

ROLE OF DUSHI VISHA IN SKIN DISEASES: A REVIEW

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ABSTRACT

Background: *Dushi Visha* is one of the unique *Agada Tantra* concepts in *Ayurveda*. *Visha* is a chemical that vitiates all seven *Dhatus* and can also be fatal when ingested. *Dushi Visha* is the term used to describe any poison that comes from *Sthavara* or *Jangama* sources, or *Kritrima Visha* that is kept in the body after being partially expelled or that has temporarily undergone detoxification using anti-poisonous medications, etc. **Aim:** This study aims to understand the skin diseases caused by *Dushi Visha*. **Material and methods:** Reviewed from various *Ayurvedic* literature, websites, and relevant journals. **Result:** According to all *Acharya*, *Dushi Visha* is a slow-acting poison that builds up in our bodies. Because of its low potency, it does not immediately induce illness; instead, chronic disease is brought on by repeated exposure to the toxin. Such collected *Visha* gives rise to numerous skin illnesses and vitiates *Dhatu*, especially *Rakta Dhatu*. Detoxification is the first treatment for *Dushi Visha*, which *Dushivishari Agada Paana* then follows. **Discussion and conclusion:** Skin illnesses are becoming increasingly significant today. The essential elements of life—air, food, and water—are all contaminated. Thus, *Dushi Visha* can be determined by considering aspects like *Viruddhahara*, *Ahitaahara*, cold beverages, specific medications, cosmetics, pesticides, metals, minerals, pollutants, etc. The body retains these cumulative toxins and exhibits many dermatological signs.

Key words: *Dushi Visha*, Skin disease, Toxins, Cumulative poison

INTRODUCTION

One of the acknowledged branches of *Ashtanga Ayurveda* that addresses toxicity is *Agada Tantra*.¹ *Agada* means something that defeats a toxic substance, and one of the unique concepts of *Agada Tantra* is *Dushi Visha*. This field of study is essential to both human survival and medical science.² Every Ayurvedic Acharya described *Dushi Visha* as a type of poison. The phrase *Dushi Visha* is created by combining the terms "*Dushi*" and "*Visha*". *Visha* means poison, and *Dushi* means denatured, attenuated, latent, and vitiated. According to *Acharya Sushruta* and *Vagbhata*, poison from living or dead sources, artificial poison (*Kritrima Visha*), poison that has been temporarily detoxified by anti-poisonous medications or partially removed from the body, and poison that has lost its properties due to *Agni* (fire), *Vata* (wind), or *Aatapa* (sunlight) are all considered *Dushi Visha*. Any poison that is coated in *Kapha Dosh* does not have the ten intrinsic qualities of *Visha* and cannot produce acute poisoning symptoms is referred to as *Dushi Visha*.³ It is not a particular type of *Visha* but a transforming state of *Visha*, which is *Dushi Visha*. Poor eating practices might lead to *Dushi Visha*. Toxins are reabsorbed into the bloodstream because the body hangs onto metabolic waste products (faeces, urine, and menstrual blood), resulting in *Dushi Visha*. Its symptoms correspond to its association with *Dhatu*. It is known from *Ayurveda* that *Dushi Visha* causes various skin disorders, among other impacts on human bodies. Cosmetics are trendy these days. However, most contain harmful substances, such as lead, arsenic, cadmium, coal tar, parabens, and some heavy metals. These chemicals build up in the body over time, leading to allergies and skin conditions. Cosmetics are included in the group of cumulative poisoning.

AIM: This study aims to understand the skin diseases caused by *Dushi Visha*.

MATERIALS AND METHODS: Reviewed from various *Ayurvedic* literature, websites, and relevant journals.

The Ayurvedic concept of *Dushi Visha*

Acharya Sushruta states that there is a type of poison known as *Dushi Visha* that accumulates and cannot be removed entirely from the body due to its cumulative and chronic characteristics or that loses potency during digestion or counteraction antidotes and stays in the body for a long time, slowly vitiating the body. This type of poison is called *Sthavara* (inanimate), *Jangama* (animate), or *Kritrima* (artificial). Because *Dushi Visha* possesses less *Veerya*, there isn't a death immediately. But *Kapha* (lipophilic binding) covers it (*Avritta*) and stays that way for a very long period. *Dushi Visha* is known for the following traits:

- It cannot be excreted from the body.
- less effective upon digestion or the opposite effect of antidotes
- *Alpa veerya* (which is less powerful) and *Swabhavto guna vipraheenam* (which is naturally devoid of property)
- *Kaphaavrita* (it is to be covered by *Kapha*)
- *Varshagananubandhi*- stays in the body for years.

