



ORIGINAL RESEARCH PAPER

Ayurveda

A CONCEPTUAL UNDERSTANDING OF DUSHIVISHA AND ITS PROBABLE MODERN TERMS

KEY WORDS: Dushivisha (slow acting low potent poison), Polluted environment, Animal bite

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ABSTRACT

The concept of dushivisha is gaining importance because of its contemporary relevance. Hence, to understand it properly so that the concept and clinical application can be used by clinicians. As we know that the cases of animal bite has reduced because of Deforestation and development of Urban Population but on the contrary there is rise in exposure to mild potency slow acting poison because of the pesticide laden food which we intake, the polluted environment we live, exposure to radiation of high risks.

INTRODUCTION:

The word Dushivisha comprises of two words Dushi and Visha. Dushi means altered, denatured, attenuated, latent, vitiated and Visha means poison.¹

The type of visha which itself gets constantly polluted on account of (the various factors as) geographical conditions, time, diet and day sleeping, it contaminates the tissues, and is therefore called Dushivisha.²

Poisons, whether inanimate, animate or artificial, which have not been fully eliminated from the system, which are old, and have become enfeebled due to the action of anti-poisonous drugs upon them or which have become dried by the fire, wind and the sun, or which are naturally devoid of their specific properties are designated as Dushivisha.³

A dushivisha owing to its enfeebled potency, it loses its fatality and as a consequence of its being covered over with kapha it is retained in the system for a number of years.⁴ Dalhanacharya, says that if any poison, that does not contain all the ten natural gunas of poison, i.e. devoid of few gunas, is incapable of producing acute symptoms of poisoning.

Due to the low potency it usually does not cause sudden death and because it is enveloped by kapha, it is retained in the body for a long period without producing any grave or fatal symptoms.

Transformation of visha into dushivisha

Visha is transformed into Dushivisha by certain factors. Following are the factors:

1. Jirnam

- a. When visha which is capable of producing acute ill-effects is kept for a long time, some of them may lose their original gunas and ultimately gets converted into low potency visha leading to dushivisha.
- b. Visha whether sthavara, jangama or kritrima which is not completely eliminated from the body or partially detoxified and being deposited and accumulated in the body at various sites of the tissues producing cumulative effect '*Dehadshesam yat nirgati tat jirnam*'.

2. Vishagnoushadhibhitam means partial detoxification by antidotes or incomplete metabolism of poison which also retains some properties.

3. Davagni means exposure to heat, flame or fire etc. converts visha into dushivisha. This may be because of exposure to heat and fire, which may cause the loss of natural gunas of visha and ultimately gets changed into dushivisha.

4. Exposure to vata means particularly sheetala vata may reduce the natural gunas like tikсна etc. and thus transforming

it into dushivisha.

5. Atapam means exposure to sunlight also transforms visha into dushivisha.

6. Svabhavato va svagunairna yuktam visha i.e naturally all visha whether it is sthavara, jangama or kritrima consist of ten gunas like tikсна, ushna, rooksha etc. Presence of these gunas can cause acute or subacute poisoning. But if few gunas are absent or weak in potency in the visha, it will turn to dushivisha. In a poisonous substance if laghu, rooksha, avyakta rasa are not potent enough to produce acute or subacute poisoning then the same will produce symptoms of dushivisha gradually. Some substances are naturally less potent and may cause dushivisha eg. poisoning due to certain insects which are low in potency by nature itself.

Aggravating factors of dushivisha

Dushita desha (polluted land), kala (deranged season), anna (toxic food) and divaswapna (daytime sleep) are factors that aggravate dushivisha. Existing dushivisha gets aggravated in the presence of these factors. Dalhana explains it as follows:

- **Dushita Desha** can be considered as wet, watery or humid land i.e. anoopa desha where excess wind, cold weather and increased rainfalls are present. Anoopa desha thus influences kapha and vata, and leads to aggravation of dushivisha.
- **Dushita Kala** can be considered as sheetanila (cold wind) and durdina (cloudy days), which may have relation with dushivisha. Rain makes body klinna (moist), cold air reduces the power of pachakagni (digestion) i.e. metabolism or detoxification is deranged and may lead to aggravation of both kapha and vata.
- **Dushita Anna** can be considered as alcohol, sesame oil and kulattha (*Dolichos biflorus*) etc. Tikсна, vidhai dravyas and viruddhahara, also aggravate pitta dosha by their nature.
- **Divaswapna** increases kapha in the body and thus causes aggravation of dushivisha.

