

A CONCEPTUAL STUDY ON ROLE OF DUSHI VISHA AS A CAUSITIVE FACTOR FOR INFERTILITY

Neethu. P^{1*}, Vijitha Vijayan¹, Athulya C.M¹, Arathi Rajesh²

¹PG Scholar; ²Associate Professor;

Dept of AgadaTantra, MVR Ayurveda Medical College, Parassinikadavu, Kannur, Kerala, India

Email: pneethu7@gmail.com

ABSTRACT

Dushivisha (latent poisoning) is a unique concept in Ayurveda. Apart from the main classification of *visha* (poison), *acharyas* have mentioned the concept of *dushivisha* (latent poisoning) which has a vast significance in present era. Various types of environmental pollutions, exposure to pesticides, chemicals, fertilizers, different types of endotoxins etc. is a small part of toxicity story. Though these toxins are not potent enough to cause acute illness, but can cause ill effects even after a long period. These toxins are deposited in the body in a concealed form without being eliminated timely and properly. This latent toxicity is termed as *dushivisha*. Infertility is one among the serious consequences of *dushivisha*. (Latent poisoning) According to WHO one in every four couples in developing countries has been found to be affected by infertility. Excessive exposure to environment pollutants, long term use of preserved and adulterated foods, cosmetics, various kinds of addictions like alcohol etc. which comes under the concept of *dushivisha* (latent poisoning) leads to reproductive dysfunctions causing infertility.

Keywords: *dushivisha*, Infertility, Latent poisoning, environmental pollution, cosmetics, *sukrakshaya*

INTRODUCTION

Agada Tantra is one among the *Astangas* (eight branches) of Ayurveda which deals with toxicology and various toxic managements ranging from Snake poison to diseases arising due to toxic accumulation in the body. Nowadays, the present generation is much more likely to consume junk foods like cold drinks, continuously having late night works, excessive use of beauty aid products and cosmetics etc. Leads to the manifestation of toxic effects in different forms and Ayurveda describes this phenomenon as *Dushi visha*.¹

Dushi visha (latent poisoning) is one of the unique concept in ancient Ayurvedic classics and "*Kshapayet shukram*" (depletion of reproductive factors) is one of the effect of *dushi visha* which can be co-related with infertility. According to WHO one in every four couple in developing countries are affected by infertility. Hence, here is an attempt made to review the concept of role of *dushivisha* in infertility.

MATERIALS AND METHODS

This study had been done with an intention to provide an overview on the role of *dushivisha* as a causative factor for infertility. The data were collected from Ayurveda authentic texts, scientific journals and through the electronic media.

REVIEW OF LITERATURE

DUSHI VISHA

The term *Dushivisha* (latent poisoning) is a compound of two different words, 'dushi' and 'Visha'. 'dushi' means denatured, attenuated, altered, latent, vitiated or something which influences the system in the long run. 'Visha' means poison. The word *dushivisha* is derived from the word 'Doosh' meaning polluting or defiling. It means which pollutes many times.

Any poison that is devoid of the natural ten properties of *Visha*, incapable of producing acute symptoms of poisoning can also be termed as *dushivisha*. According to Dalhana, retarded potency of all the ten qualities of *visha* is said to be responsible for the delayed action and cumulative toxicity on the body². Arundatta the commentator of *Ashtanga hridaya* said that *dushivisha* is *Avibhavyamana* which meant that it is not traceable due to Avarana (covering) by *Kapha Dosha*. He also mentioned that *dushivisha* is *Varshagananubandhi* was due to its ability to remain in the system for years together².

Chakrapani defines *dushivisha* as '*Kalantara Prakopi Visham Doosivisham*' means it manifests the symptoms afterwards².

Because of the low potency of the poison, it usually won't causes sudden death. Because of the enveloping (*Avarana*) action by humor *Kapha*, this low potency poisons is retained in the body for long period without producing any grave or fatal symptoms².

TRANSFORMATION OF VISHA (POISON) INTO DUSHI VISHA (LATENT POISONING)^{2,3}

According to *Acharya Susrutha* there are several factors responsible for the transformation of *visha* (poison) into *dushi visha* like *jeerna visha* (partly

metabolized), *vishaghnohadibhi abhihatam* (inactivated by anti-toxic drugs), exposure to *davagni* (heat flames), *exposure to vata* (cold wind), exposure to *atapa* (sunlight), and *swabhavato guna vipraheenam* (naturally less potent). Among these factors in this context we can consider partly metabolized and naturally less potent toxins as the cause for Infertility.

