

**GRAHABADHA- A STUDY OF MICROBIAL INFECTION IN ANCIENT TIMES**Snehal Vinayak Kale<sup>1</sup>, Mangesh Madhusudan Pawar<sup>2</sup><sup>1</sup>PhD Scholar (Balroga), M.D. Balroga, Assistant Professor Balroga Dept.

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**ABSTRACT**

Ayurveda is the oldest and time tested rich medical science which has been protecting our health since centuries. Ayurveda is systematically divided into eight clinical branches. Among them *Vagbhata* have given third place for *Grahabadha*. *Ashtang hridaya*, *Sushruta* and *Madhava Nidan* have explained *Grahabadha* in detail while *Charaka* is silent about *Grahabadha*. Later there are many books which copy the same with slight difference. Coherence in understanding the principles of *Ayurveda* is very essential to understand and apply them into practice. There is no clear-cut description of microbial infection in ayurvedic texts. But the description of unidentified vectors is found scattered in our texts like- *Skanda*, *Putana*, *Revati*, etc. These terms have been mentioned collectively under the description of *Grahabadha* when considered individually they resemble some of the clinical features and associated features of microbial infection. After complete study of concept of *Grahabadha* it is concluded that these unidentified vectors are thought to be microbes, which cannot be seen by naked eyes but produce group of diseases of multi systemic origin and syndromes.

**Keywords:** *Grahabadha*, microbial infection, unidentified vectors

## INTRODUCTION

*Graharogas* constitutes the major portion of *Kaumarbhritya* branch either *Ashtanga karas* have given notable importance to *Graharogas* by giving them third place in *Ashtang ayurveda*<sup>1</sup>. Besides that, due to its extravagant mythological explanations, difficulties in clinical understanding, diagnosis and treatment it is the most neglected portion of *Kaumarbhritya*. Contemporary modern science doesn't explain the cause of disease when cause is invisible. They depend upon the techniques and investigations like CT scan, M.R.I. scan, blood investigations, urine investigations in case of invisible cause. But if the cause is not detected even by these advanced techniques and investigations then they term these diseases as disease of unknown origin or idiopathic nature of diseases. *Ayurveda* have faith on *Karya karan vada* means for every consequence there will be a cause which may be visible or invis-

ble. If the cause is invisible but the disease is chronic in presentation, they can be named as *poorva karmaja*, *Aatma karmaja*, *Daivika shakti*, etc. But if the cause is invisible and disease is acute in presentation, they can be named as *Bhoota*, *Preta*, *Pisacha*, *Grahabadha*, *Jataharini*, etc. Hence *Graharogas* are counted in acute severe presentation with cause is invisible. In ancient times invisible causes like *Grahabadha* are identified by divine vision (*Shastra chakshu*)<sup>2</sup> or vision of knowledge (*Divya chaksh*) as the techniques and instrument like microscopes are not available in those days.

**Nature of *Grahas*:** *Balagraha* is a combination of two words *Bala* + *Graha*. *Bala* means children while '*Graha*' means to grasp or seize. *Grahas*- a class of evil demons supposed to capture or affect the children and produced various clinical features.

**Table 1:** Similarities between *Graha* and Micro-organisms

Nature	<i>Graha</i>	Micro-organisms
Living	Living (As they move and attack)	Living
Prone time of movement	Night hours <sup>3</sup>	Dark area/ Low temperature areas
Incubation period	Follow (entry can't be identified after invasion to the production of first symptom)	Follow
Size and Shape	Changes size and shape frequently as per demand <sup>4</sup>	Pass through stages of life cycle like larva, egg, mature, spores, etc.
Visibility	Invisible and visible only through certain special vision power ( <i>Dnyan chakshu</i> )	Invisible by naked eyes and visible by microscopes
Entry inside the body	Enters in those who are <i>Ashuchi</i> and don't follow the general rules of lifestyle <sup>5</sup>	Enters in those who are immune-deficient

### Physiological nature of *Grahas* (Micro-organisms):

The mythological concept that *Grahas* are produced from *Shiva* and *Parvati* for protective purpose of their son *Kartikeya* explains the physiological nature of *Grahas*<sup>6</sup>. Strongest among all these *Grahas* is *Skanda Graha* as Lord *Shiva* pointed him as chief of all *Grahas* and also called as *Baladhara*<sup>7</sup>. But if we assume *Grahas* are micro-organisms then how they can protect us?

As it is well understood concept, that an infection caused by micro-organism will always leave back certain degree of immunity against that species and formation of memory cells and reduce the severity of the

same infection in future. That means micro-organisms serve the function of protection after infection<sup>8</sup>.

### Pathological nature of *Grahas* (Micro-organisms):

*Ashuchi* and disobeying the rules of *Swasthavritta* plays important role in turning *Grahas* to pathological in nature. Disobeying the rules i.e. human errors will creates loophole in human body. *Ashuchi* i.e. unhygienic food, lifestyle, overcoming rules of *Dinacharya*, *Rutucharya*, *Sadvritta* and *Swasthavritta*, *Hina*, *Mithya* or *Ati yoga* of everything becomes responsible for the invasion of *Grahas* and micro-organisms also.

