Ayurveda and Endocrinology: Common Ground, Common Goals

ABSTRACT

In this editorial, we explore Ayurvedic concepts of health, and analyze how they relate to modern endocrinology. We expand our discussions to inclusion of other South Asian schools of medicine, as well as philosophical and metaphysical models of South Asian thought. A detailed assessment suggests that Ayurveda is based upon sound endocrine and metabolic foundation, which can serve as a framework for person-centered, integrative management of modern pandemics such as diabetes, obesity and other endocrine disorders. We call for awareness and understanding of the common ground, as well as common goals of Ayurveda and modern endocrinology.

Keywords: Holistic health, integrated health, integrative health, mind-body medicine, one health, person-centered medicine

Ayurveda is an ancient discipline, with a well-structured framework that allows for scientific classification and scientific study of disease and disorders. It is a tribute to their clinical acumen and insightful genius that in spite of nonavailability of modern investigative and diagnostic tools, Ayurvedic physicians of the past were able to craft a rational rubric for medical management.1

Endocrinology is a young branch of science with a ‘modern’ history that goes back to just a century. The discovery of hormones, and the methods of measuring them, are relatively recent developments in the evolution of medicine. In this opinion piece, we explore similarities and contrasts between the description of endocrine glands, hormones and their disorders in Ayurveda and modern medicine.

OF CHAKRAS AND GLANDS

Traditional Indian philosophy describes a series of ‘chakras’ (or wheels), located at specific levels of the body’s meridian. These chakras have been equated to the main glands of the body. It must be noted, however, that the chakra system has not been mentioned in classic Ayurvedic texts. But they have rather been a part of religious and quasi-religious texts, related to various Oriental religions, including Buddhism and Hinduism.

Chakras were correlated with the endocrine system for the first time by Cajzoran Ali, an American yoga therapist, in 1928. Further discussion and dialogue took place in the mid-20th century. The book “Bodymind: A Synthesis of Eastern and Western approaches to Self-awareness, Health and Growth”, and a journal article, “Bodymind and the Evolution to Cosmic Consciousness” were published in 1977.2

The chakras do bear uncanny similarity with the endocrine glands, as described in modern biology. Multiple books and treatises have been written on these connections, without any authentic Ayurvedic basis.3,4 It is pertinent to note that most of the modern equivalents of the ‘chakras’, and their functions, have been discovered after the first correlation by Cajzoran Ali. Ongoing advance means that we still continue to find newer hormones, and decipher more functions of existing ones.
Table 1 lists the major chakras and their glandular equivalents. This list is representative, and lay literature throws up differing versions of the same. Some lists include the pineal gland, which has been clearly identified in Indian texts as the ‘third eye’ (teesri aankh). The pineal gland secretes the hormone melatonin.5 Though considered vestigial by earlier endocrinologists, researchers are now unraveling various functions of this organ.

### OF OJAS, TEJAS, PRANA AND HORMONES

Ayurveda does not use the word ‘hormone’, but then, neither did modern medicine till about a century ago. However, it lists three forms of subtle energy: prana, tejas and ojas. Ojas, loosely translated as radiance, vigor or essence, is what influences the physical, psychosocial and spiritual health of an individual. Ayurveda views ojas as a quantifiable liquid, which cannot be seen with the naked eye, and which cannot be compared to any other body tissue. Charaka states that ojas dwells in the heart, and is predominantly white, yellowish and red. Earlier commentators have thought of ojas as white blood cells or immune factors. Apart from ojas, two other subtle forms of energy have been described in Ayurveda. These are prana and tejas. Tejas is defined as ‘inner radiance’ or ‘fire of the mind’, while prana means breath or essence of life.8

Ojas, tejas and prana, we feel, can be likened to hormones of the human body. Present in minute quantities, hormones circulate in the vascular system. Ojas is thought to reside in the heart, and we now know that the heart is both a source of as well as a target of hormones. Loss of ojas has been described in Ayurveda.7 The description of ojo visramsa, oja vyapth and ojokshaya is similar to that of progressively worsening Addisonian crisis, myxedema coma or hyponatremia.

The concept of ojas includes mind-body medicine, and this is true for hormones as well: the mind (hypothalamus) secretes endocrine molecules and responds to changes in their concentration as well.

### Table 1. Endocrine Glands and Chakras

<table>
<thead>
<tr>
<th>Chakra</th>
<th>Corresponding Organ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sahastra</td>
<td>Thousand petalled</td>
</tr>
<tr>
<td>Ajna/Agya</td>
<td>Command</td>
</tr>
<tr>
<td>Vishuddha</td>
<td>Purest</td>
</tr>
<tr>
<td>Anahita</td>
<td>Unstruck</td>
</tr>
<tr>
<td>Manipura</td>
<td>Jewel city</td>
</tr>
<tr>
<td>Svadhisthana</td>
<td>Self-established</td>
</tr>
<tr>
<td>Muladhara</td>
<td>Root of spine</td>
</tr>
</tbody>
</table>

- Sahastra
- Thousand petalled
- Hypothalamus
- Ajna/Agya
- Command
- Pituitary
- Vishuddha
- Purest
- Thyroid
- Anahita
- Unstruck
- Heart
- Manipura
- Jewel city
- Navel/Adrenals
- Svadhisthana
- Self-established
- Gonads
- Muladhara
- Root of spine
- ? Autonomic system

### OF TEJAS AND PHEROMONES

Tejas, i.e., ‘inner radiance’ or ‘fire of the mind’ may be likened to pheromones, as well as to the adrenergic system. Tejas not only imparts glow, luster, courage and fearlessness, but also creates an aura which attracts (or repels) other persons.

