



RECENT INNOVATIONS IN UNDERSTANDING THE PRINCIPLES OF SHAREERA WITH RESPECT TO RAJAYAKSHMA AS A DEGENERATIVE DISORDER

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ABSTRACT

Introduction

Degenerative disorders pose significant challenges to global health, with modern medicine striving to understand their intricate pathophysiology and develop sustainable treatments. Degenerative disorders, characterized by the progressive deterioration of bodily functions, pose significant challenges in modern medicine. Ayurveda, with its timeless principles rooted in Shareera (body constitution), provides a unique perspective. Rajayakshma, a condition characterized by systemic degeneration, offers an archetype for studying degenerative disorders through the lens of Ayurveda. Recent research bridges traditional concepts with modern medical insights, providing a comprehensive understanding of such disorders.

Methods:

A systematic review of classical Ayurvedic texts, including Charaka Samhita, Sushruta Samhita, and Ashtanga Hridaya, is conducted to extract the principles of Rajayakshma. Recent advancements in molecular biology, systems biology, and bioinformatics were examined to integrate modern scientific findings with traditional Ayurvedic knowledge. Clinical trials and case studies focusing on Ayurvedic interventions for Rajayakshma were also analyzed to assess their efficacy and therapeutic potential.

Results:

The Ayurvedic concept of Dhatukshaya (tissue depletion) in Rajayakshma aligns with the progressive degeneration observed in modern degenerative disorders. Innovations in understanding the Agni (digestive and metabolic fire), Tridosha imbalances, and the role of Ojas (vital essence) have provided new insights into disease mechanisms. Molecular studies demonstrate parallels between Ojas depletion and oxidative stress-induced cellular damage. Advances in diagnostic approaches, such as pulse analysis and prakriti-genomics, offer tools for early detection of degenerative processes. Therapeutic interventions focusing on Rasayana (rejuvenation therapy) have shown promise in clinical trials, improving quality of life and mitigating progression. Dravya like Ashwagandha and Shatavari, alongside Panchakarma therapies, exhibit potential for tissue regeneration and restoration of homeostasis.

Discussion:

The integrative approach of Ayurveda enriches the understanding of degenerative disorders through a holistic framework. The principle of Samprapti (pathogenesis) highlights multifactorial etiologies, including lifestyle, environmental, and genetic factors, providing parallels to epigenetic theories in modern medicine. Innovations such as the application of nanotechnology in Ayurveda (Bhasma preparations) and evidence-based validation of traditional therapies underscore the relevance of Shareera in contemporary healthcare.

Conclusion:

Ayurveda's principles of Shareera provide a profound foundation for understanding and managing degenerative disorders. The study of Rajayakshma exemplifies how traditional knowledge can synergize with modern innovations to offer integrative, patient-centric approaches. Further interdisciplinary research and clinical validation are essential to enhance its applicability in global healthcare systems.

KEYWORDS: Shareera, Degenerative Disorders, Rajayakshma, Ayurveda, Dhatukshaya, Rasayana Therapy



INTRODUCTION

Degenerative disorders, marked by the progressive decline in bodily functions, present a significant challenge in modern healthcare by demanding innovative approaches to provide effective relief. The principles of *Shareera* (the study of the human body in Ayurveda) emphasize the balance of *doshas* (*Vata*, *Pitta*, *Kapha*) and the interdependence of bodily elements, offering a framework to understand degeneration as an imbalance or depletion of vital energies.

