

## Review



### Exploring the Physiology of Folliculogenesis through the Lens of Ayurveda: A Narrative Review

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#### ABSTRACT:

**Background:** Folliculogenesis is a highly regulated physiological process involving the growth and maturation of ovarian follicles, governed by endocrine, paracrine, and autocrine mechanisms. Hormones such as follicle-stimulating hormone (FSH), luteinizing hormone (LH), and Anti-Mullerian hormone (AMH) play an important role in follicular recruitment, growth, and ovulation. In the current era, increasing reproductive disorders highlight the need for an integrative understanding of ovarian physiology. **Objective:** The objective of this review article is to analyse folliculogenesis and to interpret its physiological mechanisms through the principles of *Ayurveda* by correlating them with modern reproductive science. **Materials and Methods:** This is a narrative review, critically analyzed and compiled the literature related to folliculogenesis and female reproductive physiology from classical *Ayurvedic* texts and contemporary biomedical literature. **Keywords** such as folliculogenesis, AMH, FSH, LH, and *Artava* were used for literature search. **Results:** Folliculogenesis involves gonadotropin-independent and dependent phases regulated by AMH, FSH, and LH. These processes can be interpreted in *Ayurveda* through the functional role of *Dosha*, where *Kapha* governs growth and preservation, *Pitta* regulates metabolic transformation, and *Vata* facilitates ovulation. The associated mechanisms and clinical relevance are discussed. **Conclusion:** *Ayurveda* provides a holistic approach to understanding folliculogenesis by integrating systemic and local ovarian functions. This perspective may help in better understanding reproductive physiology and its disorders.

**KEYWORDS:** AMH, *Artava*, *Ayurveda*, Folliculogenesis, FSH, LH, *Rituchakra*.

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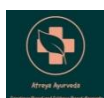
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## 1. INTRODUCTION

Reproductive health issues are common in women of reproductive age, associated with physical and psychological stress, [1] ovulatory dysfunction remains a major cause of infertility. [2] Folliculogenesis, the process of growth and maturation of ovarian follicles, plays a central role in female fertility and is essential for ovulation and successful conception. Folliculogenesis is a highly coordinated physiological process involving endocrine, paracrine, and autocrine mechanisms regulated by the hypothalamic–pituitary–ovarian (HPO) axis. Hormones such as follicle-stimulating hormone (FSH), luteinizing hormone (LH), and Anti-Mullerian hormone (AMH) play a crucial role in follicular recruitment, selection, and maturation. [3] Disruptions in these regulatory mechanisms may lead to various reproductive disorders such as anovulation, diminished ovarian reserve, and polycystic ovarian syndrome, which are increasingly prevalent worldwide. [4] The significant rise in prevalence of ovulatory disorders has been observed, particularly in developing nations like India, largely associated with changing lifestyle patterns, metabolic disturbances, and environmental factors. [5] Although reproductive endocrinology has advanced, treatment often involves long-term hormonal therapy and assisted reproductive techniques, resulting in considerable economic burden and physiological strain on patients. [6] Folliculogenesis is not directly described in classical *Ayurvedic* texts, its physiological and functional aspects can be understood through basic principles of *Ayurveda Artava*, an *Updhatu* of *RasaDhatu*, [7] is an essential component of female reproductive physiology. During the menstrual phase of the *Rituchakra*, the expulsion of *Artava* occurs under the influence of *Vayu*. [8] During the follicular phase, the growth and nourishment of developing follicles correlated with the predominance of *Kapha Dosha*. As follicular maturation progresses, *Pitta Dosha* is associated with the metabolic and transformative changes required for

dominant follicle development and estrogen production. The release of the mature ovum during ovulation is action of *Vata Dosha*. [9] Therefore, an integrative understanding of folliculogenesis through both modern and *Ayurvedic* perspectives may provide enhanced understanding of ovarian physiology and contribute in formulating effective management strategies for ovulatory disorders.

