

A CONCEPTUAL ANALYSIS OF NIDANARTHAKARA ROGA AS A FRAMEWORK FOR UNDERSTANDING THE PATHOLOGICAL PROGRESSION OF STHAULYA (OBESITY)

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Abstract

Obesity has emerged as one of the most leading lifestyle-related disorders of the modern era, ranking at the top among non-communicable conditions and posing a global public health burden. According to the World Health Organization (2022), nearly 890 million adults worldwide were identified as obese, and the numbers continue to rise at an alarming pace. Obesity is not only a disease entity in itself but also serves as a major predisposing factor for a range of comorbidities such as Type 2 Diabetes Mellitus, cardiovascular diseases, metabolic syndrome, and other systemic complications. In classical Ayurveda, *Sthaulya* (obesity) is described as a *Santarpanotha Vikara* and is considered a preliminary stage in the pathogenesis of more severe conditions such as *Prameha* and *Hridroga*. The framework of *Nidanarthakara Roga*—wherein one disease becomes the causative factor for another—provides an appropriate lens to understand the progression of

Sthaulya into advanced disorders. Understanding the pathological advancement of *Sthaulya* offers an opportunity for early recognition of disease progression and the institution of timely preventive or therapeutic measures. This review attempts to critically analyze the concept of *Nidanarthakara Roga* in relation to obesity, thereby highlighting its relevance in explaining the transition of *Sthaulya* into multiple systemic disorders.

Keywords: *Sthaulya*, Obesity, *Santarpanjanya vikara*, *Medoroga*, *Nidanarthakara Roga*, *Samprapti*, Lifestyle disorders

Introduction

Obesity is a global public-health epidemic. According to WHO data, in 2022 nearly 890 million adults were obese, more than double the number in 1990. Obesity markedly increases the risk of type 2 diabetes, cardiovascular disease, and other comorbidities. According to recent global health reports, obesity is strongly associated with the rising

burden of non-communicable diseases. Excess body weight is a well-recognized risk factor for Type 2 Diabetes Mellitus, cardiovascular diseases, hypertension, hypothyroidism, dyslipidemia, polycystic ovarian syndrome (PCOS), dermatological disorders, and others. The World Health Organization (WHO) identifies obesity as one of the leading contributors to disability-adjusted life years (DALYs) and premature mortality worldwide. Several large-scale epidemiological studies have demonstrated that individuals with obesity have a 3–7 times higher risk of developing Type 2 Diabetes Mellitus and nearly double the risk of cardiovascular complications compared to individuals with normal body mass index (BMI). [17]

In Ayurveda, the condition of obesity is described under the term *Sthaulya* (also referred to as *Medovrudhi* or *Ati-sthaulya*). Classical texts categorize *Sthaulya* as a *Santarpanotha Vikara*, a disorder arising from over-nutrition and excessive indulgence. The present review critically examines the Ayurveda perspective of *Sthaulya*, with particular emphasis on its definition, etiology, pathogenesis (*samprapti*), and its potential to progress into other systemic disorders.

Ayurveda describes the principle of *Nidanarthakara Roga*, wherein one disease becomes the causative factor for the emergence of another. In this framework, the initiating disorder is termed the primary disease, while the condition that arises as a

consequence is regarded as the secondary disease. This conceptual approach provides valuable insights into the progression of disorders, highlighting that while not every disease necessarily advances into another, certain conditions, when left untreated or improperly managed, can act as precursors to severe systemic illnesses.

Sthaulya exemplifies such a condition. If inadequately addressed, it predisposes individuals to a spectrum of systemic diseases, including *Prameha* (a group of metabolic disorders comparable to diabetes), *Hridroga* (cardiac disorders), and *Kuṣṭha* (skin disorders). A thorough understanding of *samprapti* not only elucidates the mechanisms underlying this progression but also facilitates the identification of *mula nidana* (root causes). This, in turn, enables therapeutic strategies that target the origin of disease rather than focusing solely on symptomatic relief.

Thus, analyzing *Sthaulya* through the lens of *Nidanarthakara Roga* underscores its significance as a primary disorder with far-reaching systemic implications. Such a comprehensive understanding is crucial for effective prevention, management, and potential reversal of obesity-related health conditions.

