 2003;4:101-119.
10. Kotagal S, Silber MH. Childhood-onset restless legs syndrome. *Ann Neurol*. 2004;56:803-807.
11. Buchfuhrer MJ, Hening WA, Kushida C. American Academy of Neurology: Restless Legs Syndrome. New York, NY: Demos Medical Publishing, LLC. 2006. RLS in Children. in press.
12. Montplaisir J, Boucher S, Poirier G, Lavigne G, Lapierre O, Lesperance P. Clinical, polysomnographic, and genetic characteristics of restless legs syndrome: a study of 133 patients diagnosed with the new standard criteria. *Move Disord*. 1997;12:61-65.