Aggravating factors of *Dushi Visha*

The elements that aggravate and trigger the symptoms of *Dushi Visha* include *Dushit* (polluted), *Desha* (land), *Kala* (time or season), *Anna* (food), and *Divaswapna* (having sleep during the day).⁴ Wet, watery, or humid terrain (*Anupa Desha*) with abundant wind, chilly weather, and heavier rainfall is called polluted land (*Dushit Desha*). The land of *Anupa Desha* impacts both the *Kapha* and *Vata Dosh*s. It exacerbates the body's toxin, *Visha*. *Dushit kala* is associated with overcast days (*Durdina*) and cold winds (*Sheet Anila*), which may be related to *Dushi Visha*. Rain causes the body to become moist (*Klinna*), and cold air reduces the power of digestion (*Pachakagni*), which results in a disordered metabolism or detoxification that may aggravate both the *Kapha* and *Vata Dosh*s. *Dushi Visha* can also be made worse by aggravating circumstances such as eating unhealthily, sleeping during the day, being angry,

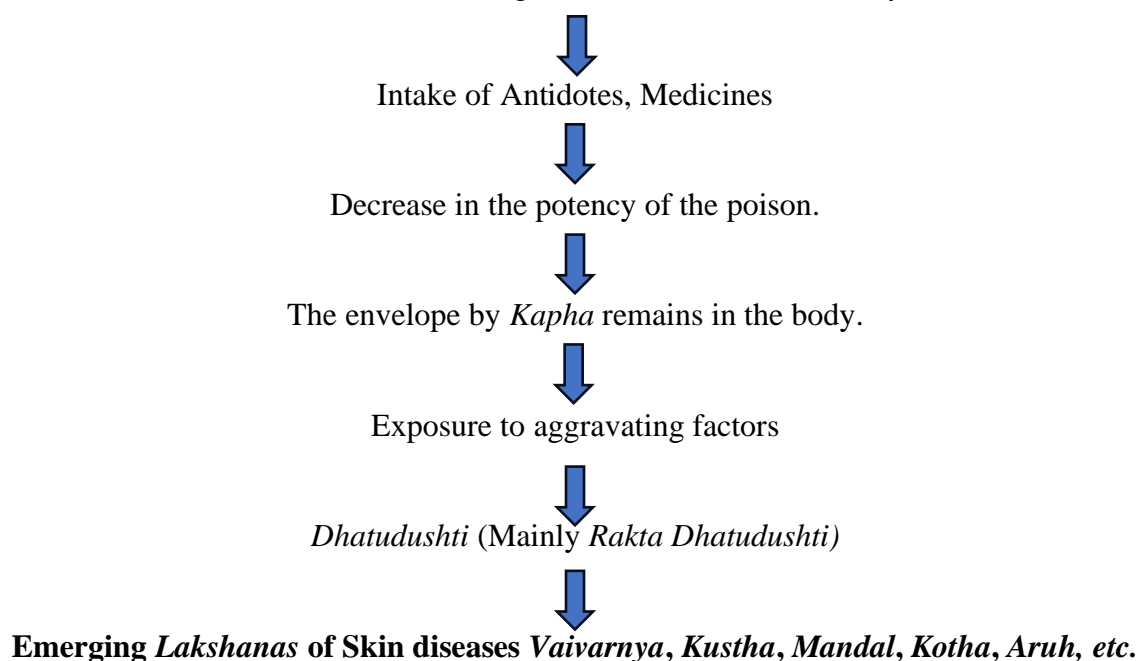
engaging in sexual activity, exercising, and so on. These variables can influence both the body and the psyche. Consequently, these variables can be further divided into three categories: *Aharaja* (factors related to diet), *Viharaja* (factors related to activities like exercise, overstress, etc.), and *Kalaja* (seasonal factors like wetland, cold weather, gloomy weather, etc.). These causal factors fall into two general categories: endogenous (internal *Kalaja* influences) and exogenous (external factors). In contrast to exogenous influences, which include seasonal (*Kalaja*) and lifestyle-dependent (*Viharaja*) elements, endogenous factors include psychic (*Manasika*) and dietary (*Aharaja*). The aggravating elements described above benefit *Dushi Visha* in causing latent symptoms that are not yet apparent.⁵