Not only these factors, but other miscellaneous factors such as vyavaya (sexual act), vyayama (physical exercise), krodha (anger) etc. leads to aggravation.⁵

Other factors like pragvata (eastern wind), ajeerna (indigestion) etc. also leads to aggravation.⁶

Poorvaroopa

Sleep, heaviness of the body, yawning, a sense of looseness of the joints, horripilation and aching of the body are the poorvaroopas of dushivisha.⁷

Roopa

Dushivisha vitiates rakta dhatu and produces skin diseases like kitibha and kotha.⁸ According to Acharya Sushruta, it

causes a sense of intoxication after meals, indigestion, aversion to food, circular patches (mandala), and urticarial rashes on the skin (kotha), stupor, loss of essential constituents of the body (dhatu-kshaya), swelling of the feet, hands and face, ascites, vomiting and then diarrhoea, discoloration, fainting, intermittent pyrexia and excessively increased thirst. Some of the poisons produce insanity, some of them cause distension, some cause loss of semen while others lead to blurred speech, leprosy and various other similar diseases.⁹

Features of dushivisha according to the site of their location

- A person afflicted with dushivisha develops symptoms like loose motion, discoloration of the body, foul odour or bad taste in the mouth, thirst, fainting, vomiting and blurred speech. He looks sad and may develop the features of dushyodara.¹⁰
- Dushivisha, if lodged in amashaya gives rise to the diseases resulting from the combined action of kapha and vata; whereas, if located in the pakvasaya, it produces diseases due to vata and pitta. The sufferer's hair of the head fall off and body parts gets emaciated like a bird whose wings have lost all feathers.¹¹

Dushivisha when lodged in the dhatus like rasa etc. produces ailments due to the involvement of the dhatus. It soon gets aggravated by exposure to cold, wind and cloudy weather.¹² Madhukosha commentary of Madhavanidana clarifies that by 'dhatuprabhavan vikaran,' we should understand all those vikaras which are caused by sapta dhatus (mentioned in vyadhisamudeshiya adhyaya of Sushruta Samhita). Dalhana says that it causes anna-asradha and arochaka when lodged in the dhatus.

MANAGEMENT

- The main and important principle of treatment of any disease is 'Nidana-Parivarjanam'. In dushivisha treatment also it can be applied. Factors like pragvata, ajeerna etc. which aggravate it, should be avoided.
- A patient afflicted with dushivisha should be well sudated and then purified by both emetics and purgatives. After that an anti-poisonous drug (Agada), specifically meant for dushivisha should be administered.¹³

An antidote - Dushivishari agada with honey is used to destroy it. It is not mentioned elsewhere i.e. in other kinds of poisoning.¹⁴

Pandit C.K.Vasudevasharma in his commentary to Sushruta Samhita has emphasized on the use of swedana in dushivisha. In dushivisha, visha is in mild active form and is covered and blocked by kapha. By the application of sweda, kapha will be liquefied and avarana (blockage) of visha will be removed and is brought to koshtha, which can be removed by purification process. Though swedana is contraindicated in the treatment of visha but, because of blockage of dushivisha by kapha, it finds an important role in the treatment of dushivisha.

Probable modern terms similar to dushivisha

It is very difficult to define dushivisha exactly and accurately by any single term given in Modern text. Here, it is an attempt to put forward many modern terms which are close to the concept of dushivisha.

1.Allergy and Hypersensitivity: It is any idiosyncratic reaction in which the immune system is clearly involved. The Austrian paediatrician Clemens Von pirquet defined allergy as an acquired specific altered capacity to react to a physical substance on the part of the tissues of the body. The term allergy and hypersensitivity are synonymous, although allergy is often used to describe immediate hypersensitivity reactions and atopic diseases. Hypersensitivity can be

defined as tissue damage resulting from an immune response.

2.Autoimmunity is the failure of an organism to recognize its own constituent parts (down to the submolecular levels) as 'self', which results in an immune response against its own cells and tissues. Any disease that results from such an aberrant immune response is termed as autoimmune disease, the prominent examples being Crohn's disease, Diabetes Type 1 etc.