### Aim:

To evaluate folliculogenesis through the principles of *Ayurveda* and correlate it with modern concepts of hormonal and molecular mechanisms for an integrated understanding of ovarian physiology.

### Objectives:

1. To explore concepts of Ayurveda female reproductive physiology as *Artava* and *Ritu Chakra*.
2. To study the stages of folliculogenesis in modern science.
3. To correlate principles of *Ayurveda* with hormonal regulation of folliculogenesis.
4. To develop an integrative understanding of ovarian physiology and ovulatory disorders.

## 2. METHODOLOGY

A narrative review was based on classical Ayurvedic texts and contemporary biomedical literature. Information on *Artava*, *Ritu Chakra*, and female reproductive physiology were collected from classical texts such as the *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridaya*, along with their commentaries.

Data on folliculogenesis, ovarian physiology, and hormonal regulation were collected from standard textbooks of gynecology and reproductive endocrinology, along with relevant published research articles. A Structured literature search was conducted using electronic databases including PubMed for biomedical literature and *Ayurveda* related indexed sources for classical and interpretative studies. Relevant studies were identified using Keywords such as “folliculogenesis,” “Anti-Mullerian hormone,” “follicle-

stimulating hormone,” “luteinizing hormone,” “follicular dynamics,” “follicular fluid” and “polycystic ovary syndrome” were used. Boolean operators (AND, OR) were applied to refine the search. A comparative and interpretative approach

was used to analyze stages of follicular development, including primordial follicle activation, antral follicle development, dominant follicle selection, and ovulation, for establishing correlations with physiology of *Ayurveda*

**Table 1: Keyword Search Strategy**

Database / Source	Search Terms Used	Filters Applied	Results	Notes
PubMed	Folliculogenesis AND ovarian follicle development AND FSH AND LH	English, Human studies	120	Modern understanding of follicular recruitment, selection, and maturation
PubMed	AMH OR Anti-Mullerian Hormone AND follicular recruitment	English	85	Ovarian reserve regulation and early follicular dynamics
PubMed	Follicular fluid AND composition OR microenvironment	English	60	Follicular microenvironment and oocyte competence
PubMed	PCOS AND AMH AND follicular arrest	English	200	Pathophysiology of anovulation and follicular arrest
<i>Ayurveda</i> Journals / Google Scholar	Indexed <i>Artava</i> AND <i>RituChakra</i> AND <i>Apana Vata</i>	English, time restriction	no 10	Functional interpretation of menstrual cycle, ovulation, and reproductive physiology

**Inclusion Criteria**

1. Classical *Ayurvedic* texts and commentaries describing *Artava*, *Ritu Chakra*, *Artavavaha Srotas*, and female reproductive physiology.
2. Peer-reviewed articles related to folliculogenesis, ovulation, ovarian physiology, and reproductive endocrinology.
3. English-language full-text articles retrieved from databases such as PubMed, Google Scholar, and *AYUSH* Research Portal.

**Exclusion Criteria**

1. Articles unrelated to folliculogenesis or female reproductive physiology.
2. Non-peer-reviewed sources, conference abstracts, and unpublished dissertations.
3. Duplicate studies and articles lacking sufficient scientific relevance or methodological details.

**3. LITERATURE REVIEW**

**Physiology of Folliculogenesis:** Folliculogenesis is highly regulated process, characterized by growth and maturation of ovarian follicles originating from a finite primordial pool established during fetal life. This ovarian reserve represents

the entire lifetime supply of oocytes, and the regulation of recruitment determines female reproductive lifespan. [10]