Aim:

To investigate the concept of *Nidanarthakara roga* and its relevance in understanding the pathological

advancement of Sthaulya (obesity) into various systemic disorders.

Objectives:

1. To critically explore the Nidanarthakara Roga as described in classical Ayurveda literature.
2. To examine the applicability of this principles in interpreting the transformation of Sthaulya into associated systemic diseases such as Prameha, Hridroga, and Hypertension.

Definition and Classification of Sthaulya

The Sanskrit term Sthaulya is derived from the root sthu, meaning "to become large or heavy." According to Amarakosha, it denotes "excessive growth of the body," while Hemachandra interprets it as an indication of over-nutrition. Clinically, Sthaulya refers to pathological overweight primarily resulting from the accumulation of Meda (adipose tissue). Caraka describes an Ati-sthula puruṣa (severely obese individual) as one having an excess of Meda and Mamsa (muscle), characterized by a pendulous appearance of the abdomen, buttocks, and breasts. This presentation aligns with the concept of Ati-sthauya, or excessive fat deposition. [1]

Sthaulya is also referred to synonymously as Medoroga in classical Ayurveda literature. The Ashtanga Samgraha classifies it as a Kapha-dominant disorder of Meda (Meda-purvarambhaka vikara), emphasizing the central role of deranged fat

metabolism. Importantly, Caraka includes individuals with morbid obesity among the Aṣṭa-nindita puruṣa [1] (eight censured or undesirable types of individuals), highlighting the significant pathological and social implications attributed to this condition in the Ayurveda framework.

Ayurveda regards Sthaulya as a Santarpanajanya (overnutrition) condition with Medo-vruddhi (excess fat).

Etiopathogenesis of Sthaulya (Obesity)

Lipid precursors are metabolized by fat-specific metabolic energy (Medodhatvagni) to form adipose tissue (Meda Dhatu) [19]. Disturbance of Kapha Dosha and the excessive accumulation of fat-specific energy, along with metabolic by-products of adipose tissue (Kleda), result in dysfunction of adipose metabolism. The adipose channels (Meda-vaha Srotas) are described as having two principal origins: (i) the renal–adrenal region and surrounding fat, and (ii) visceral and omental fat (Vapavahana) [18]. These channels draw nourishment, particularly lipids, from the preceding tissue (Mamsa Dhatu) and circulating lipids, subsequently converting them into stored fat.

From a biomedical perspective, obesity is characterized by an abnormal increase in adipose deposits across subcutaneous tissues, skeletal muscles, and internal organs such as the kidneys, heart, liver, and omentum. Meda Dhatu in Ayurveda is considered integral to tissue metabolism, and

impairment of Medodhatvagni, even in the presence of normal dietary intake, leads to continuous fat accumulation, ultimately resulting in obesity.

In contemporary medicine, the etiopathogenesis of obesity is attributed not only to excessive caloric intake but also to several contributory factors, including insufficient sleep, genetic predisposition, advanced maternal age, certain pharmacological agents, and epigenetic influences. [20]

Nidanarthakara Roga

Acarya Carak has detailed explanation of Diagnosing a disease. The Nidana Sthana provides a base for the diagnosis of a disease. Also, concepts like upadrava, Nidanarthakara Roga, vyadhi sankara helps while ruling out the root cause of a disease. The Nidanarthakara Roga is a disease which itself becomes the cause of another disease. [2]

The understanding of Nidanarthakara Roga is crucial as it

- Sheds light on how causative factors influence the onset and progression of diseases.
- Also, early identification and treatment of primary disease can avert the development of secondary conditions.

Sthaulya and Prameha

In Ayurveda, Meda Dhatu plays a central role in the pathogenesis of both Sthaulya and Prameha. In

Sthaulya, impairment of Medodhatvagni leads to inefficient metabolism of lipid precursors, resulting in the excessive and abnormal accumulation of Meda. This accumulated Meda not only increases body bulk but also causes dysfunction of adipose channels (Meda-vaha Srotas), with concomitant vitiation of Kapha Dosha and accumulation of metabolic by-products (Kleda). Over time, this pathological state establishes a fertile ground for the manifestation of systemic disorders.

