

NIDANA PANCHAKA IN VISHA CHIKITSA: EXPLORING THE ROLE OF ROGNIDAN IN AYURVEDIC TOXICOLOGY**Dr. Nivedita V. Dhanvijay^{1*}, Dr. Snehankita V. Dhanvijay², Dr. Amit Jain³**

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ABSTRACT

Agada Tantra is the branch of Ayurveda concerned with the recognition, prevention and management of toxic conditions caused by various types of Visha. Diagnosis of poisoning requires identification of the source of exposure, characteristic clinical manifestations, progression of toxicity and involvement of different body systems. In Ayurveda, Rognidan provides a structured approach to disease assessment, while Nidana Panchaka—Nidana, Purvarupa, Rupa, Upashaya and Samprapti—forms an important diagnostic framework.

KEYWORDS: Nidana Panchaka; Rognidan; Agada Tantra; Visha Chikitsa; Visha Lakshana; Dushivisha; Gara Visha; Ayurvedic Toxicology; Poisoning.

1. INTRODUCTION

Agada Tantra is one of the eight classical branches of Ayurveda and primarily deals with Visha, its sources, manifestations, complications, prevention and management. Classical Ayurvedic literature describes toxic substances originating from animate, inanimate and artificial sources and provides detailed descriptions of their clinical manifestations and management. Contemporary literature similarly recognizes Agada Tantra

as a specialized discipline concerned with toxicological conditions and their diagnostic and therapeutic principles.

Diagnosis is a fundamental component of Visha Chikitsa because the clinical presentation of poisoning may vary according to the type of poison, quantity, route of administration, duration of exposure, individual susceptibility and stage of toxicity. Classical descriptions of Visha include characteristic signs and symptoms, progression and systemic manifestations.

Rognidan in Ayurveda provides a systematic method for understanding disease through etiological factors, prodromal features, clinical manifestations, response to interventions and pathogenesis. Nidana Panchaka consists of Nidana, Purvarupa, Rupa, Upashaya and Samprapti and is described as an important diagnostic approach in Ayurveda.

In toxicological conditions, however, diagnosis has an additional dimension. Apart from recognizing clinical manifestations, it is necessary to establish the possibility of exposure and, whenever appropriate, identify the toxic agent or its metabolites through laboratory or toxicological investigations. Therefore, the application of Rognidan principles to Visha Chikitsa should be considered as a complementary clinical framework rather than a substitute for modern toxicological confirmation.

The concept becomes particularly relevant in chronic or low-grade toxic exposure. Dushivisha has been described in Ayurvedic literature as a form of attenuated or residual poison, with manifestations that may become apparent under favourable aggravating circumstances. Contemporary Ayurvedic reviews have explored its conceptual relationship with cumulative or chronic toxicity.

The present review therefore attempts to explore how Nidana Panchaka can contribute to the diagnostic understanding of Visha and how classical Rognidan concepts may be examined using contemporary clinical and toxicological approaches.

2. AIM

The present review aims to explore the role and applicability of Nidana Panchaka in the diagnosis and clinical assessment of Visha, with special reference to Agada Tantra.

3. MATERIALS AND METHODS

A narrative review was undertaken using classical Ayurvedic concepts of Visha Chikitsa and Rognidan, supported by published contemporary literature on Ayurvedic toxicology and modern toxicological diagnosis. Relevant literature concerning Nidana Panchaka, Visha Lakshana, Dushivisha, Gara Visha and chronic toxic exposure was reviewed and conceptually analysed.

4. REVIEW OF LITERATURE

2.1 Concept of Rognidan in Ayurveda

Rognidan encompasses the systematic assessment of disease causation, manifestations and pathogenesis. Among the various diagnostic approaches described in Ayurveda, Nidana Panchaka provides a structured framework consisting of

1. Nidana – etiological or causative factors
2. Purvarupa – prodromal manifestations
3. Rupa – established signs and symptoms
4. Upashaya – symptomatic or therapeutic response that assists diagnosis
5. Samprapti – pathogenesis and development of disease

A review of Nidana Panchaka describes these five components as an important diagnostic method in Ayurveda.