**a. Primordial Follicle Activation (Gonadotropin-Independent Phase):**

Primordial follicles remain in a dormant state until they are recruited into the growing pool. This initial activation occurs independent of gonadotropins (FSH and LH) and is primarily regulated by intra-ovarian signaling mechanisms. Two major intracellular signaling pathways, namely the phosphatidylinositol-3-kinase (PI3K)/Akt pathway and the mechanistic target of rapamycin complex 1 (mTORC1) pathway, play central roles in this process. The PI3K/Akt pathway promotes oocyte survival, growth, and initiation of follicular development, whereas the mTORC1 pathway regulates cellular metabolism, protein synthesis, proliferation, and granulosa cell function necessary for follicular activation. Members of the Fork head box O (FoxO) family of transcription factors, including FoxO1, FoxO3a, FoxO4, and FoxO6, act as important downstream regulators of the PI3K/Akt signaling pathway. Among these, FoxO3a is a key regulator of primordial follicle dormancy. Under resting

conditions, FoxO3a remains localized within the oocyte nucleus and suppresses premature follicular activation. Activation of the PI3K/Akt pathway results in phosphorylation and nuclear export of FoxO3a, thereby relieving its inhibitory effect and permitting follicular growth. In addition, Anti-Mullerian hormone (AMH) plays a crucial role in maintaining ovarian reserve by inhibiting excessive recruitment of primordial follicles into the growing follicular pool. Through the coordinated actions of PI3K/Akt signaling, mTORC1 activity, FoxO transcription factors, and AMH, a balance is maintained between follicular activation and preservation of the ovarian reserve, ensuring long-term reproductive function.

**b. Pre-Antral Follicular Growth (Early Gonadotropin Responsiveness):** The pre-antral stage of folliculogenesis represents a key transitional phase in which primordial follicle is activated into a structurally and functionally specialized unit capable of antral development. This stage includes the primary and secondary follicle phases and is marked by rapid proliferation of granulosa cell, formation of multilayers around the oocyte, and increasing intra follicular signaling networks. Stromal precursor cells differentiate into theca cell layer under the influence of oocyte-granulosa interactions, leads to formation of theca interna and theca externa. The oocyte simultaneously secretes zona pellucida glycoproteins (ZP1, ZP2, ZP3), which provide structural protection. [11] Although largely -gonadotropin - independent, follicles gradually develop responsiveness to FSH through up regulation of FSH receptors on granulosa cells. This transition is regulated by intra-ovarian paracrine factors, mainly oocyte and granulosa derived Growth Differentiation Factor-9 (GDF-9), Bone Morphogenetic Proteins (BMPs), and KIT Ligand (KITL) signaling, which support granulosa proliferation, support oocyte-somatic communication, prevent follicular atresia, ensuring continued follicular growth and developmental potential.

**c. Antral Follicle Formation (Gonadotropin-Dependent Phase):** The formation of fluid-filled antrum marks the shift from pre-antral follicle and indicates full dependence on follicle stimulating hormone for continued growth and selection. This phase is characterized by rapid follicular expansion and functional differentiation; in which granulosa cell proliferation and increased vascular support contribute to accumulation of follicular fluid which is rich in steroids, proteins, proteoglycans and local growth factors that regulate oocyte maturation and follicular dominance. [12] A key event of this phase is the coordinated interaction between granulosa and theca cell. Theca cells produce androgens under luteinizing hormones, which are subsequently converted into estrogens by granulosa cells through FSH-induced aromatase activity. Increasing oestradiol levels support follicular growth exerts systemic feedback effects on H-P-O axis and prepare endometrium for implantation. During each menstrual cycle, FSH facilitates the recruitment of antral follicles however, only the most FSH-sensitive follicle is selected as dominant follicle, whereas others undergo atresia. [13]

**d. Dominant Follicle Selection and Maturation:** During the mid-follicular phase, increasing estrogen secretions from developing antral follicles exert negative feedback on hypothalamic - pituitary axis, leading to gradual decline in circulating FSH levels. Consequently, only follicles with highest FSH receptor expression and greater hormonal sensitivity continue to develop, while the remaining follicles undergo atresia. This selective process results in emergence of single dominant follicle, characterized by sustained granulosa cell proliferation, acquisition of LH receptors on granulosa cells and significantly increased oestradiol secretion due to enhanced aromatase activity, this coordinated hormonal and local signaling ensures that only one follicle becomes dominant in each cycle, supporting regular ovulation and normal reproductive function. [14]

