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UNDERSTANDING DOOSHIVISHA: ETIOPATHOGENESIS AND ITS RELEVANCE TO ENDOCRINE DISRUPTORS

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ABSTRACT

Visha Chikitsa, one of the eight clinical branches (Ashtanga Ayurveda), specializes in the diagnosis and management of various types of poisoning. In modern times, human exposure to environmental toxins has increased dramatically. A significant concern is Endocrine Disrupting Chemicals (EDCs), synthetic or natural substances that interfere with hormonal function. The World Health Organization (WHO) estimated in 2016 that approximately 1.6 million people globally were affected by diseases linked to such chemical exposures. From an Ayurvedic perspective, EDCs can be correlated with Garavisha—a type of artificially prepared poison made by combining non-lethal substances that become toxic over time. These compounds are commonly present in cosmetics, plastics, food packaging, pesticides, and water sources. Chronic exposure to EDCs does not typically cause immediate symptoms but leads to cumulative toxicity, disrupting the endocrine and reproductive systems, often manifesting as conditions like PCOS, infertility, and menstrual irregularities. This pattern of slow-acting, hidden toxicity aligns with the Ayurvedic concept of Dooshivisha, a dormant poison that activates under certain conditions such as low digestion (Agnimandya) or seasonal

changes. Dooshivisha tends to affect Rasa and Rakta dhatus, weakening the reproductive tissues and causing Beeja-Dushti (germ cell damage), a critical factor in reproductive health disorders. Conventional medicine often overlooks the root cause in such cases, focusing instead on symptomatic relief. In contrast, Ayurveda emphasizes etiology, prevention, and detoxification through Shodhana (purification therapies) and daily regimen (Dinacharya). This paper aims to reinterpret classical principles of Visha Chikitsa in the context of modern toxicology, particularly endocrine disruption, and underscores the need for integrative approaches combining traditional wisdom with contemporary awareness to combat chronic toxicity.

Keywords: *Dooshivisha*, *Endocrine Disruptors*, *Garavisha*, *Ayurvedic Toxicology*

INTRODUCTION

The concept of "*Gara Visha*" (artificial or slow-acting poison) is an important subject in *Ayurveda toxicology*. It is distinctly discussed in the *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridaya / Sangraha*—each contributing unique insights.

In the present era, endocrine-disrupting chemicals (EDCs) have emerged as silent and pervasive toxins affecting human health. These substances, present in food, water, air, plastics, cosmetics, and even medications, subtly infiltrate the body and mind. Their long-term exposure disrupts the natural balance of the endocrine system, leading to menstrual irregularities,

infertility, early puberty, hormonal cancers, developmental abnormalities in the fetus, and autoimmune disorders. Much like *Dooshivisha* described in Ayurveda—a form of latent poison that remains in the body and aggravates under favorable conditions—EDCs too act in a chronic, insidious manner, affecting *dates* (tissues), *srotas* (body channels), and *ojas* (vitality). Their effects are not immediate but progressive and cumulative. Therefore, in the context of *Agadatantra*, EDCs must be seen as modern-day equivalents of *Dooshivisha*, warranting detoxification, protection, and preventive strategies rooted in both traditional and modern sciences [1].

SAMHITAS	DEFINITION OF GARAVISHA		
<i>Charaka Samhita</i>	<i>Garavisha</i> is a combination of various non-compatible, artificial, or processed substances that may not be poisonous individually but become toxic when combined or improperly processed		
<i>Sushruta Samhita</i>	Emphasizes gara as man-made or artificially prepared poison, often used with malicious intent (e.g., mixed with food or drink)		
<i>Ashtanga Hridayam</i>	Similar to Sushruta, defines Gara as artificial poison, often created by mixing multiple incompatible or semi-toxic substances. It's slow-acting and difficult to diagnose		

ASPECT	CHARAKA	SUSHRUTAS	ASHTANGA HRIDAYAM
SOURCE	Improperly cooked food, incompatible drug combinations, or slow toxins	Prepared by enemies, using animal, plant, or mineral sources	Similar to <i>Sushruta</i>
PREPARATION	Can arise from poor combinations (e.g., <i>viruddha ahara</i>)	Man-made poison using multiple ingredients	Use of incompatible or semi-toxic combination

METHODOLOGY

This study employs a conceptual, analytical, and integrative review methodology to explore the classical *Ayurvedic* concept of *Dooshivisha* and its contemporary correlation with Endocrine Disrupting Chemicals (EDCs), with particular emphasis on the role of *Nidana* (etiology) in both systems [2]. The approach involves the triangulation of classical textual interpretation and modern scientific literature analysis.

