

POTS : An autonomic disorder in Lyme disease patients

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In the journal *Cureus* , [Tahir and colleagues describe the symptoms and treatment of POTS](#),¹ a condition often seen in Lyme disease, which causes the heart rate to rise by at least 30 beats per minute for adults and at least 40 points for children “when the person stands up from a recumbent position.”

The symptoms of POTS are extensive. “POTS is an autonomic disorder characterized by symptoms such as palpitations, dyspnea, chest discomfort, lightheadedness, nausea, blurred vision, chronic fatigue, sleeping abnormalities, migraines, hypermobile joints, abdominal pain, irritable bowel, and bladder symptoms as well affecting various systems,” writes Tahir.

Autonomic dysfunction has been described in other disorders “such as cerebrovascular disease, movement disorders, dementia, multiple sclerosis (MS) and peripheral neuropathies,”² explains Xiong et al.

There are a range of pathophysiologic changes in POTS. “POTS has heterogeneous pathophysiology, including excessive sympathetic stimulation, defective peripheral autonomic function, hypovolemia, or autoimmune dysfunction,” writes Tahir.

Treatment of POTS

There are a number of non-pharmacologic and pharmacologic treatments for POTS, writes Tahir. These include: increasing hydration, increasing salt intake, and wearing support stockings.

Medications to treat the condition include: beta-blockers, alpha-agonists, mineralocorticoids, along with selective serotonin reuptake inhibitors (SSRIs) and selective serotonin-norepinephrine reuptake inhibitors (SSNRIs).

The drugs pyridostigmine, desmopressin, and erythropoietin may also be prescribed but only rarely.

Note: Adrenergic alpha-agonists selectively stimulate alpha-adrenergic receptors, i.e. Midodrine. Mineralocorticoids are a class of corticosteroids that influence salt and water balances, i.e. Fludrocortisone.

Tahir’s review suggests that the medication Ivabradine might be effective by reducing the heart rate. Ivabradine is an FDA-approved drug marketed in the U.S. under the name Corlanor to treat symptoms of heart failure. It is not an FDA-approved drug for POTS. Ivabradine can cost over \$400 a month when purchasing through GoodRx.³

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References:

1. Tahir F, Bin Arif T, Majid Z, Ahmed J, Khalid M. Ivabradine in Postural Orthostatic Tachycardia Syndrome: A Review of the Literature. Cureus. 2020;12(4):e7868.
2. Xiong L, Leung TWH. Autonomic dysfunction in neurological disorders. Aging (Albany NY). 2019;11(7):1903-1904.
3. Ivabradine, Corlanor. <https://www.goodrx.com/ivabradine> last accessed 7/4/20.

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