**Table 2: Hormonal Regulation of Folliculogenesis**

Hormone	Source	Mechanism of Action	Physiological Role	Clinical Significance
Anti-Mullerian Hormone (AMH)	Granulosa cells (pre-antral follicles)	Suppresses primordial follicle activation, limits excessive recruitment, reduces granulosa sensitivity to FSH	Gatekeeper of ovarian reserve; controls recruitment rate	↑ AMH = PCOS, follicular arrest ↓AMH → diminished reserve
Follicle Stimulating Hormone (FSH)	Anterior pituitary (pulsatile GnRH)	Acts on granulosa cells; recruits follicles, promotes proliferation, aromatase expression, FSH receptor upregulation, follicular fluid formation	follicular recruitment and early growth	Determines selection of follicles; low/high FSH abnormalities
Luteinizing Hormone (LH)	Anterior pituitary	Acts on theca cells, androgen synthesis, ovulation trigger, resumption of meiosis, luteinization of granulosa cells, corpus luteum formation	Ovulatory trigger, coordinates rupture and luteal transformation	LH surge essential for ovulation; LH abnormalities in PCOS

**Table 3: Hormonal Regulation of Menstrual Cycle**

Phase	Endocrine Events	Ovarian Events	Endometrial Changes
Follicular Phase (Day 1–14)	AMH regulates baseline recruitment; FSH rises, stimulating follicular growth; oestradiol increases from follicles	Multiple follicles grow; one follicle dominates due to FSH sensitivity	Endometrium proliferates, thickens, and vascularizes
Ovulation Phase (Day 14)	High oestradiol triggers positive feedback on hypothalamus/pituitary; LH surge induced	Oocyte completes meiosis I, follicle ruptures, egg is released	
Luteal Phase (Day 15–28)	Corpus luteum forms; progesterone dominates; FSH/LH suppressed via negative feedback	Endometrium transforms into secretory phase, glands become tortuous, nutrient-rich	Uterus is ready for implantation, if no pregnancy, corpus luteum degenerates

**e. Pre-Ovulatory Stage and Ovulation:** During the late follicular phase, sustained high oestradiol from dominant follicle shifts the hypothalamic-pituitary feedback from negative to positive feedback, triggering the LH surge which induces the completion of oocyte meiosis I with extrusion of first polar body, followed by arrest at metaphase II. At the same time, LH initiates enzymatic and structural changes in the follicle wall, leading to its weakening, rupture, and the subsequent release of the oocyte. After ovulation, granulosa and theca cells luteinize, forming progesterone-secreting luteal cells, which give rise to the corpus luteum, a crucial source of hormonal support during the early luteal phase. [15]

**f. Conceptual Framework of Folliculogenesis and Menstrual Cycle:** *Ayurveda* describes female reproductive physiology through integrated functioning of *Dosha* (fundamental functional elements), *Dhatu* (tissues), and *Upadhatu* (sub-tissues), *Agni* (metabolic factors), and *Srotas* (transport channels) with *Artava* representing the central reproductive entity. The cyclical reproductive events are governed by *Rituchakra*, a cyclical physiological process regulates menstruation, fertility, ovulation, and conception. Although *Ayurvedic* literature does not describe ovarian follicles or hormonal pathways in anatomical or biochemical terms, several physiological concepts provide a functional framework for understanding female reproductive cyclicity. Thus,

interpretation of folliculogenesis through *Ayurveda* is primarily functional and systemic rather than structural.