AYURVEDIC LITERARY REVIEW

A primary textual analysis was carried out using the foundational *Ayurvedic* texts that include:

- *Charaka Samhita* (particularly *Kalpa Sthana* and *Chikitsa Sthana*),
- *Sushruta Samhita* (*Uttara Tantra*, *Kalpa Sthana*),
- *Ashtanga Hridayam*,
- *Kashyapa Samhita* (*Khila Sthana*), and other classical texts such as *Bhavaprakasha* and *Rasa Tarangini*.

Commentaries like *Chakrapani*, *Dalhana*, and *Arundatta* were also consulted to interpret subtle meanings and clinical contexts. The verses pertaining to *Dooshivisha*, *Visha Lakshanas* (toxic symptoms), *Agada Kalpas* (antidotes), *Samprapti* (pathogenesis), and *Nidana Panchaka* (five-fold causation) were identified and systematically compiled.

Dooshivisha is a relatively under-

elaborated topic in mainstream *Ayurvedic* teaching, and hence its conceptual evolution was mapped by tracing references across multiple *samhitas*, *nighantus*, and clinical texts in *Agadatantra*. Emphasis was placed on understanding the latent, chronic, and accumulative nature of this poison, its triggering factors (*kala*, *ahara*, *vihara*), and therapeutic strategies (both *Shodhana* and *Shamana*).

SYMPTOMS OF GARA VISHA ACCORDING TO CHARAKA:

- Gradual onset of symptoms
- Mimics chronic diseases
- Hard to detect and disturbs multiple dhatus (tissues)

COMMON SYMPTOMS:

• “*Tetra girah samsr̥ṣṭo viṣayogo nityam annādiṣu |*

Mandaḥ kṛśaḥ kṛśāṅgaś ca vātaśleṣmābhibhūyate ||”

(C.Ci. 23.14)

Gara Visha is a mixed poison, commonly found in food and drink, and it acts slowly. It makes a person weak, emaciated, and afflicted with *vāta* and *śleṣma*.

“*Mando 'rucir visūcī ca viṣṭambhī kṛśavigrahaḥ |*

Mandāgniḥ kāsasamsr̥ṣṭo rogī rogī bhaved dhruvam ||”

(C.Ci. 23.15)

KEY SYMPTOMS:

- Low appetite, emaciation, constipation,
- weak digestion, cough [3].

MAIN *DOOSHIVISHA* SYMPTOMS, AS PER *CHAKRAPANI* WITH EXAMPLES:

- *Mandagni* (Low Digestive Fire)-
Toxins obstruct the function of *Agni* at various levels (*Jatharagni*, *Dhatvagni*), leading to poor digestion and metabolism. As per *Chakrapani*, *dooshivisha* leads to *Agni-mandya*, reducing the ability to digest even normal food. For example: People exposed long-term to pesticide residues may report indigestion, bloating, heaviness — without any detectable infection — due to gut microbiota disruption and mucosal inflammation caused by low-grade toxins.
- *Tandra* (Drowsiness), *Glani* (Fatigue), *Alasya* (Laziness), *Apathy*, lethargy, and chronic tiredness are common, especially in the absence of exertion. As per *Chakrapani*: These arise due to *Kapha*-dominance and *Ojas-level* depletion over time. For example chronic exposure to phthalates and parabens (found in plastics and cosmetics) is associated with: Fatigue, Reduced thyroid function, Unrefreshing sleep which is also seen in Chronic Fatigue Syndrome or environmental illness.
- *Vishamajwara* (Irregular Fever):
Fever that is unpredictable in onset, duration, and intensity. As per *Chakrapani*: Since *Dooshivisha* is latent, its manifestation flares up due to triggers like: Specific seasons (Spring, Rainy), Emotional stress, wrong food. For example: This mimics Low-grade inflammation syndromes seen in: 1) Autoimmune disorders (e.g., lupus, multiple sclerosis) 2) Hormonal imbalances due to EDCs like BPA and dioxins.
- *Twak Vikara* (Skin Issues): Skin becomes dull, dry, discolored, or develops eruptions. As per *chakrapani*: Long-standing *Dooshivisha* can lead to *deha kleda dushti* → affecting *Twak*, causing: Chronic itching, allergic rashes, discoloration (*haridra*, *shyava varna*). For example Children exposed to various chemicals like formaldehyde, PVC fumes, or heavy metals may develop eczema, hives, or pigmentation. These conditions resist usual treatments and are idiopathic in lab tests —

reflecting *Dooshivisha*-like pathology.

- *Mandamati* (Slow cognition), *Moha* (Mental confusion): Cognitive fog, forgetfulness, and emotional instability. As per *Chakrapani*, chronic toxicity affects *manovaha srotas*, especially when *vata-kapha* is vitiated. For example as per modern- BPA and other EDCs cross the blood-brain barrier, disrupting neurotransmitters → leading to: Brain fog, Depressions, ADHD in children. These are seen in neurotoxic syndromes even at low exposure levels.
- *Stambha* (Rigidity), *Guruta* (Heaviness), *Shaithilya* (Lack of muscle tone) like symptoms are seen. Body feels stiff, heavy, and weak, even in absence of disease. As per *Chakrapani*, this results from obstruction of *srotas* by vitiated *Kapha* and *Vata* [4].

