RESEARCH PAPER

Embryology in Ashtanga Hridayam

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ABSTRACT
Ayurveda is an ancient medical science that provides a comprehensive description of various aspects of life. Since antiquity, it has served humanity by liberating individuals from the threefold manifestations of disease **(Trividha Roga — Adhyatmika, Adhibhautika, Adhidaivika)** [Ref: Sushruta Samhita, Sutra Sthana 1/24–25]. In Ayurveda, the term Sharira (body) encompasses both physiological functions and anatomical structures. According to Ayurvedic principles, the primary objective of this science is the maintenance of optimal health in a healthy individual (Swasthasya swasthya rakshanam) [Ref: Charaka Samhita, Sutra Sthana 30/26].
Compared to modern medical science, the roots of Ayurveda are far more deeply ingrained in history. However, despite being the oldest system of medicine, its history has unfortunately not been systematically chronicled. Venerable sages such as Charaka and Sushruta regard Ayurveda as an Upanga (subsidiary branch) of the Atharvaveda [Ref: Sushruta Samhita, Sutra Sthana 1/6; Charaka Samhita, Sutra Sthana 30/21]. While Ayurveda is believed to have originated alongside the creation of humanity, Western historians acknowledge that medical science was highly advanced in India around three to four thousand years ago.
According to classical accounts of the lineage of Ayurvedic knowledge (Ayurvedavatara), it was transmitted from Brahma to Prajapati, from Prajapati to the Ashwini Kumars, from the Ashwini Kumars to Indra, and subsequently to Maharshi Charaka, Sushruta, and Vagbhata [Ref: Ashtanga Hridayam, Sutra Sthana 1/3–4; Charaka Samhita, Sutra Sthana ¼–5]. The Charaka Samhita notes that Sage Bharadwaja imparted the knowledge of Ayurveda to his six disciples: Agnivesha, Bhela, Jatukarna, Parashara, Harita, and Ksharapani [Ref: Charaka Samhita, Sutra Sthana 1/30–31]. Numerous scholars have contributed significantly to the evolution of Ayurveda.
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INTRODUCTION

Etymology and Definitions of Ayurveda
Etymological Derivation
"**Āyuṣo vedaḥ āyurvedaḥ"**
(Ref: Vagbhata, Arundatta Commentary on Ashtanga Hridayam, Sutra Sthana 1/1)
Translation: "The Veda (knowledge/science) pertaining to Ayu (life) is called Ayurveda."
Sushruta's Perspective
"**Āyurasmin vidyate'nena vā āyurvindatītyāyurvedaḥ"**
(Ref: Sushruta Samhita, Sutra Sthana 1/15)
Translation: The treatise that contains detailed knowledge regarding life and provides methods for achieving longevity is known as Ayurveda.
Arunadatta's Commentary
"**Āyurvedayati jñāpayati prakṛti jñāna rasāyanadūtāriṣṭādhupadeśādityāyurvedaḥ"**
(Ref: Arunadatta on Ashtanga Hridayam, Sutra Sthana 1/1)
Translation: Ayurveda is formed by the union of two words: Ayu (life) + Veda (knowledge). It instructs and illuminates knowledge regarding nature, rejuvenation (Rasayana), prognostics (Arishta), and lifestyle.
Concept of Ayu according to Acharya Charaka
"**Śarīrendriyasattvātmasaṃyogodhāri jīvitam | Nityagaścānubandhaśca paryāyairāyurucyate ||**"
(Ref: Charaka Samhita, Sutra Sthana 1/42)
Translation: Ayu (life) is defined as the harmonious conjunction of the physical body (Sharira—comprising the five basic elements and consciousness), sensory and motor organs (Indriya), mind (Sattva), and the soul (Atma). Synonyms for Ayu include Dhari, Jivita, Nityaga, and Anubandha.
Characteristics of Ayurveda in Charaka Samhita
"**Tadāyurvedayatītyāyurvedaḥ**" — That which imparts the knowledge of life is Ayurveda.
"**Svalakṣaṇataḥ sukhāsukhato hitāhitataḥ pramāṇāpramāṇataśca, yataścāyuṣyāṇyānāyuṣyāṇi ca dravyaguṇakarmāṇi vedayatyato'pyāyurvedaḥ"**
(Ref: Charaka Samhita, Sutra Sthana 30/23)
Translation: It is called Ayurveda because it expounds upon the characteristics of life, happiness (Sukha), sorrow (Asukha), beneficial (Hita) and harmful (Ahita) factors, along with measures of

lifespan, and the properties, qualities, and actions of substances that are either conducive or detrimental to longevity.

Dalhana's Commentary

"**Śarīrendriya sattvātma saṃyogaḥ, tasminnāyurvede vidyate asti atyāyurvedaḥ"**

Or,

"**Āyurvidyate jñāyate'nenetyāyurvedaḥ | Āyurvidyate vicāryate'nena vā ityāyurvedaḥ"**

(Ref: Dalhana Commentary 'Nibandha Samgraha' on Sushruta Samhita, Sutra Sthana 1/15)

Translation: That science in which life is deliberated upon, through which life is understood, by which life is attained, and which establishes the existence of life, is defined as Ayurveda.

Embryology (Garbha Vijnana)

The primary objective of Ayurveda is the preservation and maintenance of a healthy body. The understanding of the human body begins right at the embryonic stage (Garbha). Knowledge of embryology enables the creation of optimal physiological conditions and care during pregnancy to ensure the birth of healthy offspring.

The word Garbha is derived from two roots: 'Gar' (meaning to sustain or hold) and 'Bha' (meaning birth or origin). It also refers to the uterus (Garbhashaya), where the fetus develops over nine months. Pregnancy initiates with conception (Garbhadhana or Garbhavakranti), which occurs when the sperm (Shukra) unites with the ovum (Artava) [Ref: Charaka Samhita, Sharira Sthana 4/5].