An essential prerequisite for the pathogenesis of autoimmune diseases is indeed the breakage of immunological tolerance, which is the ability of an individual to differentiate 'self from 'non-self'. This breakage leads to the immune system mounting an effective and specific immune response. The exact genesis of immunological tolerance is still elusive.

It is now established that certain individuals are genetically susceptible to the development of autoimmune diseases. However, this susceptibility is not inherited in a simple Mendelian segregation, but usually tends to be associated with more than one gene.

Certain chemical agents and drugs can also be associated with the genesis of autoimmune conditions, or conditions which simulate autoimmune diseases. The most striking of these is the drug induced lupus erythematosus. Usually, withdrawal of the offending drug cures the symptoms in a patient.

Over exposure to pesticides and toxins may also induce autoimmunity.

3.Cumulative toxicity are adverse reactions of drugs may be predictable or unpredictable. Cumulative toxicity is the predictable adverse reactions.

If a drug is excreted slowly, its repeated administration may build up a sufficiently high concentration in the body to produce toxicity eg. digoxin, emeline and heavy metals. Substances like lead can remain deposited in bones without producing toxic effects. This is called passive cumulation. It can produce the toxic manifestations as soon as it is released into the blood.

4.Delayed toxicity is also predictable adverse drug reaction. Hepatotoxicity following methotrexate therapy and keratoses or rain drop pigmentation of palms following Arsenic ingestion are examples of Delayed toxicity.

5.Drug interaction is also a predictable adverse drug reaction. Interaction can take place when two or more drugs are given simultaneously. The interactions may be inapparent, synergistic or antagonistic.

6.Intolerance is unpredictable adverse drug reaction. Various factors contribute to the intolerance to drugs. Impaired renal or hepatic function may delay the breakdown and excretion of the drug. Genetically determined variations in the metabolism of different drugs are also observed.

7.Carcinogen is any substance or agent that promotes cancer. Carcinogens are also often, but not necessarily, mutagens or teratogens.

Carcinogens may cause cancer by altering cellular metabolism or damaging DNA directly in cells, which interferes with normal biological processes. Aflatoxin B₁, which is produced by the fungus *Aspergillus flavus* growing on stored grains, nuts and peanut butter, is an example of a potent, naturally occurring microbial carcinogen.

Recent reports have implicated acrylamide in fried or

overheated carbohydrate foods as a possible carcinogen.

Co-carcinogens are chemicals which do not separately cause cancer, but do so in specific combinations.

8. Free radicals are highly reactive unstable species that can interact with proteins, lipids, and carbohydrates and are involved in cellular injury induced by a variety of chemical and biological effects. They are combination of oxygen with hydrogen-oxy radicals-and various other atomic and molecular varieties of oxygen (Reactive Oxygen Species-ROS). As a part of the life giving processes that create energy in every cell, free radicals are created as toxic waste.

They produce serious damage in all physiological systems by causing both aging and disease. Their effects can be two fold- slow cumulative damage or disastrous crisis. The diseases caused by free radicals include Cancer, Atherosclerosis, Heart Disease, Senility And Mental disorders. Smoked and barbecued foods and processed foods contain high levels of lipid peroxides, which produce free radicals that damage the CVS.

DISCUSSION:

A dushivisha owing to its enfeebled potency, it loses its fatality and as a consequence of its being covered over with kapha it is retained in the system for a number of years. Due to the low potency it usually does not cause sudden death and because it is enveloped by kapha, it is retained in the body for a long period without producing any grave or fatal symptoms. A patient afflicted with dushivisha should be well sudated and then purified by both emetics and purgatives. After that an anti-poisonous drug (Agada), specifically meant for dushivisha should be administered. In modern science Allergy, Hypersensitivity, Cumulative toxicity, Delayed Toxicity, Free radicals etc. are certain probable terms which explain one or the other aspect of Dushivisha.

CONCLUSION:

As Dushivisha clarifies whichever poison (natural or artificial) enters our system but does not come outside because of its mild potency or improper treatment, and hence stays there for a long time but does not have the potential to kill the person immediately instead it results in manifestation of various diseases. Once this concept is clear, a physician can use this concept and its treatment modalities in many challenging cases.

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