Samprapti of Dushi Visha Similarly, regular consumption of *Aahara* varieties that contain chemicals as preservatives, as well as *Viruddha Aahara* and *Vihara* combined with frequent exposure to dusty or chemical-producing industrial areas, prolonged exposure to pesticides, excessive rage, or other activities

over extended period, can lead to the accumulation of toxic or harmful chemicals within the body through a process known as bio-accumulation, also known as xenobiotic. We refer to this phase as *Sanchaya* (accumulation). Repeated exposure to *Aahara* and *Vihara* raises the body's level of toxicity until it reaches the *Prakopa* stage, also called the aggravation stage. The buildup of poisons will then spread throughout the entire body, a condition known as *Prasara Awastha*. These toxins will lodge in a weak or malfunctioning body area throughout their journey. More potent poisons will then vitiate *Dosha*, followed by vitiation of the related *Dhatu*, where premonitory symptoms that indicate impending diseases will appear. After a protracted stay in *Sthana Samshraya*, one reaches *Vyakta Awastha*, where one can observe all the clinical characteristics of connected disorders. The stage of *Bheda Awastha* will present with various difficulties if the recommended treatment is not taken at this time. These consequences may include fever, burning feeling, hiccups, diarrhoea, fainting, and other symptoms.⁷

Samprapti of Dushi Visha Janya Twakvikara

Nidan Sevan (Prior ingestion of toxins into the body)



Assessment of Dushi Visha

Many *Dushi Visha Roga* are challenging to diagnose. When a patient first arrives for treatment, they should be thoroughly examined to determine whether or not they have ever consumed *Visha* or interacted with *Visha* (bite) in their body. They should also find out if they have ever taken any medication for the condition, whether it is still not improving, and whether they have recurring allergies or disease. The *Agada Tantra* delineated several attributes to comprehend the existence of *Dushi Visha* within the body.

Purva Roopa of Dushi Visha (Premonitory Symptoms)⁸

- Excessive Sleepiness (*Nidra*)
- The feeling of heaviness of body (*Gurutwa*)
- Yawning (*Jrumbha*)
- Looseness (*Vishlesha*)
- Horripilation (*Harsha*)
- Malaise (*Angmarda*)

Roopa of Dushi Visha (Clinical features)⁹

- If situated in *Amashaya* – *Vatakaphaja Vikara*
- If situated in *Pittashaya*- *Vatapittaj Vikara*
- If associated with *Dhatu*- *Dhatu Vikara*
- Diarrhoea (*Bhinnapurish varna*)
- Tastelessness (*Mukha vairasya*)
- Morbid thirst (*Pipasa*)
- Fainting (*Murcha*)
- Vomiting (*Vaman*)
- Confused speech, Stammering (*Gadgadvaka*)
- Features of toxicity/depression (*Visanna*)
- The digestive problem brought on by the vitiation of the three doshas (*Dushyodara*)
- Intoxication after meals (*Annamada*)
- Indigestion (*Avipaka*)
- Anorexia (*Arochaka*)
- Stupor (*Moha*)
- Pedal oedema (*Pada- sophera*)
- Oedema in hands (*Kara- sophera*)
- Facial oedema (*Asya- sophera*)
- Intermittent fever (*Vishamjwara*)
- Depletion of bodily tissues (*Dhatukshaya*)
- Discolouration (*Vaivarnya*)
- Skin diseases (*Kustha*)

- Ascites (*Dakodara*)
- Diarrhoea (*Atisara*)
- Tympanites (*Anaha*)
- Depletion of semen (*Shukrakshaya*)
- Eruption of circular patches on skin (*Mandala*)
- Urticarial rashes (*Kotha*)
- Psychosis (*Unmada*)

Conventional Laboratory Tests That Correlate with Toxic Load¹⁰

- 1) CBC (Complete blood count)- When a patient's complete blood count (CBC) shows low WBC count or platelets at the lower limit of routine without any of the conditions often associated with low levels, these could be early indicators of toxin exposure. A decline in WBC count is related to the body load of polychlorinated biphenyls (PCBs) and organochlorine pesticides (OCPs). Solvent exposure over time at low levels lowers platelet count. When lead and arsenic poisoning occurs, the RBCs show basophilic stippling.
- 2) Liver Enzymes- A number of them rise in direct proportion to the concentration of particular toxin types. This is not surprising because numerous liver enzymes are generated when necessary and play significant roles in detoxification. An essential enzyme in glutathione recycling is GGTP. The overall toxic metal load and persistent organic pollutants (POPs) correlate with increased gamma-glutamyl transferase. Within and beyond the normal range, the body load of blood cadmium, lead, mercury, and PCBs (polychlorinated biphenyls) causes a rise in ALT (alanine aminotransferase) in a dose-dependent manner. Increased consumption of high-fructose corn syrup, which is found in processed foods, beverages, and other items, and exposure to toxins are the leading causes of elevated ALT (alanine aminotransferase), which is usually brought on by non-alcoholic fatty liver disease (NAFLD). The body's levels of PCBs (polychlorinated biphenyls) and OCPs (organochlorine pesticides) are correlated with increased levels of AST (aspartate aminotransferase), ALT (alanine aminotransferase), and GGT (gamma-glutamyl transferase).