"**Garbhasyāvakrāntiḥ melaka utpatti iti yāvat"**

(Ref: Arundatta Commentary 'Sarvanga Sundari' on Ashtanga Hridayam, Sharira Sthana 1/1)

Translation: Garbhavakranti refers to the complete process of embryonic formation incorporating all essential physical and subtle elements.

Embryological Concepts in Ashtanga Hridayam

Ashtanga Hridayam, authored by Acharya Vagbhata, is one of the foundational texts (Brihat Trayi) of Ayurveda. The Sharira Sthana section of this text discusses anatomical, physiological, and embryological principles in detail.

1. Formation of the Embryo (Garbhotpatti)

"**Śuddha śukrārtave sattvaḥ svakarmakleśacoditaḥ |**
Garbhaḥ sampadyate yuktivaśādagnirivāraṇau ||"

(Ref: Ashtanga Hridayam, Sharira Sthana 1/1)

Explanation: Upon the fusion of pure sperm (Shukra) and ovum (Artava), the subtle consciousness (Sattva / soul), driven by its past karmas and afflictions, enters to form the embryo—just as fire is generated by the friction between two wooden sticks (Arani).

2. Fetal Growth and Development (Garbha Vriddhi)

"**Bījātmakairmahābhūtaiḥ sūkṣmaiḥ sattvānugaiśca saḥ |**
Mātuścāhārasajjaiḥ kramātkukṣau vivardhate ||"

(Ref: Ashtanga Hridayam, Sharira Sthana ½)

Explanation: The fetus develops sequentially in the uterus through subtle, seed-like elemental forces (Mahabhutas), accompanied by Sattva, and nourished by the nutritional essence (Ahara Rasa) derived from the mother.

3. The Subtle Presence of the Soul in the Womb

"**Tejo yathā'rkaraśmīnāṃ sphaṭikena tiraskṛtam |**
Nendhanaṃ dṛśyate gacchatsattvo garbhāśayaṃ tathā ||"

(Ref: Ashtanga Hridayam, Sharira Sthana 1/3)

Explanation: Just as sunlight passing through a crystal into fuel remains invisible to the naked eye, the subtle soul (Sattva) entering the womb cannot be perceived visually.

4. Embryonic Manifestation Based on Causality

"**Kāraṇānuvidhāyitvātkāryāṇāṃ tatsvabhāvatā |**
Nānāyonyākṛtīḥ sattvo dhatte'to drutalohavat ||"

(Ref: Ashtanga Hridayam, Sharira Sthana ¼)

Explanation: An effect inherently reflects the attributes of its cause. Therefore, the subtle consciousness (Sattva) adopts various physical forms according to different species—analogous to how molten iron takes the precise shape of the mold into which it is poured.

5. Determination of Fetal Sex

"**Ata eva ca śukrasya bāhulyājjāyate pumān |**
Raktasya strī tayoḥ sāmye klībaḥ ||"

(Ref: Ashtanga Hridayam, Sharira Sthana 1/5)

Explanation: Based on the principle of causality, a predominance of sperm (Shukra) results in a male offspring, a predominance of ovum/maternal blood (Rakta/Artava) results in a female offspring, and an equal balance between the two leads to a neutral sex (Kliba).

6. Factors for Progenating an Intelligent Offspring (Medhavi Santan)

"**Pūrṇaṣoḍaśavarṣā strī pūrṇaviṃśena saṅgatā |**
Śuddhe garbhāśaye mārge rakte śukre'nile hṛdi ||
Vīryavantaṃ sutaṃ sūte…"

(Ref: Ashtanga Hridayam, Sharira Sthana 1/8–9)

Explanation: Acharya Vagbhata notes that the ideal age for conception is when a woman reaches at least 16 years and a man 20 years. When conception occurs at optimal maturity with a healthy uterus, unobstructed reproductive channels, and pure sperm, ovum, Vata, and mental state (Hridi), a strong, intelligent child is born.

7. The Fertile Period (Ritukala)

"**Ṛtustu dvādaśa niśāḥ pūrvāstisro'tra ninditāḥ |**
Ekādaśī ca yugmāsu syātputro'nyāsu kanyakā ||"

(Ref: Ashtanga Hridayam, Sharira Sthana 1/27)

Explanation: Ritukala refers to the fertile window suitable for conception. In humans, this period spans

12 nights (from the 4th night to the 16th night following menses). The first three nights and the 11th night are considered unsuitable. Conception on even-numbered nights (4th, 6th, 8th, 10th, 12th) favors male progeny, whereas odd-numbered nights (5th, 7th, 9th, etc.) favor female progeny.

8. Mental State and Behavioral Influences on Progeny

"**Icchetāṃ yādṛśaṃ putraṃ tadrūpacaritāṃśca tau |**
Cintayetāṃ janapadāṃstadācāra paricchadau ||"

(Ref: Ashtanga Hridayam, Sharira Sthana 1/30)

Explanation: Parents desiring a child with specific virtues, personality, or physical attributes should contemplate such traits, embody similar attire and conduct, and adapt their mindset accordingly prior to conception.

Conclusion

In the Garbhavakranti chapter (Sharira Sthana, Chapter 1) of Ashtanga Hridayam, Acharya Vagbhata presents a comprehensive view of embryonic establishment and fetal development. The text establishes that embryonic creation relies on pure Shukra, Artava, Sattva, subtle Mahabhutas, and maternal nutrition. It thoroughly examines embryonic morphology, the law of cause and effect, sex determination, and maternal-paternal behaviors necessary for bearing healthy, intelligent offspring.

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