



The Intricate Link: “Avarana, Uric Acid Metabolism, Gouty Arthritis, and Vatarakta”

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ABSTRACT:

Introduction: According to Ayurveda, there are many diseases in this world, but the root cause of them is only *Tridoshas* i.e., *Vata, Pita, Kapha*. From these, *Vata prakopa* could occur by two means, one is *Dhatu kshaya* and the other is *Margaavrodha* as explained by *Acharya Charaka*. This *margaavrodha* (obstruction) is known as *Avarana*. The dynamic matter within the body is the *vata dosha*. As a result, its regular movement is hindered or vitiated, which causes *Vata* to turn *avrutta*. Any of the seven *dhatu*s, the three *malas*, the other two *doshas*, or the process of *vata* itself results in *Avarana*. The fraction/Component of *Vata* i.e., *prana, udana*, and others may also cause *Avarana* to one another. The primary pathology in *Vatarakta* is the mutual and linked blockage to *Rakta Dhatu* and *Vata Dosha* circulation inside the *Rakta Marga*. This article aims to find a correlation between the pathogenesis of *Vata Rakta / Gouty Arthritis, Avarana*, and serum uric acid.

Objectives: To establish a correlation between concepts of *Avarana*, Uric acid metabolism, gouty arthritis, and *Vata Rakta* by studying their minute pathology.

Method: *Avarana* is a pathological process central to *Vatarakta* pathology and appears similar to *Sanga*. *Sanga* manifests within the *Srotas* as *Dosha, Dhatu, or Mala*, which are regarded as *Sampraptis* of *Vatarakta*. *Vatarakta* is typically associated with gouty arthritis, and the main pathogenic reasons are thought to be a rise in serum uric acid and its deposition in joints. The similarities between the two diseases are symptoms, sites of attack, and recurrence patterns are the key points of comparison. This article aims to find a correlation between the pathogenesis of *Vata Rakta / Gouty Arthritis, Avarana*, and serum uric acid.

Result: *Avarana* has a specific and very important role in the pathology of *Vatarakta* and there is a direct relation between the pathology of hyperuricemia, gouty arthritis, and *Vatarakta*. Both disorders have similar causes, relevant pathogenesis, symptoms, and site of disease.

Conclusion: The idea of *Avarana* aids in our understanding of the pathogenesis of numerous diseases like *Vatarakta*. The similarities between the two diseases are symptoms, sites of attack, and recurrence patterns are the key points of comparison.

1. Introduction

According to Ayurveda, vitiated *doshas* and *srotodushti* are an important and integral part of the pathology of any disease. But *Avarana* is a unique concept of Ayurveda, which is not present in the pathology of every disease.^[1] The diseases that arise from *Avarana* are very hard to diagnose and could cause many complications, if not diagnosed properly. *Vatarakta* is a disorder caused by the

Avarana of *Rakta* on *Vata*. The pathogenesis of *Vatarakta* is quite complicated to diagnose. Due to *Nidan sevana*, the aggravated *Rakta dhatu* obstructs the path of *vata* which causes *vata prakopa* which leads to further vitiation of *Rakta* causing *Vata Rakta*, which is nothing but *Avarana*.^[2] This mainly affects the extremities like the toe, fingers, knee joint, etc. along with the systemic involvement.^[3] It is compared with gouty arthritis, which is a metabolic disorder caused by alteration in purine



metabolism which leads to the accumulation of uric acid in joints.^[4] Until now, these are compared based on symptoms and disease site, but there is a need to work on the correlation of pathology of this disorder. Thus, after understanding the pathology, an attempt will be made to find a correlation between Gouty arthritis Uric Acid, *Vatarakta*, and *Avarana*.

2. Objectives

- To study the basic concept of *Avarana*.
- To study the pathogenesis of *Vata Rakta* and Gouty Arthritis
- To Compare *Vata Rakta* and Gouty Arthritis in light of *Avarana* and Uric acid metabolism

3. Methods

Avarana-

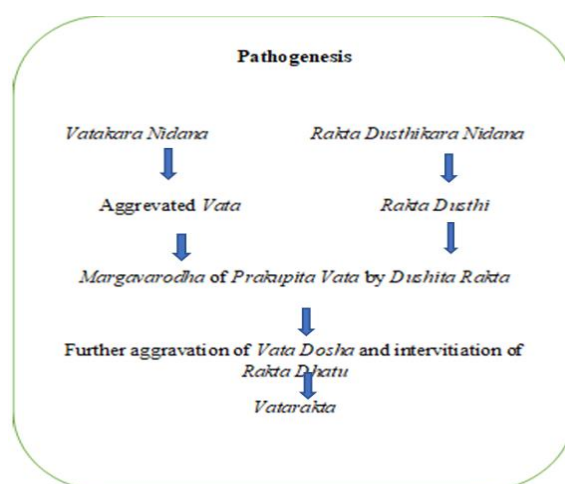
Out of the *Tridoshas*, *Vata* is the dosha that moves the best. This characteristic makes *vata dosha* the predominant *dosha* and plays a significant role in pathogenesis. *Vata's* mobility is impacted in a variety of ways. One of them is *Avarana*. *Avarana* may be caused in two different ways: 1) *kshaya janya* and 2) by obstructing the flow of *vata*.^[5] *Avarana* implies blockage or covering in Sanskrit. Any sort of *avarana* involves not one but two factors: the one that is being blocked and the one that blocks the blocked one. The obstructed one is known as *avruta*, while the part that prevents the first one from flowing freely is known as *avaraka*.^[6]

