

## ***A REVIEW ARTICLE ON KARKA ROGA (CANCER) IN TERMS OF AGADATANTRA***

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### **ABSTRACT**

Cancer is a group of diseases involving abnormal or uncontrolled growth of cells, which can invade or spread to distant sites of the body. In 2014, 326,300 women died of cancer in India and of which 21.5% was breast cancer followed by cervical cancer 20.7%. Cancer of breast alone is expected to cross the figure of 100,000 by the year 2020 if actions are not taken. In addition to pain and suffering caused by the disease, cancer places an enormous economic burden on individual families as well as our society. Prevention of cancer offers the greatest public health potential and the most cost-effective long term method of cancer control. Reducing exposure to toxins causing cancer is the most effective way of prevention which is not always possible in our day to day life. *Agadatantra*, one of the *Ashtangas* of *Ayurveda* mentions in detail the concept of *Garavisha* and *Dooshivisha*, which are comparable with various sources of exposure of toxins through our daily life activities. People are least aware of toxins they are exposing in day to day life. This increases the risk of disorders like cancer, stroke, heart attack, skin ailments etc. Ayurveda gives a vast view on this topic by explaining definition, symptoms, mode of administration and treatment for conditions caused by these toxic exposures. Hence an attempt was made to collect, understand and analyze cancer in Agadatantra perspective. And there by aid in preventing as well as formulating new treatment protocols for cancer firmly based on the concepts of *Ayurveda*.

**Keywords:** *Prevalence of Cancer, Prevention, Dooshivisha, Garavisha*

### **INTRODUCTION**

Cancer represents a large group of diseases characterized by the progression of abnormal cells that divide uncontrollably and have the ability to infiltrate and destroy normal body

tissue. It is one of the leading causes of mortality and morbidity accounting for one in four deaths. According to The World Health Organization 7.6 million people died of cancer in

2005 and 84 million people will die in the next 10 years if prompt actions are not taken.<sup>5</sup> In addition to pain and suffering caused by the disease, cancer places an enormous economic burden on individual families as well as our society.

According to WHO, causes of cancer include using tobacco products, irregular and unwholesome diet, obesity and reduced physical activity, unprotected exposure to the sun, and exposure to chemicals. Environmental exposure to carcinogens occurs from home, workplace, unknowingly through consumer products, medical treatments, and routine choices.<sup>6</sup> International Agency for Research into Cancer (IARC) has estimated that 3% of all cancers caused due to pollution and chemicals in our environment.<sup>4</sup>

### AIM & OBJECTIVE

1. Collect literary aspect of Cancer, *Garavisha*, and *Dooshivisha*.
2. To analyze Cancer, in light of *Garavisha* and *Dooshivisha* in the Present scenario.

### MATERIALS & METHODS

The study being a literary review, the sources of data will be collected from all *Brihat* and *Laghu Trayees* also from all Contemporary Textbooks, Relevant Journals and Websites.

### Conceptual Review

#### Cancer

Human body is made up of millions of cells becoming tissues, organs, organ systems and functioning as a single unit. All of these cells grow, multiply, and are replaced by younger cells to maintain the health of the body. When

a cell becomes abnormal, it leads to uncontrolled growth and is termed as tumor. Tumors are basically divided into two, benign and malignant. Benign tumors are not termed as cancer and are generally not life threatening. Malignant tumors can invade the surrounding tissues and organs as well as spread to distant sites of the body through blood stream or lymphatic system. This process is termed as metastasis.<sup>2</sup>

#### Carcinogens

Substances or reasons for the occurrence of cancer are termed as carcinogens. When the body comes in contact with the carcinogens, they are processed or metabolized differently. According to this, they are classified into

- 1) Direct acting carcinogens
- 2) Indirect acting genotoxic carcinogens
- 3) Co-carcinogens<sup>7</sup>

Direct acting carcinogens are those chemicals which cause cancer on exposure like nitrogen mustard. Indirect acting genotoxic carcinogens are those substances which cause cancer when they are metabolized in the body like benzo (a) pyrene, aflatoxin B1, NNK. And chemicals or lifestyles which act with other chemical to cause cancer are called co-carcinogens and these substances do not cause cancer by themselves like sodium arsenite and cigarette smoking.<sup>8</sup>

#### Incidences

According to WHO, In 2014, 326,300 women died of cancer in India and of which 21.5% was breast cancer followed by cervical cancer<sup>2</sup> 20.7%. Over the years, in spite of decreasing trend in cervix cancer, Gynecological cancers have

increased in India and are estimated to be around 182,602 by the year 2020 constituting about 30% of the total cancers among women in India. And Cancer of breast is expected to cross the figure of 100,000 by the year 2020<sup>3</sup> if actions are not taken. Based on the NCRP data, it is estimated that for the year 2010, there will be about 936,908 new cancer cases in India which will be raised to 1,044,650 by the year 2020.