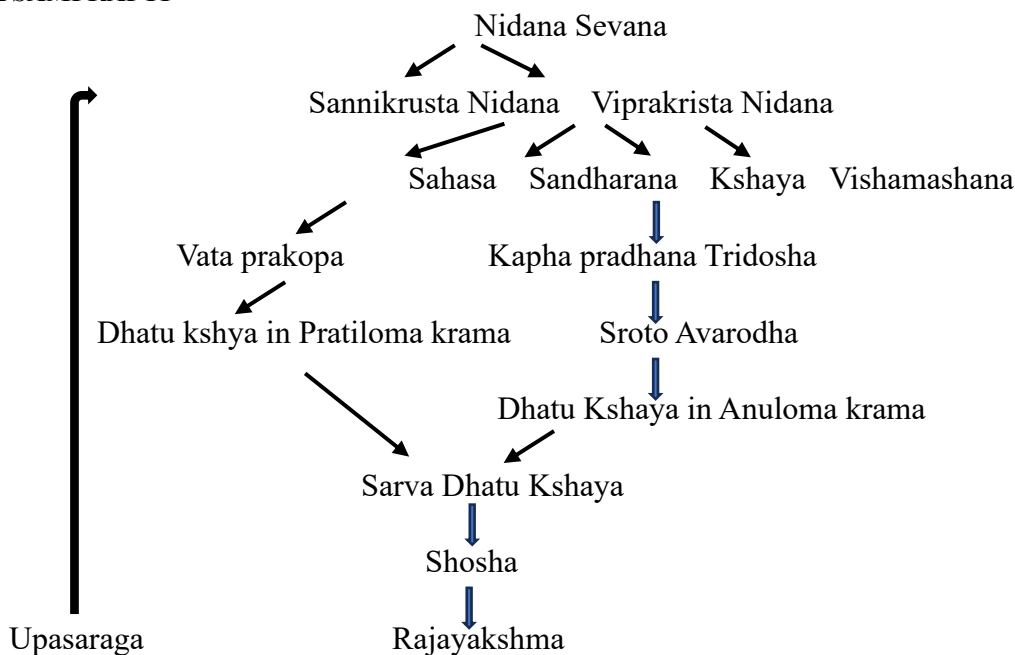
Recent innovations, such as stem cell therapy, nanomedicine, and regenerative treatments, align with the *Yuktipurvaka* (logical and systematic) application of ancient principles, aiming to restore homeostasis and mitigate decay. For instance, stem cell therapy mirrors the Ayurvedic concept of rejuvenation (*Rasayana*), striving to repair damaged tissues and replenish vitality.

These advancements underline the synergy between traditional knowledge and cutting-edge science, highlighting their relevance in addressing *Yakshma* (wasting disorders) and other degenerative conditions by targeting the root causes rather than merely alleviating symptoms.

Materials and Methods

A systematic review of classical Ayurvedic texts, including *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridaya*, is conducted to extract the principles of *Rajayakshma*. Recent advancements in molecular biology, systems biology, and bioinformatics were examined to integrate modern scientific findings with traditional Ayurvedic knowledge. Clinical trials

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and case studies focusing on Ayurvedic interventions for *Rajayakshma* were also analyzed to assess their efficacy and therapeutic potential

REVIEW OF LITERATURE

The term *Rajayakshma* has its roots in classical Ayurvedic literature, and its etymology provides significant insights into the disease's nature:

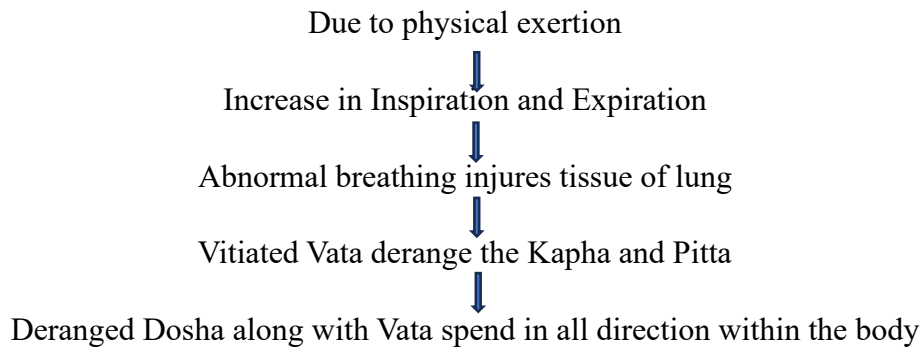
- The word "*Raja*" signifies something that is "majestic" or "kingly," and "*Yakshma*" refers to "decay" or "wasting."
- The disease is termed *Rajayakshma* because it is considered the "king of diseases," given its pervasive impact on the body, causing multi-systemic deterioration and severe debilitation.
- Another interpretation is that it dominates the body, much like a ruler, leading to progressive degeneration if untreated.