As we understand the concept of *avarana* depends on blockage of *Vata*, which can be understood by obstructed movement in arteries, veins, and mostly in minute capillaries and *Srotasa*. *Doshas*, *Anna*, *Dhatu*, *Malas*, as **Figure 1**

well as other elements of the *Vata Dosha* itself, can all contribute to *avarana*. More emphasis should be placed on *Anupahata Vayu* and its *Karmas*, *Jataragni*, *Rakta Dhatu Avarana*, *Rakta Dhatwagni*, and its *Malas*, particularly in the context of *Vata Rakta*.^[7] Since Serum Uric Acid is thought to be a metabolic waste product or *Mala* that circulates through the *Rakta Dhatu*, Accumulation of which causes gouty arthritis. We are trying to determine a conceptual relationship between *Avarana* and Serum Uric Acid.

Vata Rakta

Vatarakta is a unique condition that involves both *vata* and *rakta* and can cause a wide range of problems. According to the clinical occurrence, anatomical site, and severity of the sickness, respectively, the other names for the ailment *vatarakta* used in the literature are *Aadhyavata*, *Khudavata*, and *Vatabalasa*. It is a disease that frequently involves the system as well as the extremities. The primary pathology in *Vatarakta* is the mutual and linked blockage to *Rakta Dhatu* and *Vata Dosha* circulation inside the *Rakta Marga*. *Avarana* is a pathological process that is central to *Vatarakta* pathology and appears to be similar to *Sanga*. Even though the word "*Avarana*" is distinct, it ultimately just refers to obstruction. *Sanga* manifests within the *Srotas* as *Dosha*, *Dhatu*, or *Mala*, which are regarded as *Sampraptis* of *Vatarakta*.^[8] The pathology of *Vatarakta* is explained in Figure 1.^[9] Symptoms of *Vatarakta* are *Swayathu* (edema with stiffness), *Kathino-Antar Arti* (Hardness –agonizing pain inside the joints), *Shyava-Tamra Twaka Varna*, *Daha* (burning sensation), *Toda* (pricking pain).^[10]





Uric Acid Metabolism and Gouty Arthritis –

The body's final by-product of purine metabolism is uric acid. The kidney excretes uric acid into the urine after it has been primarily synthesized in the liver and to a lesser extent in the intestine. Purines are nitrogen-containing substances that are either produced by our body's cells or obtained from outside sources such as organ meats, oily fish, beans, and other purine-rich meals. Phosphoribosylpyrophosphate (PRPP) synthetase activity as well as a flaw in the regulating enzyme hypoxanthine phosphoribosyltransferase (HPRT) can both speed up endogenous production of the purine. Purines can cause an overproduction of uric acid. Excess purines may cause uric acid levels to rise and crystallize in tissues. This could result in blood hyperuricemia, which then causes gout. It typically happens in or near joints and causes a painful form of arthritis. [11]

4. Results

From the above analysis, it can be said that *Avarana* has a specific and very important role in the pathology of *Vatarakta* and there is a direct relation between the pathology of hyperuricemia, gouty arthritis, and *Vatarakta*. Both disorders have similar causes, relevant pathogenesis, symptoms, and site of disease.

5. Discussion

As discussed in pathology above there is *Avarana* of *Rakta* on *vata*. Due to this *Rakta Dhatu* will be exhibiting *Vridhatha* or *Saama Dhatulakshanas* in its *Dhatwavritha Vikarmakari* state, which in one way or another hinder the *Dhatwagni* by impairing improper enzymatic activity, improper *Saara Mala Vibhajanam*, or both; resulting in *Aparinamita Dhatus* and excessive or insufficient productions of *Sara Bhaga* and *mala bhaga*.

Keeping this in mind, when we examine the specifics of serum uric acid, which is a metabolic by-product of purine metabolism (*Mala Bhaga*) and is observed in *Rakta*, Hyperuricemia or increased *Mala Bhaga*, which causes elevated serum uric acid levels and leads to gouty arthritis or *vata rakta*, Hyperuricemia can be caused in two ways, one is increased Production and other is Decreased Excretion. Increased production is primarily caused by the consumption of more purine-rich foods like *Madya*, *Mamsa*, *Lavana*, and *Amla*, *Katu*, *Kshara Aharas*, which are nearly identical to those of *Rakta Pradushaka Nidan*s. It is also brought on by a defect in enzymatic actions like Hypoxanthine Guanine Phosphoribosyl Transferase, which is comparable to the *Agni* concepts of metabolism of *Ras*, Additionally, the liver and the intestine, which are primarily the sites of

Pitta, or *Ranjaka Pitta*, which aids in *Rasa Ranjanam* or metabolic processes, are the primary locations where serum uric acid is produced. As *Rakta Dhatwavarana* takes place, *Pitta* also becomes rearranged, which finally leads to an incorrect metabolism of serum uric acid. The affected joints, such as the toe, ankle, and knee joints, will display *Shotha* and Redness in addition to excruciating pain, similar to inflammation, and the joint will deteriorate due to stagnated *Dushita Doshas* and malnutrition caused by a *Srotorodha* of microchannel arteries that supply the particular areas of that joint and obstruct the proper flow of blood. It is also known as *Avarana* of *Vyana Vata* and is caused by *Vikarmakari Dushita Rakta Dhatu* and Serum Uric Acid Crystals (*Mala Vridhi*), which are deposited over the affected *Sandhi*.

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