WHO states that cancer is to a large extent avoidable and prevention of cancer offers the greatest public health potential and the most cost-effective long term method of cancer control.<sup>3</sup> Reducing exposure to toxins causing cancer is the most effective way of prevention which is not always possible in our day to day life.

### **Dooshivisha**

• According to *Acharya Charaka*, *Dooshivisha* is a type of poison which vitiates *Rakta* and produces symptoms like *Aaru*, *Kitibha* and *Kotha*; also it afflicts each *Dosa* and causes death.

And *Chakrapani* explains that,

The poison which shows its poisonous effects after some period of time is *Dooshivisha*.<sup>9</sup>

- According to *Acharya Sushruta Sthavara*, *Jangama* or *kritrima* which has not gone out of the body completely leaving behind residue which may be
  - *Jeerna Visha* – poison which is very old
  - *Vishaghnaoshadhibhirhatam visham* – inactivated by antipoisonous things
  - Exposure to *Davaagni* – that which is evaporated by forest fire

- Exposure to *Vata* - evaporated by wind
  - Exposure to *Atapa* - evaporated by sun
- Dooshivisha* because of its less toxic nature it is not fatal, but it gets *Avrita* by *Kapha* & remains in the body.<sup>10</sup>

*Dooshivisha* is not *Sadyomaraka* because of these reasons

- Its mild potency of *Ushna*, *Teekshna*, *Ashukari*, *Vyavayi* etc *Gunas*.
- Because of *Kaphavarana*

*Dalhana* on his commentary elaborates,

*Dooshita Desha* can be considered as wet, humid land where there is excess wind, cold weather & excess rain fall. Such land influences on *Kapha* & *Vatadosha*'s and leads to aggravation of *Visha* in the body as *Dooshivisha* is *Avruta* by *Kaphadosha*.

*Kala* can be considered as *Sheetanila* & *Durdina* which may have relation with latent *Dooshivisha*. Rain makes body *Klinna*, *Sheetanila* reduces the power of digestion i.e *Pachakagni* (metabolism) or detoxification process is deranged and may lead to aggravation of both *Vata Kapha Dosh*.

The foods like *Sura*, *Tila*, *Kulatha* etc these foods are *Teekshna*, *Vidaahi Dravyas* and unwholesome food which aggravates *Pitta Dosh*.

Other aggravating factors like *Krodha*, *Vyavaya*, *Vyayama* etc affect both body & mind are also equally capable to aggravate *Dooshivisha*.<sup>10</sup>

### **Treatment of Dooshivisha–**

- *Nidana-parivarjana* – As any disease *nidana-parivarjana* is the main and important principle of *Dooshivisha*.

- *Shodhana* – A patient afflicted with the effects of *Dooshivisha* inherent in the system should be first fomented and cleansed by both emetics and purgatives.
- *Agadapana (Dooshivishari Agada)-Dooshivishari Agada* is described by *Sushruta, Vagbhata, Yogratnakara* and *Bhavaprakasha* for the treatment of *Dooshivisha*. It destroys the *Dooshivisha*

### **Garavisha**

#### **Derivation of Gara:**

The word *Gara* is derived from the word *Gru* with suffix *Ach* which means to dilute or could be diluted which generally indicates liquid forms.<sup>11</sup> In Ayurveda it is considered as form of *Kritrima visha*.

#### **Definition:**

- According to *Acharya Vagbhata* *Gara* is *Samyogaja visha* unlike that of *Sthavara* and *Jangama visha*, which take longer duration for metabolism.<sup>12</sup>
  - *Chakrapani* his commentary explains, *Garavisha* is *Chirakaari rogajanakam*. *Garavisha* is a combination of *Savisha* as well as *Nirvisha dravya*.<sup>9</sup>
  - As per *Acharya Sushruta*, *Garavisha* is *Vividha visha samyoga krita*.<sup>10</sup>
  - According to *Acharya Vagbhata*, *Garavisha* is a type of *Kritrima visha* prepared by various medicines.<sup>12</sup>