SUSHRUTA SAMHITA

Reference: *Sutra Shana 13.9–10*

“*Girah samśṛṣṭasamīyuktaḥ kriyate puruṣādhamah |*

Mṛtsneyaśvavisamīyuktaḥ pittādiṃ prakupet saḥ ||

(S.Su. 13.9)

Gara Visha is an artificially prepared poison made with combinations of various

substances. It disturbs the *doshas*, especially *pitta*.

Common Symptoms (described indirectly or inferred):

Emaciation, weakness, pallor, skin conditions etc.

ymptoms of *Dooshivisha* as per *Sushruta* Unlike a single verse listing all symptoms, *Sushruta* describes them in context—especially when poison becomes chronic, semi-digested, or hidden. Below are the commonly described features:

- *Twakvikara*

“त्वचि शोफः पाण्डुता कण्डुः स्फुटनं चिस्फोटकं...” — Su. Ka. 3/23

Chronic itching, rash, skin eruptions, and discoloration are seen. *Sushruta* links this to long-term exposure to low-grade poison.

Modern Relevance: Common in EDC toxicity and chemical allergies — like:

Parabens and fragrances → chronic eczema

Latex/pesticide residues → dermatitis, urticarial.

- *Panduta* (Pallor/Anemia) Due to disturbed *Rakta dhatu* and *Ojas hani*, person appears pale or lacks vitality. Modern Correlation: Chronic arsenic exposure or phthalates can affect hematopoiesis, causing anemia and immune suppression.
- *Udarashula*, *aruchi* (Abdominal pain, Anorexia), vitiated *visha* causes

mandagni, resulting in poor appetite and digestion issues. Seen in gut disorders linked to BPA, chlorinated water, and plastic residues, affecting gut permeability and motility.

- *Karshya*, *Shaithilya* (Emaciation or Flaccidity) Gradual loss of muscle tone, body weight, and vitality. Modern View:EDCs such as dioxins affect mitochondrial function and muscle integrity → causing early fatigue, flabbiness, and cachexia-like states.
- *Staimitya* (Heaviness), *Tandra* (Drowsiness) Both mental and physical dullness are seen. Similar to neurobehavioral effects of mercury, lead, and BPA.
- *Vishama Jwara* (Irregular Fever) Low-grade, intermittent fevers, often unresponsive to typical treatment. Matches low-level inflammation or immune dysregulation — seen in autoimmune or EDC-triggered fevers [1].

Sushruta clearly emphasizes the triggering

conditions of *Dooshivisha*:

“कालेन पुनरपि प्रच्युतः” — Reactivation occurs with time
“स्निग्धोष्णभोजनैः, शोकदैः च पुनः” — Warm, oily foods, or infections/emotions can act as triggers

Further, *Dalhana* explains that once the poison becomes latent, it may stay hidden for months or years, and then manifest suddenly when: digestive fire is disturbed wrong food is taken, emotional imbalance may arise.

ASHTANGA HRIDAYAM (VAGBHATA)

“Garah samsrṣṭa nityāśanaḥ

Mandārciḥ kṛśaḥ kṛśāṅgaśca vātaśleṣmābhibhūyate ||” (A.H. Su. 7.27)

The one afflicted by *Garavisha* eats regularly but becomes emaciated, with low digestive fire, and is overpowered by *vāta* and *kapha*.

Symptoms: *“Viṣṭambhī kṛśavigrahaḥ*

Mandāgniḥ kāsasamyukto rogī rogī bhavet dhruvam ||” (A.H. Su. 7.28)

“Samsrṣṭam sa viṣam nityam Annādaḥ yojitam naraiḥ |

SYMPTOMS	DESCRIPTION
<i>Mandāgni</i>	Low digestion
<i>Kṛśa vighraha</i>	Emaciation
<i>Kāsa</i>	Chronic cough
<i>Viṣṭambha</i>	Abdominal fullness

Tadgaro nāma kathito Mandah krūraśca mūrccitaḥ ||” (A.H. Su. 7.29)

In Ayurvedic literature, *Gara Visha* refers to a type of poison that is not naturally occurring but is artificially created by

combining various substances, which may not be poisonous individually but become toxic when mixed. As described by *Acharya Vagbhata* in *Ashtanga Hridaya Uttarasthana*, such poisons are typically

administered through food, drinks, cosmetics, or daily use items, often with malicious intent. The characteristics of *Gara Visha* include slow onset, chronic nature, and confusing symptoms.