Pheromones are chemicals which can act like hormones outside the person’s body. While Ayurveda speaks of a subtle body or astral body (suksma sharira), apart from the physical body (sthula sharira).9 Tibetan and Bhutanese traditional medicine clearly mention six types of body, including astral, cosmic and bliss bodies. It is possible that the functionality of pheromones, which has not been elucidated completely by modern science till date, contributes to these states, as well as the rainbow body described in Tibetan philosophy. These schools of health also speak of the human as a microcosm, existing in an environmental macrocosm. The modern concept of ‘one health’, which integrates human, animal and environmental health is similar to the microcosm-macrocosm analogy.10 We take this opportunity to add a third aspect, the mesocosm, to this analogy. We define the mesocosm as that part of the immediate environment, which can be modulated directly by an individual being. Pheromones may be the connection between the microcosmic and mesocosmic spheres of existence.

### OF DOSHAS AND METABOLISM

Ayurvedic physiology is based upon the equilibrium of three doshas, vata, pitta and kapha. Disequilibrium or imbalance leads to disease. An exactly similar concept exists in modern medicine. Unregulated vata is a state of catabolism; excess kapha means maladaptive anabolism, and pitta represents balanced ‘eubolism’. This framework can be used as an approach to various endocrine disorders, including hypo- and hyperthyroid, adrenal and gonadal diseases. Insulinopenia (type 1 diabetes) and insulin resistance (obese type 2 diabetes) correspond to vata and kapha as well.

Ayurvedic physicians use the tridoshic analogy to classify not only physical phenotype, but emotional behavior and body secretions as well. The appraisal of body secretions as being vata, pitta or kapha may be taken as a surrogate marker for modern-day biochemical and hormonal assays. Each dosha has specific physiologic functions, which may be extrapolated to endocrine balance. Vata, thought to reside in the infraumbilical region of the abdomen, oversees the autonomic regulation of urination, excretion and blood pressure. Excessive vata suggests a hyperadrenergic state, while
deficiency implies inadequate sympathetic activity. 
Pitta, located in the supraumbilical area of the abdomen, 
maintains digestion, body temperature and bodily health. Perhaps pitta can be considered the equivalent of the 
incretin system or the gut microbiome, and the intestine can be considered the seat of pitta, as its actions may be mimicked by a healthy gastrointestinal 
endocrine system. Kapha is present in the chest region; it keeps the body stable and strong, through hydration and lubrication. In moderation, kapha represents a state 
of anabolism. If unregulated, however, it may lead to "maladaptive anabolism", as in acromegaly, Cushing’s 
syndrome, obesity, type 2 diabetes or polycystic ovary syndrome. It would be difficult to ascribe a single 
glandular equivalent to kapha, however.

OF SPECIFIC DISORDERS

Apart from these overarching concepts, classic Ayurvedic 
texts refer to specific endocrine disorder such as goiter, diabetes (prameha) (both type 1 and type 2) and 
hypogonadism. In fact, the list of "eight despicables" reads like an endocrine checklist: over-tall, over-short, over-hairy, hairless, over-black, over-fare, over-obese, over-lean (persons).12

OF PERSON-CENTERED CARE

Ayurvedic interventions are person-centered in their 
approach. Specific therapies are decided, based upon the 
phenotype as well as emotional status of the person. In this manner, the subject is similar to modern 
endocrinology, which also speaks of person-centered care. The Quadruple of Atreya highlights the need for 
team work between patient, physician, “attendant” or caregiver and drug therapy.13 The same style of working 
is seen in endocrinology, where the health care team 
works along with the person being treated, and his or 
her family, to achieve optimal outcomes.

OF PRAGMATISM AND PRACTICE

We have access today to modern means of identifying 
and measuring hormones, assessing their function and 
categorizing their diseases. This allows us to correct 
various dysfunctions, and achieve better health. As 
women and men of healing, we must be passionate about 
our work. At the same time, we must be dispassionate 
while assessing information, and evaluating insight. We 
should also be mindful that no science is static, and no 
discipline exists in isolation.

Endocrinology is a young offshoot of modern medicine, 
which continues to uncover and discover newer aspects 
of its own existence. Increasingly, we appreciate the 
multiple links and connections of our subject with other 
fields of medicine and surgery as well as non-medical sciences.

Realization of this reality makes us humble, not 
humiliated, and allows us to continue learning, while 
claiming leadership in our chosen field of work. It is 
with this attitude and approach that we should view 
any and every other science, including Ayurveda. Reading and analyzing the subject, finding comparisons 
and contrasts, and utilizing beneficial aspects for the 
well-being of our patients, is the way forward. This is 
what we hope to achieve through this opinion piece.

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