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Minding the Gap: The Case for an Evolved View of the Fire Element (Pt. 2)

A CASE FOR REIMAGINING THE TRIPLE BURNER AND REORGANIZING THE ORGAN AFFILIATIONS OF THE FIRE ELEMENT

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WHAT YOU NEED TO KNOW

- Basic autonomic functions of the respiratory, cardiovascular, digestive and immune systems are mediated by the relays of the vagus nerve complex.
- The auricular branch of the vagus nerve, and the superior and inferior vagal ganglia that the nerve originates from, happen to be the located exactly on the pathway of the triple warmer meridian.

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The Vagus Nerve and Information Pathways

The vagus nerve is a crucial, bidirectional neural pathway between the body and brain that relays an array of sensory information from visceral tissues to the brain, also called afferent pathways; as well as from the brain to the viscera, or efferent pathways. These information pathways are integral for the regulation of metabolism, respiration, cardiovascular functions, digestion, and inflammation.

The autonomic vagal pathway regulates the mechanical function of the parasympathetic nervous system through efferent motor pathways. This electrical relay system from the brain to the viscera is also responsible for direction of the chemical neuroendocrine and exocrine processes of the stomach, duodenum, ileum, heart, aorta, liver, lungs, trachea, and pancreas.[5]

Interfacing of the Triple Heater With Sensory Neurons

Basic autonomic functions of the respiratory, cardiovascular, digestive and immune systems are mediated by the relays of the vagus nerve complex. The location of visceral afferent nerve fibers corresponds to the location of BAT [brown adipose tissue, as discussed in part 1] deposits throughout the body, which just so happen to correspond to the location of the triple warmer channels.

Could it be that the thermogenic and chemical processes created through activation of BAT are an example of the supportive functions of the triple warmer toward balancing autonomic regulation through the body? And that the activation of BAT aids in the conduction and transmission of information along the parasympathetic vagal neural pathways?

"The vagus nerve is highly heterogeneous, containing a diversity of sensory afferent fibers and motor efferent fibers that have distinct morphological, pharmacological, electrical, and genetic properties. While vagal afferents might directly sense visceral tissue temperature changes and mediate diverse visceral thermal reflexes, metabolic and immune signals carried by the vagus nerve may also play a role in thermoregulation."[5]

Thermogenesis in BAT is activated by sympathetic innervation through peripheral heat-sensing neurons within the skin, as well as visceral afferent pathways that register energy metabolism within the organs, taking that information to the brain. The afferent information that is brought to the vagal ganglion in the medulla is then sent on toward the hypothalamus.

The vagal ganglion in the medulla function essentially as an electrical relay. Neurons in the arcuate nucleus of the hypothalamus activate sympathetic pre-ganglionic neurons in the spinal cord, which then stimulate an increase in thermogenesis in BAT at specific locations throughout the body through post-ganglionic sympathetic innervation.[6]

This interface between the triple warmer of the fire element and the sensory neurons within the skin, classified as an organ affiliation of the metal/air element, as well as the sympathetic chain ganglion, located on the bladder meridian, is illustrative of the Yu angles, or healing angles in clinical treatment theory.

The Yu angles describe how water and metal/air elements assist the function and flow of energy, or *qi*, toward the fire element.[7]

Thermogenesis in BAT is one of the main ways the body can balance energy metabolism. BAT is the only organ in mammals that is able to generate heat by intracellular mechanism, a chemical cascade that signals specialized proton channels within the cellular structure, resulting in the production of energy. Studies have also shown that parasympathetic neurons can inhibit thermogenesis in BAT.[5]

Interestingly, a research experiment proved an increase in BAT weight, as well as the expression level of thermogenic receptors within BAT, after electrical stimulation of the auricular branch of the vagus nerve.[6]

The auricular branch of the vagus nerve, and the superior and inferior vagal ganglia that the nerve originates from, happen to be the located exactly on the pathway of the triple warmer meridian, near the jugular foramen. The auricular branch of the vagus nerve continues up the cranium, following the triple warmer meridian behind the ear.

Studies have reasoned that vagal afferent nerve fibers are likely different from each other, and

highly specialized to assess specific visceral changes, orchestrating a range of thermoregulatory reflexes and leading to a spectrum of down- or up-regulation of thermogenesis depending on the stimulus.

Moreover, varying parasympathetic efferent motor neurons bring information from the brain to the body, depending on the specific stimuli and environmental inputs received through afferent pathways. This process results in the concerted regulation of energy balance and glucose homeostasis.[6]

This is a good example of the flow of energy, or *qi*, from the triple warmer of the fire element, helping lift and support the process of glucogenesis and the functions of the liver; and the wood element, as described in Tan Cycle treatment theory.[1]

The involvement of specific, specialized vagal neural pathways alludes to the sophistication of the ANS, and the body's impressive ability to dial in how a stimulus is activated, and what response is produced as a subsequent reaction. This specialization has been hypothesized to happen through electrical frequency modulation, as well as the quality of the specific neural stimulation.

This level of detail and spectrum of possibility is why even modern researchers, with the most specialized techniques, have such a hard time studying the ANS and definitively coming to conclusions about the function of the vagus nerve with respect to thermoregulatory processes.

This echoes how the mysteries of the triple warmer have also been difficult to give a name throughout centuries of medical philosophy.

What If We'd Been Given the Truth Long Ago?

If we had been given the truth about the organ affiliations of the fire element, and the information that the triple warmer is a metaphor for thermogenic areas of the body, when the Mao administration packaged up classical Asian medical theory for the West in the 1940s and 50s, would we have even been able to recognize it as truth?

Well, now, with modern knowledge of anatomy and physiology, we have gradually, without even noticing it, lived our way into the answers that were never given.

From the pictographs of ancient Taoist wisdom to the present moment, through centuries of translation by a ruling class focused on controlling a population and known for its secrecy toward the world, we now are presented with an opportunity for clarity through modern study and awareness.

Ranier Maria Rilke had some Taoist advice for minding the gap in his 1929 publication, *Letters to a Young Poet*:

"Be patient toward all that is unsolved in your heart and try to appreciate the questions themselves, like locked rooms and like books that are now written in a very foreign language. Do not now seek the answers, which cannot be given to you because you would not be able to live them. And the point is, to live everything. Live the questions now. Perhaps you will then gradually, without noticing it, live along some distant day into the answer."

References

5. Chang RB. Body thermal responses and the vagus nerve. *Neurosci Lett*, 2019;698:209-216.

6. Hyun U, Sohn JW. Autonomic control of energy balance and glucose homeostasis. *Exp Mol Med*, 2022;54:370-376.

Editor's Note: References 1-4 accompany part 1 of this article.

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