- 3) C-Reactive Protein (CRP)- Most environmental pollutants raise oxidative stress and inflammation.
- 4) Lipid profile- Elevation of LDL cholesterol is seen.
- 5) Blood sugar- Most compounds are toxins that bind to insulin receptor sites. As a result, virtually all blood sugar regulation measures, including FBS, 2-h PP sugar, HbA1c, insulin levels, metabolic syndrome, and diabetes, have solid relationships with the toxic load. The increasing hazardous burden has less of an impact on younger people. Younger people respond to a given level of toxicity by producing more insulin, as would be expected, given that PCBs block insulin receptor sites. We become less adaptive as we become older. Blood sugar levels tend to rise in direct proportion to the total toxic burden.
- 6) Metabolites: The body load of polyfluorinated hydrocarbons (PFOA, or perfluorooctanoic acid, and PFOS, or perfluoro octane sulfonate), urine 8-OHdG, and the different PCBs (polychlorinated biphenyls) all indicate an increase in bilirubin levels. Urinary oxidised nucleosides result from DNA repair occurring as damage is sustained. These urine nucleoside metabolites, therefore, function as a direct marker of DNA damage and an indirect sign of oxidative stress and toxin load. Smoking, mercury, and many cancers are among the poisons that are linked to it.

Skin manifestations due to toxins

- 1) Acute and chronic eczema are possible outcomes of allergic contact dermatitis. There is an immune pathway involved. Typical allergies include: 1) Plants: ivy and parthenium 2) Chromate with nickel metal 3) Rubber-thiuram and rubber-mercapto mixtures 4) Medication: benzocaine and neomycin 5) Formaldehyde, parabens, and fragrance. It has been shown that several cases identified as Kitibha had a history of pesticide exposure. Dermatitis caused by parthenium is also highly prevalent.¹¹
- 2) Contact Urticarial is a sudden, temporary skin swelling encircled by red spots (wheal and flare). Foods, scents, preservatives, metals, plant and animal products, rubber latex, etc., can all be causative agents.¹²
- 3) Acne and Pigmentary Disorders- Hyperpigmentation can be brought on by prolonged exposure to sunshine, glass workers, welders, open-field cooks, bakers, and silversmiths. Acne can be brought on by exposure to petroleum and its derivatives, metalworking, coal tar products, and halogenated aromatic chemicals.¹³
- 4) Photo-Toxicity- Chemicals enhance the skin's sensitivity to UV and visible rays. Drug accumulation or metabolites absorb light, cause a photochemical reaction in the skin, and then undergo a photobiological response that damages localised tissue, causing blistering, erythema, oedema, hyperpigmentation, and desquamation. Coal tar, for instance, phenothiazines, sulphonamides, tetracycline, thiazides, amiodarone, sulfones, and fluoroquinolones.¹⁴
- 5) Photo-Allergy- Exposure to light increases the skin's reactivity to substances. The immune system is involved. Substances or their metabolites trigger a cell-mediated reaction that, when exposed to UV-A light with longer wavelengths (320–400 nm), results in eczematous or common contact dermatitis. For example, benzocaine, halogenated phenols, p-aminobenzoic acid, pyridoxine hydrochloride, sulfonyleureas, griseofulvin, chloroquine, chlorpromazine, and so on.¹⁵
- 6) Drug Allergy and Iatrogenic Drug Injury- Penicillin, cephalosporins, sulphonamides, tetracyclines, quinolones, anti-tubercular medications, phenothiazines, salicylates, carbamazepine, allopurinol, ACE inhibitors, methyldopa, hydralazine, local anaesthetics, etc. are among the drugs that commonly cause allergic reactions.¹⁶
- Iatrogenic drug damage can manifest as fixed drug eruptions from chemotherapy, urticaria and exfoliative dermatitis from penicillin and sulphonamides, and acne from corticosteroids.¹⁷
- 7) Arsenic- Up to 200 enzymes are rendered inactive by arsenic, primarily affecting those involved in DNA synthesis, repair, and the cellular energy