Nidana of *Rajayakshma*

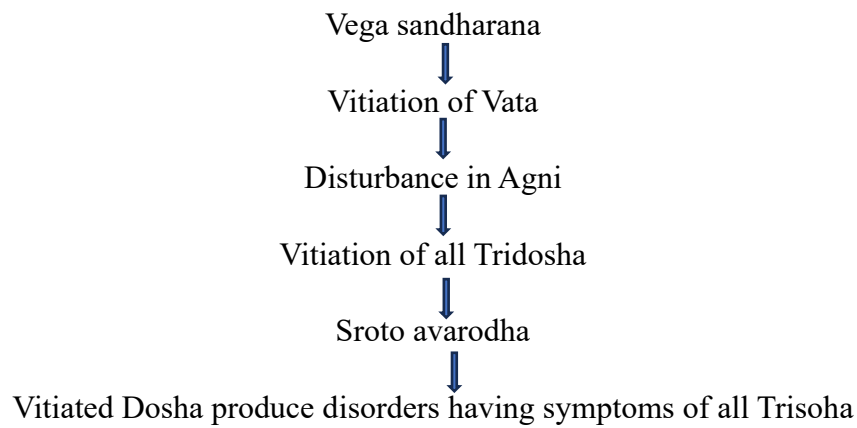
Rajayakshma arises from a combination of causative factors that lead to the depletion of vital body tissues (*Dhatu Kshaya*) and vitiation of the three *Doshas*, primarily *Vata* due to *Sahasa*. Specific triggers include excessive loss of *Dhatu*s (e.g., *Shukra* and *Rakta*), suppression of natural urges (*Vegadharana*), incompatible dietary habits (*Viruddha Ahara*), overindulgence in physical and sexual activities, psychological stress, and improper lifestyle practices. These factors disturb the balance of *Agni* thus impair tissue metabolism, and ultimately weaken *Ojas* (immunity), resulting in the characteristic symptoms of progressive emaciation, *kasa*, *Jwara* etc .



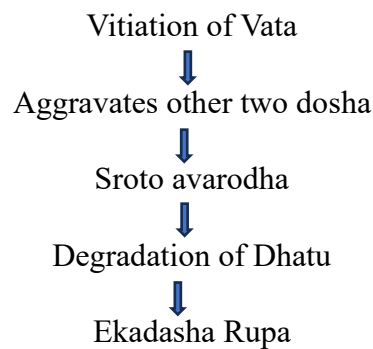
VISHESHA SAMPRAPTI SAHASA



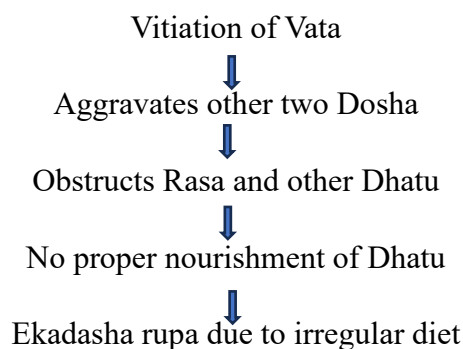
SANDHARANA



KSHAYA



VISHAMASHANA





SAMPRAPTI GHATAKA	
Dosha	Vata-Prana vayu (samana , udana ,apana vayu) Kapha-kledaka and avalambaka
Dushya	Udaka, rasa, rakta
Agni	Mandagni, Vishamagni Rasa Dhatvagni
Srotas	Prana, udaka, annavaha
Srotodusti	Sanga, Vimarga gamana and Atipravrutti
Udbhava sthana	Pittashaya ,Amashaya
Vyakta sthana	Urah, Phupphusa , Pranavaha srotas
Rogamarga	Abhyantara

Category	Symptoms
<i>Trirupa</i>	1. <i>Kshaya</i> (Emaciation)
	2. <i>Jwara</i> (Fever)
	3. <i>Kasa</i> (Cough)
<i>Shadrupa</i>	1. <i>Jwara</i> (Persistent fever)
	2. <i>Kshaya</i> (Weight loss and tissue depletion)
	3. <i>Shwasa</i> (Dyspnea or breathlessness)
	4. <i>Raktapitta</i> (Hemoptysis or blood in sputum)
	5. <i>Aruchi</i> (Anorexia or loss of appetite)
	6. <i>Daurbalya</i> (Weakness or fatigue)
Ekadasha Rupa	1. <i>Kshaya</i> (General emaciation)
	2. <i>Jwara</i> (Recurring fever)
	3. <i>Kasa</i> (Chronic cough)
	4. <i>Shwasa</i> (Shortness of breath)
	5. <i>Raktapitta</i> (Blood in sputum)
	6. <i>Parshva Shula</i> (Chest pain)
	7. <i>Aruchi</i> (Loss of appetite)
	8. <i>Daurbalya</i> (General weakness)
	9. <i>Swara Bheda</i> (Hoarseness of voice)
	10. <i>Nidrabhanga</i> (Disturbed sleep)
	11. <i>Sandhi Ruja</i> (Joint pain due to Vata imbalance)

DISCUSSION

- The integrative approach of Ayurveda enriches the understanding of degenerative disorders through a holistic framework.
- Molecular studies demonstrate parallels between *Ojas* depletion and oxidative stress-induced cellular damage.
- Advances in diagnostic approaches, such as pulse analysis and prakriti-genomics, offer tools for early detection of degenerative processes.