Because it does not act as violently or immediately as natural poisons, it often escapes early diagnosis. Symptoms include loss of appetite (*aruchi*), delirium (*vibhrama*), breathlessness (*shwasa*), cough (*kasa*), fever (*jwara*), and skin itching or eruptions (*kandu*). In modern terms, *Gara Visha* can be compared to cases of slow poisoning due to adulterated foods, incompatible drug interactions, or chemical exposure through cosmetics and personal care products. For example, ingestion of foods adulterated with metanil yellow (a toxic synthetic dye) used in sweets and turmeric may lead to liver damage, gastrointestinal irritation, and allergic skin reactions. Another example includes chronic exposure to lead or mercury in cosmetics, which can cause neurological symptoms such as irritability, confusion, and cognitive decline. Even commonly used household products like pesticides mixed into food by accident or criminal intent represent a modern parallel to *Gara Visha* [5].

RESULTS:

Correlation Between EDCs and *Gara Visha*: An in-depth textual review of Ayurvedic classics such as *Charaka*

Samhita, *Sushruta Samhita*, and *Ashtanga Hridayam* reveals that the ancient concept of *Gara Visha* refers to artificially prepared or unintentionally formed poisons, often resulting from improper food combinations, impure air, polluted water, or malicious drug mixtures. These poisons act slowly, affect multiple organs, and remain dormant until triggered—qualities that closely parallel the behavior of EDCs as recognized in modern toxicology. Studies indicate that EDCs such as BPA, phthalates, dioxins, parabens, and PCBs disrupt hormonal function through receptor interference, gene mutation, and enzymatic dysregulation. Similarly, *Ayurvedic* texts mention that *Gara Visha* obstructs the channels (*Srotorodha*), impairs *Agni* (metabolism), disturbs *dosha* equilibrium, and slowly leads to *dhatu dushti* (tissue damage)—a pathophysiology that mirrors chronic endocrine and metabolic dysfunctions.

Use of *Rasayana* herbs (like *Guduchi*, *Ashwagandha*, *Shatavari*) has shown adaptogenic and endocrine-modulating effects. *Panchakarma* therapies have demonstrated detox benefits, especially *Virechana* (purgation) and *Basti* for reproductive and metabolic toxin clearance. Daily routines (*Dinacharya*, *Ritucharya*) and dietary discipline (*Ahara Vidhi*) when practiced consistently, show significant reductions in

symptomatic manifestations linked with EDC-like toxicity, especially in case studies involving subfertility, hormonal acne, and metabolic syndrome.

SYMPTOM CLASSICAL VS. SIMILARITY: CLINICAL OBSERVATION

Ayurvedic Symptom of Gara Visha	Corresponding Modern Observation (EDCs)
<i>Mandagni</i> (low metabolism)	Hypothyroidism, obesity
<i>Murcha</i> (mental clouding)	Brain fog, developmental delays
<i>Garbha Vikara</i> (fetal defects)	Neural tube defects, endocrine-related malformations
<i>Swapna Viparyaya</i> (disturbed sleep)	Sleep disorders, melatonin disruption
<i>Rasa-Rakta Dushiti</i> (nutrient-blood corruption)	PCOS, endometriosis, autoimmune anemia
<i>Kṣaya of Ojas</i> (immune weakening)	Immunosuppression, chronic fatigue

DISCUSSION:

The comparison of *Gara Visha* with EDCs highlights *Ayurveda's* foresight into the risks of chronic, low-grade chemical exposures. Even in the absence of synthetic chemicals during ancient times, the *Ayurvedic* framework accurately modeled the behavior of subclinical poisons that act gradually, disturb physiological homeostasis, and complicate the body's innate detox mechanisms.

Modern lifestyle patterns — including excessive use of plastic, reliance on chemical-based foods and cosmetics, and poor daily routines — create a new age of *Gara Visha* exposure, often unrecognized by the individual until disease manifests. This establishes a strong case for reintroducing *Agadatantra* (toxicology branch) into daily preventive health management.

CONCLUSION

Ayurveda offers a timeless antidote to modern toxic exposures, where *Gara Visha*

finds its parallel in today's chemical pollutants, food adulterants, plastics, and endocrine disruptors. By practicing *Nidana parivarjana* (mindful avoidance of root causes), undergoing seasonal *Shodhana* (detoxification), embracing *rasayana* therapies, and following protective daily regimens, one can safeguard vital energy, hormones, and overall health. Environmental detox at home, coupled with *ayurvedic* fertility-enhancing practices, ensures protection for future generations. In essence, awareness, discipline, and conscious living transform *ayurveda* into a holistic shield against slow poisoning, chronic toxicity, and lifestyle-induced disorders, helping individuals and communities reclaim balance, vitality, and harmony with nature.

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