cycle. If the body absorbs 0.1% arsenic in plasma, after 24 hours, 55% of it is excreted through urine, and the remaining 45% is stored in various tissues and organs. Arsenic-related skin manifestations include (a) pigmentary alterations, (b) hyperkeratosis, and (c) skin cancer. Other changes: (a) alterations in erythrocytes; (b) alterations in exfoliation; (c) alterations in urticarial; (d) alterations in scarlatiniform; (e) alterations in patriarchy. Hair, skin, nails, oesophagus, stomach, and intestines all accumulate with arsenic. Clinical signs and symptoms of the skin include (a) Melanosis and pigmentary alterations; (b) Hyperkeratosis and Pityriasis, ventriculus. (c) Cancer of the skin Pigmentary alterations include lichen planus, leucomelanosis (white-on-dark pigmentation), raindrop pigmentation, localised patchy pigmentation, and blotchy pigmentation.

- 8) Marijuana is- the most frequently abused substance, especially when it comes to teens and kids. There have been reports of vascular constriction linked to marijuana use. In severe cases, the user may experience a feeling of coolness in their hands, which could deteriorate and result in ulcers or ischemia.
- 9) Heroin- The most popular technique is intravenous injection; however, long-term drug users frequently turn to injecting narcotics into their blood using a heated needle, which causes carbon and soot to build up in the dermis and cause severe skin issues.
- 10) Cocaine- One of the most popular illegal substances is cocaine. Moreover, cocaine causes ecchymosis, or internal bleeding, which discolours the skin. Cocaine users frequently experience symptoms like chronic skin tightening, hemorrhagic skin lesions, blood vessel inflammation, and itching hives that break out in different places of the body.¹⁸

Contemporary view of *Dushi Visha*

Any toxic material produced by an animal, plant, microbe, or fungus is a toxin. Examples of such substances include amanitin, pyrrolizidine alkaloids, venom, and tetrodotoxin.¹⁹

Poisons that gradually leave the body and may accumulate there, such as carbon monoxide, digitalis, mercury, lead, arsenic, and barbiturates, are cumulative poisons. Therefore, even a tiny amount of these toxins taken repeatedly can cause chronic poisoning. These toxins can exist in three different states: mechanical, chemical, and physical.²⁰ *Dushi Visha* is described in modern science as "bioaccumulation," a condition in which chemicals such as pesticides and other substances that enter the body directly or indirectly interfere with its regular functioning. When an organism absorbs a harmful material more quickly than it is eliminated, this is known as bioaccumulation. Toxic chemicals with a prolonged biological half-life, therefore, pose a greater danger of chronic poisoning.²¹

DISCUSSION & CONCLUSION

A significant component of clinical toxicology, *Dushi Visha* has been around since ancient times. As a result, detailed descriptions of *Dushi Visha's* clinical manifestation and treatment are available in all Ayurvedic textbooks, including those written by *Brihat-trayi* and *Laghutrayi*. Because of the evolution of living things and other changes in the biosphere, the source, nature, and strength of medications, chemicals, and poisonous substances have altered in the modern era. Many artificial chemicals have been introduced to milk, soft drinks, and food items. Some of these additives are exposed to humans constantly and can have adverse effects. Following the green revolution, pesticide use has increased globally and in India.

The pesticide builds up in the body, posing long-term risks due to repeated, ongoing exposure. Certain metallic compounds, such as lead, copper, arsenic, mercury, etc., also build up and pose long-term risks to human health. Therefore, by building up these toxicants or toxic metabolites in humans, food additives, drink additives, milk pollutants, pesticides, and metal compounds may cause chronic toxicity comparable to *Dushi Visha*. The covering of the *Kapha Dosha* is causing the toxicant to accumulate in the body. Lipo-

philic and colloid-forming toxicants have both been shown to exhibit it.

This kind of cumulative poisoning, known as Dushi Visha Chikitsa, causes various skin conditions, including eczema, contact dermatitis, scaly skin, and skin irritation. *Raktadushti* is the main factor in all *Twakrogas*. One of the main organs that toxic manifestations target is the skin. It could spread to every part of the body or areas where toxins or the environment are present. As a result, we should constantly inquire about a patient's history of consuming *Dushi Visha* while treating any skin condition. In the current situation, the *Dushi Visha* can be the primary reason behind the declining health of people worldwide.

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