Innovations in the understanding and management of *Rajayakshma* have created a bridge between classical Ayurvedic approaches and modern medical advancements. The Principle wise innovations include

- Pulse wave analyzer - *Rajayakshma* a term from Ayurvedic medicine referring to a condition similar to tuberculosis or chronic respiratory disease), a Pulse Wave Analyzer plays a crucial role in assessing the health of the cardiovascular and respiratory systems. It helps in monitoring the arterial health and circulatory dynamics of individuals suffering from *Rajayakshma*, where chronic inflammation and respiratory distress often affect the heart and blood vessels.

By evaluating pulse wave velocity, the Pulse wave analyser provides valuable insights into arterial stiffness, early signs of cardiovascular risk, and the effectiveness of treatments. Thus , the treatment and life style modification can be planned by the help pulse wave analyzer .

- Genomics- Plays a crucial role in understanding *Rajayakshma*, a condition that can be likened to chronic wasting diseases like tuberculosis in modern medicine. By identifying genetic markers and variations, genomics can uncover the hereditary factors that influence an individual's susceptibility to *Rajayakshma*, as described in Ayurveda's concept of *Beejadasha* (genetic predisposition). Genetic studies also reveal how variations in immune response genes, such as those involved in the innate immune system, may contribute to chronic inflammation, tissue degeneration, and impaired recovery. Ayurvedic concepts of *Prakriti* and *Vikriti* is a holistic, individualized approach to prevention and treatment of *Rajayakshma* can be achieved, merging ancient wisdom with modern scientific advancements.



- Reverse diagnosis from *Dhatu* assessment - In *Rajayakshma* focuses on evaluating the status of *Dhatu* to identify imbalances caused by chronic respiratory conditions like *Rajayakshma*. This method trace how the disease has impacted the tissues. By observing symptoms such as weakness, tissue degeneration, or reduced vitality, practitioners can pinpoint areas of dysfunction. Thus, this approach helps in diagnosing the underlying imbalances, offering insights into disease progression.
- Other investigation like Neuroimaging techniques, laboratory investigation and EEG, 2D Echo and Ultrasound can be used for assessment of *Dhatu*, *Upadhatu* and *Srotas*.
- AI tongue screening, laboratory investigations, Metabolomics can be used for assessing *Mala*.

Other laboratory investigation that can be used for assessment of *Dhatu* -

Laboratory Investigations	<i>Dhatu</i>
RBC, Hb %, WBC, Platelet Count, MCV, MCHC, MCH.	<i>Rakta Dhatu</i>
Eosinophilia	<i>Vata Vriddhi or Prakopa</i>
Neutrophilia	<i>Saama Kapha and Pitta.</i>
Lymphocytes	<i>Nirama Kapha</i>
Serum Electrolytes	<i>Rasa Dhatu</i>
Serum Calcium, Phosphate	<i>Rasa Dhatu, Asthi dhatu</i>
Serum Creatinine, EMG	<i>Mamsa Dhatu</i>
Serum alkaline phosphates, osteocalcin, Acid Phosphate, urine calcium (24 Hours)	<i>Asthi Dhatu</i>
Semen Analysis, Testosterone, FSH, LH	<i>Shukra Dhatu</i>
Lipid profile	<i>Rasagata Sneha (Abaddha Meda)</i>
LFT (Liver function test)	<i>Rakta dhatu, Pitta dosha</i>
PFT (Pulmonary function test)	<i>Prana Vayu</i>
RFT (Renal function test)	<i>Mutravaha srotas</i>
TMT, ECG, ECHO	<i>Vyana Vayu</i>

- In our classics, We, come across 'n' Number of treatment options, explained under various *Vyadhis*.
- When we look into a disease condition and happen to name it/ prev. diagnosed, we restrict ourselves with a false ego of knowing/ branding the patient with the same.
- Proper stepwise diagnosis is a must and if there is *Pratyaksha* data got through various modern innovation, one can straight way provide or show results to the patient (Patient centric) using the same at *dhatu* level.

CONCLUSION

The, *Shareera* perspective of understanding the multisystemic respiratory system predominant ailment will pave way to look all other *Vyadis* in Ayurvedic classics in a more practical, wholistic order. (eg. *jwara*). Here the study of *Rajayakshma* exemplifies how traditional knowledge can synergize with modern innovations to offer integrative, patient-centric approaches. There are number of *Rajayakshma* treatments that Ayurveda has provided for us that have proven to be effective and promising.

In addition to reducing symptoms without jeopardizing the person's health, they must avoid such problems with effective results. A number of natural herbs and pharmaceuticals have been shown to have promising anti tubercular actions, to help alleviate the disease 's unpleasant symptoms, and to function

as immune boosters. Thus, Principles of *Shareera* definitely provides a profound foundation for understanding and managing degenerative disorders.

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