In Prameha, the role of Meda extends beyond being a mere Dushya (affected tissue). The presence of Bahudrava shleshma (Kapha with excessive liquidity) combines with Meda, rendering it Abaddha (unbound or fluid in nature). This altered Meda infiltrates and affects Mamsa Dhatu (muscle tissue), leading to an increase in body fluid volume, conceptualized as Sharira Kleda. The excessive Kleda is considered a pivotal factor in the pathogenesis of Prameha.

Thus, the progression from Sthaulya to Prameha can be understood as a continuum: the excessive accumulation and pathological alteration of Meda in Sthaulya predisposes the tissue environment to Abaddha Meda and Sharira Kleda, culminating in Prameha. This illustrates how Sthaulya, when unmanaged, acts as a primary disorder (Nidana) that advances into a secondary systemic manifestation, namely Prameha, under the framework of Nidanarthakara Roga.

Caraka explicitly notes that such Santarpana disorders yield kapha-pitta prameha. [18].

**सन्तर्पणोत्थेषु गदेषु योगा मेदस्विनां ये च मयोपदिष्टाः
विरूक्षणार्थं कफपित्तजेषु सिद्धाः प्रमेहेष्वपि ते
प्रयोज्याः ॥४९॥ Cha.Chi.6/49**

Effective formulations for Lekhana on obese patients while describing the management of diseases caused by santarpana are useful in the treatment of pramehas caused by kapha and pitta dominance.

The use of drugs mentioned in santarpanjanya disease also advised in kapha-pitta prameha, indicates a shared samprapti, supporting that sthaulya may act as a Nidanarthakara Vyadhi for Prameha by predisposing its development.

Modern studies likewise confirm obesity as a primary driver of type 2 diabetes: the rising epidemic of obesity is “one of the main culprits of the exponential growth” of T2DM worldwide. Excess adiposity causes insulin resistance and β -cell stress, corresponding to the Ayurveda concept of kleda and Meda imbalance in Prameha development. [20]

Sthaulya and Hridroga (Cardiovascular Diseases)

In Ayurveda, excessive obesity is understood to result in serious systemic disorders, primarily due to the obstruction of body channels (strotorodha) by

Medas. One of the significant consequences of Sthaulya described in the texts is a decreased life span. Yogaratnakara specifically mentions that Hridroga (cardiac disorders) may arise as a direct complication of obesity.

According to Acarya Sushruta, Rasa Dhatu forms the root of both Sthaulya (obesity) and Karshya (emaciation).

रसवहानां स्रोतसां हृदयं मूलं दश च धमन्यः ॥

(Ch. Vi. 5/8)

Also, according to Acarya Caraka, the Mulasthanana (root) of Rasavaha Srotas lies in the heart (Hridaya) and the ten great vessels (Dasha Dhamani). This indicates that the structural and functional integrity of Rasa Dhatu which is inherently dependent on the heart and its associated major channels. This indicates that the Hridaya (heart) and the ten great arteries are the Mulasthanana (root or origin) of the Rasavaha Srotas (channels carrying Rasa Dhatu). Consequently, any defect or pathology in Rasa Dhatu inevitably affects its Mulasthanana, i.e., the heart. Therefore, when Rasa Dhatu becomes vitiated in the state of Sthaulya, the pathology extends to its root—the Hridaya—leading to cardiac disorders (Hridroga).

Thus, from the Ayurveda standpoint, the complication of Hridroga in obesity can be rationally explained through the chain of events: Meda aggravation → vitiation of Rasa Dhatu →

impairment of Rasavaha Srotas → involvement of Hridaya as the Mulasthanas causing Hridayaroga.

The obesity is a major risk factor for atherosclerotic cardiovascular disease, as visceral fat deposition promotes dyslipidemia, hypertension and insulin resistance, accelerating inflammation and atherosclerosis.

Sthaulya and Hypertension

In patients with Sthaulya (obesity), the pathological manifestation of strotorodha—obstruction of bodily channels—is a critical factor contributing to the development of systemic conditions such as hypertension. According to Ayurveda principles, when the srotasa (channels) are blocked due to excessive accumulation of medas, the normal flow of vata is disrupted. Vata, which is inherently responsible for circulation and movement within the body, encounters resistance due to obstructed pathways. As a result, the force of vata increases abnormally within the confined spaces of the rakta-vahini srotas (blood-carrying channels), thereby elevating pressure within the circulatory system.

