

POTS (POSTURAL ORTHOSTATIC TACHYCARDIA SYNDROME)

There are two causative factors in POTS:

--- Adrenergic POTS (Sympathetic Stress = Sympathetic Imbalance)

--- Hypovolemic POTS (Electrolyte Insufficiency Imbalance).

Some individuals suffering from POTS display primarily one of these two causative factors, yet many show a combination of both.

The Adrenergic POTS is particularly interesting from a NUTRI-SPEC testing standpoint. There are actually two sub types of Sympathetic Imbalance associated with POTS. The Sympathetic involvement can involve an excess of Beta Adrenergic activity, or, a deficiency of Alpha-1 Adrenergic activity, with an extreme Beta Adrenergic response as an attempt to compensate.

How do you make a differential between excess Beta Adrenergic Sympathetic activity and a deficiency of Alpha Adrenergic Sympathetic activity? You will do your Sympathetic/Parasympathetic Support System Analysis, but include the orthostatic blood pressure procedure from your complete NUTRI-SPEC test procedures. Plug the numbers into your S/PSS Analysis table and you will almost invariably come up with either one of the Beta Adrenergic Stress patterns, or an Alpha Adrenergic Insufficiency pattern.

In general, those with Beta Adrenergic Stress will show very little orthostatic blood pressure failure, even as the heart rate increases dramatically upon standing --- and --- their supine blood pressure will tend to be normal or even elevated. They will also tend to have a somewhat elevated respiratory rate.

In contrast, those with deficient Alpha-1 Adrenergic activity will tend to show significant orthostatic blood pressure failure, and, their supine blood pressure will tend to be normal, and the respiratory rate will not be elevated. Another common finding in those with Alpha-1 Adrenergic Insufficiency is a white dermographics response on the legs. ----- What happens in these Alpha-1 Adrenergic Insufficient patients is that vascular tone is very weak in the legs, so there is blood pooling there. Upon standing, it is very difficult to pull that fluid out of the legs and up to the head to prevent syncope, so, the Beta Adrenergic system activates to an extreme in an attempt to compensate.

When you find Alpha-1 Adrenergic Insufficiency on your S/PSS Analysis, you will actually supplement with Complex P (not Complex S), and the Electrolyte Insufficiency Imbalance will be a critical consideration. For those who test as Beta Adrenergic dominant, you will very definitely use Complex S --- and you may or may not have an Electrolyte Insufficiency Imbalance to consider.

When you do find both Sympathetic Imbalance and Electrolyte Insufficiency Imbalance, your supplementation is a bit of a challenge. The reason is because the high calcium in your Formula EI opposes the high potassium and magnesium in your Complex S. In those patients you want to use a Diphasic approach to supplementation --- with 3 or 4 Formula EI after breakfast, and 3 or 4 Complex S after the evening meal.

Underlying or concomitant conditions:

There are several ImmunoNeuroEndocrine Stresses that tend to be the underlying cause of POTS. These include:

--- Post Viral Fatigue Syndrome ----- including particularly Mononucleosis or Epstein Barr Virus

--- Vaccinations

--- Autoimmune Diseases, including particularly

- Pre Diabetes
- Lupus
- Sjogren's
- Multiple Sclerosis

--- Celiac Disease

Obviously, the underlying ImmunoNeuroEndocrine Stresses must be addressed with either your Diphasic Nutrition Plan augmented by Sympathetic/Parasympathetic Support System Analysis, plus perhaps Tissue Acid Alkaline Balancing, or, complete NUTRI-SPEC Metabolic Balancing.

As adjuncts to NUTRI-SPEC care of your POTS patients you will need to consider the following: When there is Hypovolemic POTS, you must address the Electrolyte Insufficiency Imbalance as your highest priority. As part of treating the EI Imbalance you must also recommend the patient consume large quantities of salt and water daily. $\frac{3}{4}$ tsp to as much as 2 tsp daily of salt is needed. The patient should put $\frac{3}{4}$ tsp of salt in a pint (2 cups) of water, and consume 1 cup before and during breakfast. The remaining cup should be consumed intermittently throughout the day. If clinical response to that much salt is not favorable, then incrementally increase the amount of daily salt in $\frac{1}{4}$ teaspoon increments (with proportionately increased water) until the Hypovolemia responds favorably.

Medications? In those with Beta Adrenergic Sympathetic Stress, in addition to treating the Sympathetic Imbalance, you may also need to treat an Electrolyte Stress Imbalance. If the POTS is extreme, and is accompanied by

hypertension, occasionally a prescription for a small amount of Beta blocker may be needed for 30-60 days.

When there is extreme Alpha-1 Adrenergic Insufficiency, occasionally temporary use of the drug Midodrine (an Alpha-1 Adrenergic agonist) can be used --- but ONLY IF THE SUPINE BLOOD PRESSURE IS LOW.