In the context of Agada Tantra, these components may be interpreted according to the specific characteristics of poisoning.

2.2 Nidana in Visha Chikitsa

In poisoning, identification of Nidana is particularly important because the exposure history may provide the first clue towards diagnosis.

Potential toxicological Nidana may include

- ingestion of poisonous substances;
- consumption of contaminated food or water;
- exposure to pesticides;
- occupational exposure to chemicals;
- exposure to heavy metals;
- bites or stings from poisonous animals;

- inhalational exposure;
- dermal exposure;
- administration of toxic substances intentionally or accidentally;
- repeated exposure to low doses of toxic substances.

Thus, the Ayurvedic concept of Nidana may be clinically explored through a detailed exposure history.

A research-oriented toxicological history should document

Source → Route → Dose/amount → Duration → Frequency → Time of exposure → Circumstances → Previous exposure → Occupational/environmental factors.

This approach can make the classical concept of Nidana more operational and measurable.

2.3 Purvarupa in Visha

Purvarupa represents early or prodromal manifestations that precede the fully developed disease. In toxicological conditions, early symptoms may be nonspecific and may include gastrointestinal, neurological, constitutional or autonomic manifestations depending on the toxicant.

In Ayurvedic toxicology, early manifestations are described in relation to different types and stages of Visha. Contemporary reviews of Visha Chikitsa similarly emphasize recognition of Vishalakshana and different stages of poisoning.

From a research perspective, Purvarupa may therefore be studied as

Exposure → early/subclinical manifestations → progression → established toxic syndrome.

Prospective studies could determine whether particular early symptom clusters predict subsequent organ-specific toxicity.

2.4 Rupa in Visha

Rupa refers to the established signs and symptoms of disease. In poisoning, clinical manifestations may involve multiple organ systems.

Depending upon the toxicant, manifestations may include

- gastrointestinal symptoms;
- neurological manifestations;
- respiratory involvement;
- cardiovascular changes;

- hepatic dysfunction;
- renal dysfunction;
- dermatological manifestations;
- hematological abnormalities;
- altered consciousness;
- systemic metabolic disturbances.

Classical Agada Tantra provides descriptions of Visha Lakshana and manifestations associated with different toxic substances. Modern toxicology additionally uses clinical examination, physiological parameters and laboratory investigations to characterize poisoning.

Thus, Rupa can be explored through a combination of
Clinical signs + symptoms + organ-system involvement + laboratory abnormalities.

2.5 Upashaya and Visha

Upashaya refers to the use of suitable or unsuitable interventions to assist clinical understanding. In conventional Ayurvedic diagnosis, the response to a particular intervention may support diagnostic reasoning.

However, in suspected poisoning, Upashaya should be interpreted cautiously. A symptomatic response to an intervention cannot by itself establish the identity of a poison.

Therefore, in toxicological research

Upashaya should be considered supportive clinical information rather than definitive toxicological evidence.

Objective investigations remain necessary wherever indicated.

2.6 Samprapti of Visha

Samprapti describes the development and progression of a disease process.

A conceptual Ayurvedic model of toxic disease may be represented as

Visha exposure → absorption/entry into the body → interaction with Dosha and Dushya → involvement of Srotas → tissue/organ dysfunction → clinical manifestations.

The classical framework can be useful for describing the progression of toxic manifestations, while modern toxicology explains poisoning using concepts such as absorption, distribution, metabolism, excretion and toxicodynamic effects.

Recent literature comparing Ayurvedic Visha concepts with modern toxicology emphasizes that conceptual similarities should not automatically be interpreted as one-to-one equivalence.

2.7 Role of Dosha and Dushya in Toxicological Diagnosis

Ayurvedic disease assessment includes consideration of Dosha, Dushya and the site of pathological involvement.

In poisoning, clinical manifestations may differ according to

- nature of the toxic substance;
- dose;
- route;
- duration;
- host susceptibility;
- affected tissues and organs.