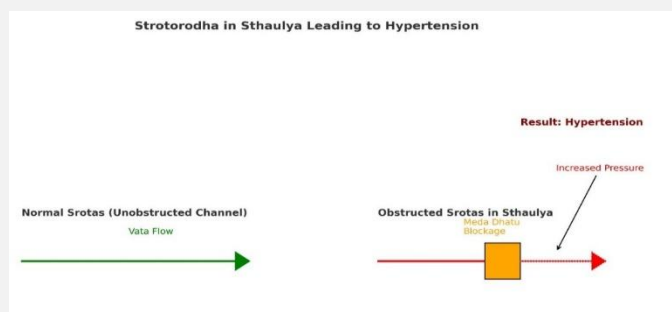


Fig. Diagrammatic illustration of strotorodha in sthauilya leading to hypertension.

Modern pathophysiology elaborates this: excess adipose causes neuro-hormonal and renal changes that chronically elevate blood pressure. For instance, obesity induces sympathetic over activity, activates the renin–angiotensin system, and leads to sodium retention; visceral fat secretes inflammatory adipokines (TNF- α , IL-6) and causes endothelial dysfunction. These changes collectively drive hypertension in obese individuals. In other words, the sannipata effect of Medas vitiation described classically manifests as essential hypertension today explaining why Sthaulya is a major predisposing factor for chronic blood pressure elevation in modern cohorts. [5]

Discussion

The present review highlights the Ayurveda concept of Nidanarthakara Roga as a theoretical framework to explain the pathological advancement of Sthaulya (obesity) into systemic disorders such as Prameha, Hridroga, and Hypertension. Classical Ayurveda texts consistently emphasize that Sthaulya is not merely an isolated disorder, but rather a Santarpanottha Vikara that creates fertile ground for the emergence of complex pathologies.

From an Ayurveda standpoint, the dysfunction of Medodhatvagni, excessive accumulation of Medas, and subsequent Strotorodha (obstruction of channels) represent the primary pathological

processes. These mechanisms parallel modern concepts such as dysregulated adipose tissue metabolism, ectopic fat deposition, insulin resistance, systemic inflammation, and endothelial dysfunction.

The linkage between Sthaulya and Prameha is evident through the role of Meda and Kleda in altering tissue microenvironments, which can be correlated with biomedical mechanisms of hyperinsulinemia and impaired glucose tolerance leading to Type 2 Diabetes Mellitus. Similarly, Hridroga as a sequela of Sthaulya is well-grounded in both Ayurveda and modern perspectives: the vitiation of Rasa Dhātu and impairment of Rasavaha Srotas correspond to modern observations of obesity-driven atherosclerosis, dyslipidemia, and cardiometabolic strain. Furthermore, the development of hypertension in obese individuals, explained in Ayurveda through Vata-vikriti caused by Srotorodha, mirrors modern evidence of neurohormonal activation, increased vascular resistance, and adipokine-induced endothelial dysfunction.

Thus, the concept of Nidanarthakara Roga provides an integrative model that bridges classical Ayurveda doctrines with contemporary biomedical understanding. It highlights how primary pathological conditions—if left untreated—become causal factors for secondary systemic diseases, underlining the preventive, diagnostic, and

therapeutic importance of early intervention in Sthaulya.

Conclusion

Obesity (Sthaulya) is both an independent disease entity and a causative factor for multiple systemic disorders, aligning with the Ayurveda principle of Nidanarthakara Roga. The pathogenesis of Sthaulya—rooted in Medodhatvagni dysfunction, Meda accumulation, and Srotorodha—establishes a direct progression toward metabolic and cardiovascular complications, including Prameha, Hridroga, and Hypertension.

This conceptual framework not only validates the Ayurveda understanding but also resonates with modern biomedical evidence linking obesity to Type 2 Diabetes Mellitus, cardiovascular diseases, and hypertension. Early recognition and intervention at the stage of Sthaulya are therefore critical, as preventive measures and timely management can halt the pathological progression into more severe systemic conditions.

By applying the lens of Nidanarthakara Roga, the study underscores the significance of addressing obesity not merely as a lifestyle disorder but as a pivotal pathological state with far-reaching systemic implications. This integrative understanding offers valuable insights for both Ayurveda and modern medical strategies in preventing and managing obesity-associated diseases.

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