Jeernam Visham (Partly metabolized) : It has got two aspects (A) When *Visha*, which is capable of producing acute ill effects, is kept for long time, some of them may lose their original properties, ultimately getting converted into less potent *Visha*, which is *dushivisha*. (B) Poison (*Visha*) whether inanimate (*Sthaavara*), animate (*Jangama*) or artificial (*Kritrima*) which is not completely eliminated from the body or partially detoxified and being retained or accumulated in the body and localized at various sites of tissues producing cumulative effect is *dushivisha*. It can also be called chronic poisoning or latent poisoning. In the chronic poisoning symptoms develop insidiously and more gradually.

Naturally Less Potent (Swabhavato Gunaviprahinam): Naturally all *Vishas* whether it is inanimate (*Sthavara*), animate (*Jangama*) or artificial (*Kritrima*) have all the classical ten properties (*Gunas*) like pungent (*Teekshna*), hot (*Ushna*), dry (*Ruksha*) etc. Presence of these *Gunas* can cause acute or subacute poisoning. But if any one or more of these properties (*Gunas*) are absent in a particular *Visha*, it can become *dushivisha* that is of low potency by nature. At the same time, consumption of these will produce symptoms of *dushivisha* which flares up in the presence of aggravating factors. This may be due to the absence of quick spreading (*Vyavaayi*), *Vikasi* and fast acting (*Ashukari*) *Gunas*, which are more potent in acute poisoning.

FLARING UP OF DUSHI VISHA²

Dushita desha- Environmental contamination due to pollution

Dushita kaala - Seasonal variation due to global warming

Dushita anna - Intake of food grains cultivated using chemical manures and pesticides, excessive usage of preserved foods and fast foods.

Divaswapnair -As number of MNC's are increasing day by day the employees working there are forced to do late night works which makes them sleep during day, and these people will be more prone to addictions like smoking and alcohol due to excessive tensions of their work load. All these can be considered under *diwaswapna* here.

In short we can say repeated exposure to *dushita desha*, *dushita kala*, *dushita anna* *divaswapa* etc. causes *dhatu dushti* which further lead to *dhatu prabhava vikaras (SUKRAKSHAYA)*

Acharya Susruta had mentioned *sukrakshaya* in both *lakshana* (symptoms) and *upadrava* (complications) of *dushivisha*.

INFERTILITY^{4,5}

According to WHO Infertility is the inability of a sexually active, non contracepting couple to achieve pregnancy in one year. Mainly there are two types of infertility

Primary infertility – Those who have never conceived.

Secondary infertility – Indicates previous pregnancy but failure to conceive subsequently.

Apart from the leading causes of infertility like PCOS, prevalent endocrine disorders etc. There are some other hidden causes for infertility.

AYURVEDIC ETIOLOGY OF INFERTILITY⁶

Women's fertility depends on nature's *Rasa* and when these *Rasas* are depleted, sterility, dryness, loneliness, and isolation are bound to set in. In order to conceive a healthy child, one should be *Swastha* or fully healthy oneself. This optimum state of health provides the fertile ground for the embryo to implant and grow.

TYPES OF INFERTILITY AS WRITTEN IN CLASSICAL TEXTS

Following are the details about infertility as per classical texts,

Mainly Infertility is classified based on the following criteria

- Primary and Secondary,
- Curable and Incurable,
- Chance of getting Fertile

ENVIRONMENTAL POLLUTION AND INFERTILITY⁵

An increasing number of researchers acknowledge the influence of environmental pollutants, such as heavy metals, organic hydrocarbons, and pesticides from various sources, on public health, particularly in reproductive disorders. Environmental factors, such as exposure to heavy metals, can cause reproductive dysfunction in women. Even trace exposure to toxic metals may affect the reproductive health of women. Several studies have illustrated the adverse effects of heavy metals in uterus, and the potential reproductive toxicity of these pollutants at levels lower than the tolerable/acceptable daily intake values (ADI) is of serious concern. Toxic metals may induce hormonal changes affecting the menstrual cycle, ovulation, and female fertility.

Nonessential metals, including lead (Pb), cadmium (Cd), and arsenic (As), are reproductive toxicants widely distributed in the environment. Several epidemiologic studies on menstruation have indicated that metals affect hormone levels. Pb and Cd have been identified in human follicular fluid and was shown to cause dose-related increases in ovarian tumors. Increased Pb, as level in the blood leads to increased FSH & LH causing poor ovarian function leading to infertility.