The Ayurvedic assessment of Dosha-Dushya involvement may therefore be investigated as a method for phenotypic characterization of toxicological presentations.

However, standardized criteria are necessary before Dosha-based assessment can be reliably incorporated into clinical research.

2.8 Role of Srotas in Visha

Srotas provide a conceptual framework for understanding the channels and functional pathways involved in disease.

In toxicological conditions, the multisystem nature of poisoning may be described through involvement of different functional systems.

For example

Ayurvedic framework| Possible clinical interpretation

Pranavaha Srotas| Respiratory involvement

Annavaha Srotas| Gastrointestinal manifestations

Rasavaha/Raktavaha Srotas| Systemic/hematological manifestations

Mutravaha Srotas| Renal/urinary involvement

Majjavaha Srotas| Neurological manifestations.

These correlations should be treated as conceptual research hypotheses rather than established equivalences.

2.9 Dushivisha and Rognidan

Dushivisha is particularly relevant to the relationship between Rognidan and Agada Tantra. Classical and contemporary Ayurvedic reviews describe Dushivisha as an attenuated or residual form of toxicity that may persist and manifest under suitable aggravating conditions.

Its manifestations have been discussed in relation to Dosha predominance and the site of involvement.

From a Rognidan perspective, Dushivisha may therefore be assessed through:

Nidana → Purvarupa → Rupa → Dosha-Dushya involvement → Srotas → Samprapti.

This provides a potential framework for studying chronic or repeated toxic exposure.

However, Dushivisha should not automatically be considered synonymous with any particular modern toxicant or with chronic poisoning as a diagnostic entity. A 2026 review specifically examining arsenic toxicity in the context of Dushi Visha highlights conceptual similarities but also the need for critical evaluation.

2.10 Gara Visha and Rognidan

Gara Visha represents another important area in which Rognidan principles may assist clinical interpretation.

In suspected Gara Visha, diagnostic assessment may include

- dietary history;
- medication history;
- occupational history;
- repeated exposure;
- exposure to combinations of substances;
- chronicity of symptoms;
- constitutional factors;
- Dosha-Dushya assessment;
- systemic manifestations.

Recent literature on Agada Yogas has discussed the diagnostic potential of certain classical formulations and emphasized the need for standardization, documentation and scientific validation.

2.11 Contemporary Toxicological Perspective

Modern toxicology emphasizes exposure assessment, clinical examination, toxicant identification and evaluation of organ-system effects.

This is particularly important because toxic effects may be acute, subacute or chronic. Environmental and occupational exposures can involve pesticides, heavy metals, contaminated food or water and other chemical agents.

Contemporary literature has also examined chronic toxic exposure in relation to Ayurvedic concepts such as Dushivisha.

Therefore, a contemporary integrative diagnostic model could be represented as

Exposure history → Ayurvedic Rognidan → clinical examination → routine laboratory investigations → specific toxicological testing → biomarker assessment where appropriate → integrated diagnosis.

5. DISCUSSION

The major strength of applying Rognidan principles to Agada Tantra is the possibility of organizing toxicological assessment into a structured clinical framework.

3.1 Nidana as Exposure Assessment

Nidana has considerable potential for systematic documentation of toxic exposure. Instead of recording only “history of poisoning,” a detailed history can include source, route, dose, duration and frequency.

This is particularly relevant in occupational and environmental toxicology.

3.2 Purvarupa as Early Clinical Indicators

The concept of Purvarupa provides a basis for investigating early manifestations before development of a fully established toxic syndrome.

Future prospective research may examine whether particular early symptom patterns are associated with subsequent biochemical or organ-specific abnormalities.

3.3 Rupa as Clinical Phenotyping

Rupa can provide a structured description of established clinical manifestations.

A standardized toxicological case record could include

General examination → system-wise examination → neurological assessment → gastrointestinal assessment → respiratory assessment → cardiovascular assessment → dermatological findings → laboratory abnormalities.

This may help in developing reproducible clinical datasets.

