

NIRUKTOPANIṢAD AND GARBHOPANIṢAD : THE VEDIC SOURCES OF STUDIES ON HUMAN EMBRYOLOGY

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ABSTRACT

The Science of human embryology has its roots in antiquity and has been practised in India over many centuries. Niruktopenishad and Garbhopenishad, the two important philosophical texts which were said to have been written prior to 500 B.C. describe in detail about the development of human embryo and sex determination. Further search of Vedic literature might pave way for unravelling more information on this fascinating field of human embryology.

INTRODUCTION :

The Upaniṣads, which are generally treated as source of Vedic philosophy, have in fact described about many fields of science, including the science of human embryology about 3000 years ago, for the welfare of mankind. Detailed descriptions about the formation of embryo, its growth and developmental processes have been mentioned in atleast two Upaniṣads namely, Niruktopeniṣad and Garbhopeniṣad which are said to have been written between 4000 B.C. and 500 B.C.

THE ORIGIN, GROWTH AND DEVELOPMENTAL STAGES OF HUMAN EMBRYO :

"The Mind produces the phlegm, the phlegm produces the fluid, the fluid produces the blood, the blood produces the fat, the fat produces the muscles/nerves, the muscles produce the bones, the bones produce the marrow and finally the marrow produces the semen. Such semen is deposited by male into the female genital tract, where it becomes fixed in uterus and becomes an embryo. Later, the embryo assumes the shape of a

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bubble within five days. On seventh day, it develops a mass of flesh, and assumes a fatty tumor shape within fourteen days. The embryo turns into a thick mass within fifteen days and within one month it is transformed into a solid mass. The head develops in two months, and the neck of the body is developed in three months. Nails and hairs appear within five months. Facial organs such as eyes, ears and nose are developed within six months. The foetus is capable of movements within seven months. Intellect is developed within eight months and finally the foetus is perfect in every part of his/her limb within nine months" (1) Similar description is also mentioned in Garbhopaniṣad (2), and with a slight modification in Atharvaṅīya piṅḍopaniṣad (3).

SEX DETERMINATION :

According to the science of genetics, sex determination is due to the sex chromosomes. Whereas, the description of sex determination in Niruktopaniṣad is at variance from the classical genetics (4) i.e.

1. Śukrātireke pumān
(An over flowing quantity of virile

semen results in the form of maleness).

2. Śoṇitātireke Strī
(An over flowing quantity of blood than virile semen results in the form of femaleness).
3. Dwābhyām Sāmyena Napuṃsakaḥ
(Equal proportions of blood and virile semen results in the form of impotency).
4. Śukra Bhinnena Yamo bhavati
(The divided (sperm cell of) virile semen results in birth of twins).

In Caraka Saṅgītā also, such a description of sex determination is mentioned (5), and with slight modifications in Garbhopaniṣad (6). The description in Garbhopaniṣad is as follows :

1. Pitretotiriktāt Puruṣo bhavati
(An overflowing quantity of virile semen results in the form of maleness).
2. Mātretotiriktāt Strī bhavati
(An overflowing quantity of blood than virile semen results in the form of femaleness).

1 - Pandita Jagadish Shastri — Upanishad Sangraha, pp. No. 28-29.

2 - Ibid, p. No. 150.

3 - Ibid, p. No. 658.

4 - Ibid, p. No. 28.

5 - Ganga Sahaya Pandeya, Charaka Saṅgītā, p. No. 821.

6 - Pandita Jagadish Shastri, Upanishad Sangraha, p. No. 150.

3. Ubhayorbijatyatvān Napuṃsakāḥ bhavati
(Equal proportions of blood and virile semen results in the form of impotence).
4. Vyākulitamanaso Aṅdhāḥ Khanjāḥ Kubjāḥ, Vāmanāḥ bhavanthi
(The distracted mind results in birth of the physically handicapped children such as blind (Aṅdhāḥ), lame (Khanjāḥ), hump-backed (Kubjāḥ), and dwarf (Vāmanāḥ)).
5. Anyonya Vāyu Paripīḍitha Śukra dwādhyā dwidhā tanuḥ syāthato yugmā prajāyante
(The agitated wind or vitiation of the male causes the breaking of (sperm cell of) virile semen into two which results in birth of twins).

The above observations, with regard to development of embryo and sex determination, clearly enable us to conclude that, the beginnings of the study of human embryology were made in a scientific manner akin to the present information, and one infer, therefore that, the present knowledge of human embryology has its roots in the antiquity of Vedic culture.

In the field of modern science, Vesalius (1514–1564), is considered as the founder of biological sciences and medical sciences (anatomy and physiology) as well. French physician Jean Fernal introduced physiology in many details in 1552 A.D. (7) and the field of embryology has developed into a special science in recent times. From the Vedic point of view, it looks as if the wheel is re-invented. Therefore, it is only logical to conclude that, the origins of human embryology have roots in antiquity of Vedic India, and the present study encourages an innovative mind and seeker of truth to go into the Vedic literature in order to unravell many a scientific discoveries.

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R E F E R E N C E S

1. **Pandita Jagadish Shastri** 1980 **Upanisad Sangraha** (containing 188 Upanishads), Printed by the Ministry of Education and Culture, Govt. of India, Pub. by Motilal Banarasidas, Delhi.
2. **H. R. Agarwal** 1963 **A Short History of Sanskrit Literature**, published by Munshiram Manoharlal, P.B. No. 1165, Nai Sarak, Delhi-6.
3. **Arthur A Macdoneli** 1972 **History of Sanskrit Literature**, Published by Munshiram Manoharlal, Nai Sarak, Delhi-6.
4. **Maurice winter Nitz** **History of Indian Literature**. Published by Oriental Book Reprint Corporation, Rani Jhansi Road, NewDelhi-55.
5. **Ganga Sahaya Pandeya** 1969 **Charaka Samhita**, Published by Chowkambha Sanskrit Series Office, Varanasi-U.P.
6. **C. C. Chatterjee** 1980 **Human Physiology, Vol-I**, Published by Medical Allied Agency, 13/18, Old Ballu Gunge, Calcutta-700 010.

सारांश

**निरुक्तोपनिषद् तथा गर्भोपनिषद्—मानव
गर्भोत्पत्ति विषयक अध्ययन के वैदिक स्रोत**

— के. कलाधर

मानव गर्भोत्पत्ति विषयक विज्ञान उसके अर्थात् मानव के इतिहास के अरंभिक युग से चला आ रहा है। तबव यह विज्ञान भारत में अनेक षताब्दियों से प्रचलित रहा है। निरुक्तोपनिषद् तथा गर्भोपनिषद् नामक इन दो अत्यंत महत्वपूर्ण मूल दार्शनिक ग्रंथों में, जिनका कि रचना काल लगभग ईसा पूर्व 500 वर्ष माना जाता है, मानव गर्भोत्पत्ति के विकास तथा लिंग विनिश्चय के संबंध में विस्तृत वर्णन प्राप्त होता है। इस मानव गर्भोत्पत्ति के रोचक विषय के क्षेत्र में अनेक रहस्यों के सुलझाने की दिशा में वैदिक वाङ्मय में ओर खोज अतीव सहायक होगी।