*Indu* in his commentary elaborates, *Gara* is *Vishesha visha*, which is given along with food and it includes *Sakalamapi vastujatam*.<sup>12</sup>

#### **Action:**

*Garavisha* action depends upon its nature, combination, dose and duration of exposure of individual. It produces acute symptoms or diseases like *Pandu, Agnimandya, Aruchi, Yakritapleeha vikaras* etc.<sup>12</sup>

#### **Management of Garavisha:**

*Shodhana (Vamana)* is first line of treatment for *Garavisha* followed by *Suvarna churna* in *shanamatra*, which nullifies *Garavisha*.<sup>13</sup>

### **DISCUSSION**

Every day we come in contact with different chemicals knowingly or unknowingly and many of these might be toxic in nature. Effects of them usually depend on toxicity of the chemical, its dose, frequency and duration. The general health, age and lifestyle of the person also have a predominant role in the determination of how these chemical will have the adverse reaction. The damage on cells produced by these substances, may either lead to the death of cell, or its recovery. But in the case of carcinogens, these may alter the DNA in the cell leading to mutation, alteration of genes. These altered genes and some of the mutations can cause cancer.

*Dooshivisha* is a Slow acting Poison which remains in the body and aggravates whenever a favorable condition arises. It produces *Agnimandhya* and is *Apaki*. The main cause for *Dushana* of *Vayu, Udaka, Desha* and *Kala* is *Adharma* i.e. *Prajnapradha*.

Aggravating factors of *Dooshivisha* are *Dooshita Desha* – polluted land

In the process of growth, advancement and progression of Agriculture, pesticides have been an integral means as a plant protective agent in advancing food production. Exposure of pesticides both occupationally and environmentally causes a range of human health problems.

Best example is Endosulfan, which is an environmental contaminant, it can travel long distances from where it is used. Others include DDT, Organophosphorus compounds etc.

### ***Dooshita Kala-***

*Hina, Mithya and Atiyoga of Rtas* – unfavourable seasons

Pollution leads to smog formation which leads to respiratory problems, skin diseases

### ***Dooshita Anna***

Many chemicals are used in food industry for storage and preservation of food articles. Coloring agents used in food are carcinogenic. Consumption of Drugs for therapeutic purpose can also be included here.

*Visha in the body* *Dosha prakopa & dhatushthi* *Ojo Kshaya* loss of *Vyadhi kshamatva*

These effects of *Dooshivisha* depend on the presence of *Dooshivisha* at different *Dhatu* level, as a result of which, *Dooshivishjanyavikara* are becoming more and more common. Cancer is one among them and while diagnosing disorders like cancer, Ayurveda needs to consider *Dooshivisha* as an etiological factor. This is especially true when there is no obvious cause for many cancers.

*Garavisha* can be correlated with anything which is of artificial origin, harmful to body either with direct effect or by means of its toxic metabolites. It may include indiscriminate use of synthetic drugs like tetracycline, paracetamol, anti-tubercular drugs, oral contraceptives, chemical used as food preservative and agrochemicals uses in day today life. These *Garavisha* are responsible for health issues and various type of toxicities, which may be life threatening.

In modern science treatment of cancer is still being carried out and the side effects are sometimes worse than the disease itself. And fewer options are available for most of the cases along with rate of recurrence being high.

- Now a day's people are more prone to various kinds of *Visha*, including *Dooshivisha* and *Garavisha* in food as well as in environment.
- It is not mandatory that only direct intake of poisonous material lead to *Dooshivisha 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, continuous usage of any particular medications and suppression of urges can act as cause for *Dooshivisha* as well as *Garavisha*. As a result *Dooshivisha janya* and *Garavisha janya vikaras* are becoming more and more common.
- Patients demanding *Ayurvedic* treatment for cancer are increasing as an alternative for the existing system.

## CONCLUSION

In addition to classical description of *Dooshivisha* and *Garavisha*, it can be inferred that polluted environment, changing and faulty life style, changing food habits, *Viruddha-ahara*, mental stress, Addictions, Suppression of natural urges also act as *Dooshivisha* in one aspect and as *Garavisha* in others. Concept of *Dooshivisha* is similar to latent poison and *Garavisha* similar to accumulation of toxins and these lead to production of many diseases including cancer. So while treating cancer, treatment of *Dooshivisha* and *Garavisha* must be tried. Like all other Ayurvedic treatment, *Pathyapathya* have an important role in management of cancer, so along with treatment it should also be strictly followed.

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