**g. Artava - Classical Reproductive Tissue Concept:** In *Ayurveda*, *Artava* is described as primary reproductive factor in females responsible for menstruation, ovulation and conception. [16] The concept of *Shuddha Artava* refers to healthy and normally functioning reproductive tissue. Classical descriptions mention features such as regular cyclicity, appropriate quantity, characteristic red color, absence of foul odor, and painless menstruation. [17] These characteristics indicate normal proper functioning of physiological processes of menstruation and ovulation necessary for fertility. *Raja* represents the visible menstrual manifestation of *Artava*. According to *Sushruta Samhita*, *Raja* appears around the age of twelve years and ceases around fifty years, marking the reproductive lifespan of a woman [18] corresponding to the reproductive period of a woman's life. From a contemporary perspective, this period coincides with the functional activity of the hypothalamic–pituitary–ovarian (HPO) axis. The onset of *Raja* reflects the establishment of pulsatile GnRH secretion and subsequent gonadotropin release, which initiate follicular development, ovulation, and cyclic menstruation. Likewise, the cessation of *Raja* corresponds to the decline of ovarian follicular reserve and reproductive function. *Beeja* to be an essential factor for *Garbhoptatti* and emphasize its importance in determining fertility and progeny. [19] Thus, *Artava* may be interpreted as a broad reproductive entity that includes both *Raja*, the menstrual manifestation of reproductive function, and *Beeja*, the reproductive element essential for conception.

**Physiological Correlation -** The cyclical physiology of *Artava* described in *Ayurveda* under *Artava Chakra* may be interpreted functionally in relation to follicular maturation, ovulation, and menstrual cyclicity observed in contemporary reproductive physiology. [20]

**h. Rituchakra - Classical Cyclic Reproductive Physiology:**

*Rituchakra* represents the cyclical reproductive physiology in females described in *Ayurveda* and may be correlated with the ovarian and menstrual cycle including follicular maturation, ovulation, luteal transformation, and menstrual shedding.

**i. Rajasrava Kala - Menstrual Phase** *Rajasrava Kala* represents the menstrual phase characterized by elimination of *Artava* under the predominance of *Apana Vata*. [21] Functionally, this phase may be correlated with endometrial shedding and menstrual flow associated with hormonal withdrawal during early menstrual cycle

**j. Ritukala - Follicular Phase:** *Ritukala* represents the fertile phase favourable for conception and is under predominance of *Kapha Dosha*, from a physiological perspective, this phase may be functionally correlated with follicular recruitment, follicular maturation and proliferative endometrial changes. Ovulation occurring at end may be functionally associated with *Apana Vata* which is responsible for ovulation. [22]

**k. Rituvyatita Kala -Luteal Phase:** This phase follows ovulation and is dominated by *Pitta Dosa*, reflecting metabolic transformation and preparation for possible implantation. Physiologically, it may be correlated with luteal activity, progesterone-mediated endometrial transformation, and maintenance of implantation readiness.

**4. DISCUSSION**

Folliculogenesis is a dynamic physiological process involving primordial follicle activation, follicular growth, maturation, dominant follicle selection, and ovulation. From an *Ayurvedic* perspective, these events may be understood through the coordinated interaction of *Dosha*, *Dhatu*, *Agni*, and *Artavavaha Srotas*. *Artava* is considered the *Upadhatu* of *Rasa Dhatu* and represents the functional reproductive tissue responsible for menstruation and conception. The formation and maintenance of *Artava* depend upon proper nourishment of *Rasa Dhatu* and the action of *Rasa Dhatvagni*.