Also reproductive toxicants like Cd, Li, Dibromochloropropane seen at workplace are also found in human semen. Studies had proven that tobacco smoke is best environmental pollutant which impairs both male and female fertility, also it has

been found that Cd & Pb concentration are more in smokers which in men causes decreased semen volume, decreased sperm density, decreased sperm motility, abnormal sperm morphology and Abnormal sperm viability.

ROLE OF SEASONAL VARIATIONS IN INFERTILITY⁶

At many places in northern hemisphere human sperm counts are reduced during summer. This may be due to environmental contamination caused by increased number of industries & automobiles etc which leads to global warming which in turn causes excessive heat during summer season.

ROLE OF CONTAMINATED FOOD IN INFERTILITY⁷

Various studies has proven that chemical maneuvers & pesticides which are used to cultivate food grains are found in the food grains which in turn reaches humans after long term Consumption. Investigations have proven that pesticide residues found in soft drinks, The average amount of pesticide residue found in all the samples was 24 times higher than the BIS standards for total pesticides in soft drinks. According to the tests conducted by Pollution Monitoring Laboratory of CSE, all samples contained residues of four extremely toxic pesticides and insecticides; lindane, DDT, malathion and chloropyrifos

DDT is an Organo chlorine which decreases reproductive success and causes reproductive system damage. Also Dieldrin is an Organo chlorine which cause sperm damage.

ROLE OF DIWASWAPNA IN INFERTILITY⁸.

Large no. of MNC’s are evolving day by day and their employees are forced to work during late nights resulting in their day sleep which intern changes their life styles. For being awake at night they depend on certain addictions like smoking.. Etc.

An elevated risk of infertility has been suggested for women smoking marijuana. Also due to busy schedules they depend on fast foods and drinks which are overloaded with preservatives, coloring agents, flavoring agents etc..

All these changes in the life styles lead to several endocrine dysfunctions causing hormonal imbalances and reproductive dysfunctions.

EFFECT OF CHEMICALS USED IN COSMETICS IN CAUSING INFERTILITY⁹

The vast turnover of beauty aid products and cosmetics clearly reveals that every person is trying to look beautiful. More and more new synthetic substances are introduced every day. Many of these are not adequately tested for safety, in particular for routes other than oral or parenteral.

CHEMICALS	SOURCES	ACTION	EFFECTS
PARABENS	Preservatives in cosmetics and skincare	Mimic estrogen	Ovarian cancer and female infertility
BISPHENOL A (BPA)	Perfumes	Abnormal hormone production	Female infertility.
BENZOPHENONES	Lip balms and nail varnishes	Increases progesterone	Unusual vaginal bleeding resulting infertility.
CHLOROPHENOL	Sunscreen lotions and creams	Decreases FSH and LH	Infertility.
DIBUTYL PHTHLATE	Nail products	Endocrine disruptors and reproductive toxicants	Infertility.

DISCUSSION

In classics it is very well mentioned that ‘any type of poison irrespective of inanimate (*sthavara*), animate

(*jangama*) and artificial poison (*kritrima visha*) will attain a stage called latent poison (*dushi visha*) after they divest their potency to some extent or if they are

improperly expelled or partially detoxified in the body. And some things are basically less toxic can be considered as latent poisoning. Present food habits, life style and mental attitudes etc., are entirely different from that of the past. The basic essentials of life air, food and water are all polluted and the hazards paint a gloomy picture for the coming generation. So by considering factors such as *virudhahara* and *ahitahara*, fast foods and cold beverages like colas, alcohol, tobacco, drugs like Quinine, NSAIDs, steroids, pesticides, metals, minerals, pollutants etc. can be considered under latent poison (*dushi visha*). Nowadays people are more prone to various kinds of *visha*, including *dushivisha* in food as well as in environment. It is not mandatory that only direct intake of poisonous material lead to *dushi visha lakshanas*. At present scenario polluted air, water, land, the increased exposure to electromagnetic radiations through cellular phones and computers, faulty food habits, stressful life style, unpleasant feelings also affect. Due to the chronic exposure of *dushita desha*, *kala anna* etc certain chemicals enter into human body. These chemicals can be considered as *visha*, the *teekshnadi dasa gunas* (10 properties) of *visha* (poison) causes *rasadi soumya dhatu kshaya* which causes depletion of *rasa dhatu* to *sukra dhatu* ultimately leading to *sukrakshaya* (infertility).

CONCLUSION

The concept of Latent poison (*dushivisha*) is not clearly explained in many of Ayurvedic texts. Certain points need clarification like the topics that can be considered under the heading of Latent poison (*dushivisha*) or extent of latent poison. It is felt that this is the proper time to consider these factors and these should further be categorized separately under the heading of latent poison (*dushivisha*) for the better perception

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