3.4 Samprapti as a Pathophysiological Model

Samprapti provides a conceptual explanation of disease development. In Agada Tantra, this may help organize the transition from exposure to systemic manifestation.

However, it is important to avoid directly equating Ayurvedic Samprapti with modern toxicokinetics or toxicodynamics. Modern toxicology provides measurable parameters, whereas Samprapti is a classical explanatory framework. Recent comparative literature similarly recommends treating such relationships as conceptual rather than identical.

3.5 Dushivisha as a Research Model

Dushivisha may be particularly suitable for interdisciplinary research because its classical description involves attenuated/residual toxicity and delayed manifestations.

Existing reviews have already explored Dushivisha in relation to cumulative toxicity, environmental exposure and modern toxicology.

The next step should therefore be empirical validation rather than further conceptual repetition.

A possible research model would be

Suspected chronic exposure → Rognidan assessment → Dushivisha symptom score → biochemical investigations → toxicant/biomarker estimation → statistical correlation.

3.6 Proposed Rognidan-Based Toxicological Assessment

Rognidan component| Application in Visha Chikitsa| Potential measurable parameter

Nidana| Source and type of exposure| Exposure history

Purvarupa| Early manifestations| Symptom documentation

Rupa| Established toxic manifestations| Clinical examination

Upashaya| Response to appropriate intervention| Clinical response

Samprapti| Disease progression| Temporal clinical/laboratory changes

Dosha| Ayurvedic phenotypic assessment| Standardized scoring

Dushya| Tissue/organ involvement| Organ-specific investigations

Srotas| Functional/system involvement| System-wise clinical assessment.

3.7 Need for Standardization

The major limitation at present is the absence of universally accepted operational criteria for applying Rognidan parameters to poisoning.

Future research should address

1. Development of a standardized Rognidan-based toxicology case record.
2. Development and validation of symptom-based scoring systems.
3. Inter-observer reliability of Dosha assessment.
4. Correlation of Ayurvedic clinical parameters with biochemical markers.
5. Correlation with toxicant concentrations where appropriate.
6. Prospective studies in defined exposure populations.
7. Differentiation between Dushivisha, Gara Visha and conventional chronic poisoning.
8. Development of interdisciplinary protocols involving Agadtantra, Rognidan and modern toxicology.

3.8 Clinical Significance

The proposed approach should not replace established emergency and toxicological care. In acute poisoning, timely stabilization, supportive management and appropriate toxicological evaluation remain essential.

The potential contribution of Rognidan is to provide an additional structured clinical characterization of the patient.

Thus, the relationship may be represented as:

Modern Toxicology = Identification and management of toxic exposure

Rognidan = Structured Ayurvedic characterization of causation, manifestations and pathogenesis.

Integrated approach = Exposure assessment + clinical phenotype + Ayurvedic assessment + objective investigations.

6. CONCLUSION

Nidana Panchaka provides a structured diagnostic framework that may have potential application in Visha Chikitsa and Ayurvedic toxicology. Nidana can facilitate systematic assessment of exposure, Purvarupa can assist in the recognition of early manifestations, Rupa can characterize established clinical features, Upashaya may provide supportive diagnostic information and Samprapti can provide a conceptual understanding of disease progression.

The concepts of Dosha, Dushya and Srotas may further contribute to Ayurvedic characterization of multisystem toxicological manifestations. Dushivisha and Gara Visha represent particularly relevant areas for exploring the interface between Rognidan and Agada Tantra. Existing literature supports the conceptual relevance of these areas but also demonstrates the need for greater standardization and scientific validation.

Nidana Panchaka should therefore be considered a potential complementary diagnostic framework, rather than a substitute for modern toxicological investigations. Future research should focus on standardized diagnostic criteria, validated assessment tools, prospective clinical studies and correlation with biochemical and toxicological biomarkers.

A scientifically designed integration of Rognidan with contemporary toxicology may help transform classical diagnostic concepts into testable clinical research hypotheses while preserving the distinctive theoretical framework of Ayurveda.

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