**Table 4: Functional correlation between stages of Folliculogenesis and Ayurvedic reproductive physiology.**

Folliculogenesis Event		Physiological Activity	Ayurvedic Correlation	Predominant Dosha	Dhatu / Upadhatu Involvement	Agni / Srotas Involved
Primordial follicle activation	follicle	Initiation of follicular growth from resting pool	Initiation of reproductive cyclicality	<i>Vata</i>	<i>Rasa Dhatu</i>	Activation through <i>Dhatvagni</i>
Follicular recruitment		Selection of growing follicles	<i>Ritukala</i>	<i>Kapha</i>	<i>Rasa -Artava Upadhatu</i>	Nutritional support through <i>Artavavaha Srotas</i>
Granulosa cell proliferation	cell	Cellular multiplication and follicular enlargement	<i>Kapha</i> -mediated growth and nourishment	<i>Kapha</i>	<i>Rasa Dhatu</i>	Anabolic and proliferative activity
Follicular formation	fluid	Nutritive follicular microenvironment	<i>Kleda predominance</i>	<i>Kapha + Jala Mahabhuta</i>	<i>Rasa Dhatu</i>	Nourishment and transport through <i>Srotas/ Channels</i>
Dominant maturation	follicle	Oocyte maturation and estrogen production	<i>Artava Poshana</i>	<i>Kapha + Pitta</i>	<i>Artava Upadhatu</i>	Metabolic transformation mediated by <i>Dhatvagni</i>
Estrogenic proliferative phase		Endometrial proliferation and follicular growth	<i>Ritukala</i>	<i>Kapha</i>	<i>Rasa and Rakta Dhatu</i>	Tissue nourishment and proliferation
LH surge and ovulation		Follicular rupture and release of oocyte	<i>Artava Nishkramana</i>	<i>Apana Vata + Pitta</i>	<i>Artava</i>	Functional activity of <i>Artavavaha Srotas</i>
Corpus luteum formation	luteum	Luteinization and progesterone secretion	<i>Rituvyatita Kala</i>	<i>Pitta</i>	<i>Rakta and Artava</i>	Transformative metabolic activity
Secretory endometrial transformation		Implantation preparation	<i>Pitta</i> -dominant transformation	<i>Pitta</i>	<i>Rakta Dhatu</i>	Endometrial metabolic activity
Ovarian reserve maintenance	reserve	Preservation of follicular pool	<i>Beeja Shakti</i> and stability	<i>Kapha</i>	<i>Artava</i>	Maintenance of reproductive potential
Follicular atresia		Degeneration of non-dominant follicles	<i>Dhatu Kshaya</i>	<i>Vata</i>	<i>Rasa and Artava</i>	Impaired nourishment and degeneration
Menstrual shedding		Endometrial breakdown and menstrual flow	<i>Rajastrava Kala</i>	<i>Apana Vata</i>	<i>Artava</i>	Elimination through <i>Artavavaha Srotas</i>

Thus, normal follicular development may be considered as a manifestation of healthy *Artava* maintained through proper *Dhatu-poshana* and balanced metabolic activity. The earliest phase of folliculogenesis, involving maintenance of the primordial follicle pool and gradual follicular recruitment, may be interpreted through the predominance of *Kapha Dosha*. Owing to its *Prithvi* and *Jala Mahabhuta* attributes, *Kapha* governs nourishment, stability, growth, and preservation. These functions may be correlated with maintenance of

ovarian reserve, controlled recruitment of primordial follicles, granulosa cell proliferation, and accumulation of follicular fluid. The physiological role of Anti-Mullerian Hormone (AMH) in preventing excessive follicular recruitment may also be viewed as reflecting the preservative and regulatory functions of *Kapha*. As in follicles, *Pitta* governs *Paka*, transformation, metabolism, and biochemical activity. These functions may be correlated with steroidogenesis, estrogen synthesis, granulosa cell differentiation, dominant follicle selection, and

endometrial proliferation. At the tissue level, the action of *Dhatvagni* may be reflected in the metabolic and hormonal changes that transform an immature follicle into a mature preovulatory follicle capable of ovulation and conception. *Vata Dosha*, particularly *Apana Vata*, becomes predominant during the peri-ovulatory phase. *Apana Vata* governs movement, regulation, expulsion, and reproductive activity. Functionally, it may be correlated with the coordinated neuroendocrine events leading to follicular rupture, release of the mature ovum, and maintenance of reproductive cyclicity. Thus, ovulation may be interpreted as the physiological expression of *Apana Vata* acting upon a fully matured *Artava*. *Artavavaha Srotas* constitute the functional reproductive channel system responsible for the formation, nourishment, transport, and expression of *Artava*. *Sushruta* describes *Garbhashaya* and *Artavavahi Dhamani* as the *Mulasthanas* of *Artavavaha Srotas*. Functionally, these channels may be viewed as integrating ovarian follicular activity, hormonal regulation, ovulation, and reproductive cyclicity. Proper functioning of *Artavavaha Srotas* is therefore essential for follicular recruitment, maturation, ovulation, and fertility. Disturbances in this coordinated system may contribute to reproductive disorders. Polycystic ovary syndrome (PCOS), characterized by elevated Anti-Mullerian hormone levels, arrested follicular development, and chronic anovulation, may be interpreted as a *Kapha*-predominant state associated with *Avarana* of *Vata*, resulting in impaired follicular maturation and ovulation. Diminished ovarian reserve may be correlated with *Dhatu Kshaya* and depletion of the reproductive potential of *Artava*. Likewise, anovulation may be understood as dysfunction of *Apana Vata* leading to impaired *Artava Pravritti* and failure of normal ovulatory mechanisms. Thus, folliculogenesis may be interpreted as the progressive manifestation of *Artava* through the coordinated actions of *Kapha* for follicular growth and preservation, *Pitta* and *Agni* for maturation and transformation, and *Apana Vata* for

ovulation, all occurring within the framework of healthy *Rasa Dhatu* and properly functioning *Artavavaha Srotas*.

**Limitation:** This study is conceptual in nature, it does not establish biochemical, molecular, or clinical equivalence, and requires further experimental and clinical validation to substantiate these correlations.

## 5. CONCLUSION

Folliculogenesis is a highly coordinated physiological process that may be interpreted in *Ayurveda* through the integrated actions of specific *Doshas*, *Dhatu*, *Agni*, and *Srotas*. Among the *Doshas*, *Kapha Dosha* plays a predominant role during primordial follicle maintenance, recruitment, and follicular growth owing to its nourishing, stabilizing, and proliferative properties. *Pitta Dosha* contributes to follicular maturation, steroidogenesis, and the metabolic transformations necessary for reproductive competence, while *Apana Vata* governs ovulation through regulation of follicular rupture, release of the mature ovum, and reproductive cyclicity. Among the *Dhatu*s, *Rasa Dhatu* serves as the primary nourishing tissue, while *Artava*, the *Upadhatu* of *Rasa Dhatu*, represents the functional reproductive tissue essential for ovulation, menstruation, and conception. The formation and maintenance of *Artava* depend upon proper action of *Rasa Dhatvagni*, which facilitates tissue nourishment and reproductive competence. The root location of *Artavavaha Srotas* is *Garbhashaya* and *Artavavahi Dhamani*, constitute the principal reproductive channels involved in the formation, nourishment, transport, and expression of *Artava*. Thus, folliculogenesis may be understood as the progressive manifestation of healthy *Artava* through the coordinated actions of *Kapha Dosha*, *Pitta Dosha*, *Apana Vata*, *Rasa Dhatu*, *Rasa Dhatvagni*, and *Artavavaha Srotas*, providing an *Ayurvedic* perspective on ovarian physiology and female reproductive function.

### List of abbreviations:

FSH - Follicle-Stimulating Hormone  
LH - Luteinizing Hormone

AMH - Anti-Mullerian Hormone

HPO - Hypothalamic–Pituitary–Ovarian axis

GnRH - Gonadotropin-Releasing Hormone

PCOS - Polycystic Ovary Syndrome

PI3K - Phosphatidylinositol-3-Kinase

Akt - Protein Kinase B

mTORC1 - Mechanistic Target of Rapamycin Complex 1

FoxO - Forkhead Box O

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#### Declaration of Generative AI

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