**Etio-pathology of *Grahas*:** *Graha rogas* differs from other general disorders as they show different etiological factors, symptoms and management. There will be

no *Dosha* vitiation in the beginning and causes are invisible and *Agantuja* in nature. *Ashuchi* and disobeying the rules of *Swasthavritta* are the main reasons to form pathology of *Grahas*. *Sushruta* described that the reason of *Graharogas* are, Disobeying of rules and regulation of *Sadwritta* and *Swasthawritta* of child and mothers leading to personal, social and environmental hazards e.g., not trimming the nails once in a week leads to collection of fecal and other waste products in the nail bed, which act as a shelter for the growth of micro-organisms. Feeding in unclean and broken vessel with unhealthy conditions of surrounding environment<sup>9</sup> e.g. food accumulated in broken vessel may create a fermenting media for the growth of micro-organisms. excessive satisfaction of child's *Dhatri* (wet nurse) or mother in eating, sleep, exercise, sex<sup>10</sup> e.g. as the child is depends on the mother for feeding and other demands related to health and hygiene it is important to maintained mothers personal and social hygiene. harmful activities and unreligious conducts e.g. child will be easily victim by *Graharogas*, after a event or act which produce fear like tossing the child in air, crossing or jumping over it<sup>11</sup>. - psychological aspect of children e.g., role of *Manas* in the causation of psychosomatic disorders is well known fact. misbehaving in front of priest, disrespect of saints, teachers, and *Gurus* e.g., Teachers are the main source of knowledge and disobeying and disrespecting their advice leads to disease state which are due to lack of knowledge required to follow healthy life. These things create a weak point in the body's immune system of child which can easily invite the *Grahas* (micro-organisms) to enter in the body for *Badha* (infection).

**Purpose of *Grahas* (Micro-organisms) to enter in body:**

*Grahas* (micro-organisms) enters in body mainly for three purposes- *Himsa*, *Rati*, and *Archana*<sup>12</sup>.

1. *Himsa*- Here *Himsa* is narrated with the meaning of giving pain, to create injury instead of killing. We all know that when micro-organisms enter in the body they undergo with antigen-antibody reaction mediated by body's immune system which further leads to phagocytosis and tissue injury. It

results in certain symptoms like fever, sneezing, allergic reactions, etc. which is nothing but painful suffering or *Himsa*. Viruses also enter in the body, and then explode to release chemicals to cause tissue injury (*Himsa*) and initiate inflammatory responses.

2. *Rati*- Here *Rati* is narrated with the meaning of manipulation of body parts to yield the pleasure of sexual act or desire. We know that a strong sexual thirst of micro-organisms compels them to find a definite or an indefinite host to complete their life cycle of reproduction. They enter in the body as an egg and complete their life cycle by converting into a gametocyte and then exit the body. Malarial parasite is the best example of that.
3. *Archana*- Here *Archana* is narrated with the meaning of get nourished, worshipped. Certain groups of micro-organisms enter inside the body with the intention of getting nourishment to increase their colonies and produce disease. Typhoid and Shigella like pathogens and tubercular bacteria are some best examples of that. So, first purpose illustrates pathogenic nature of micro-organism to creates a disease, second microbes enter in the body to complete their life cycle and create a disease, third one explains using host by microbes to get their nutrition. These tendencies of micro- organisms might have been referred as *Himsa*, *Rati* and *Archana*. But this entry can be possible only when there is a loophole in the human body due to *Ashuchi acharana*.

**Mode of action of *Grahas*:** *Grahas* enters inside the body like entry of *Atma* inside the body, entry of light ray or image inside the mirror, *Taila* inside the *Beeja*, *Shita* and *Ushna guna pravesh* inside the body, entry of sun rays inside the *Suryakanta* gem<sup>13</sup>.

**Incubation period of *Graha*:** Incubation period is the time interval between the entries of micro-organisms inside the body till it produce first symptom. Incubation period like presentation is also seen in *Grahas* as the entry of *Graha* inside the body can't be identified and only the first symptom gives the clue.

**Similarity between Morphology, habitat and characteristic of *Grahas* and Micro-organisms:**

*Mahabharata* first time explained the morphology of certain *Grahas* which can be correlated with the morphology of certain micro-organisms.

**Table 2:** Correlation between morphology of *Grahas* and micro-organisms

<b>Grahas<sup>15</sup></b>	<b>Micro-organisms</b>
<i>Grahas</i> resides near <i>Goshala</i>	Acide resistant bacteria
<i>Grahas</i> resides in <i>Shunnyagara</i>	Anaerobic bacteria
<i>Grahas</i> which are <i>Aakashchhari</i>	Aerobic bacteria
<i>Grahas</i> lives in <i>Mudga, Masha, Payasa, Mamsa</i>	Bacteria or fungi which grow in fermenting medium
<i>Grahas</i> having fond of red flowers, garlands, cloths	Haematogenous bacteria
<i>Grahas</i> which produced from <i>Agni</i>	Heat resistant micro-organisms
<i>Grahas</i> which are <i>Tejaswi, Yashaswi, Balavan</i>	Potent and virulent micro-organisms
<i>Grahas</i> named after the Bird like <i>Shakuni</i>	Micro-organism which uses bird as its host
<i>Grahas</i> named after the animal like <i>Naigamesh</i>	Micro-organisms responsible for cattle born disorders
<i>Grahas</i> produce after severe war	Micro-organisms developed as a post war complication
Ugly looking <i>Grahas</i>	Micro-organisms produced in extreme unhygienic areas
<i>Jataharini</i> attacks pregnant woman	As foetti are highly contagious to micro-organisms
Vitiates breast milk of <i>Dhatri</i> too	Infection of breast parenchyma causing changes in quality and quantity of breast milk too

This description of microscopic morphology, survival in unhygienic atmosphere and blood medium as positive culture, more sustenance in darkness and low temperature when the individual's BMR also remains low exactly indicates that *Grahas* are no other than, the microorganisms like virus, bacteria etc.

**Prodromal Symptoms:** Continuous crying and fever are only two prodromal symptoms which are defined in various textbook of ayurveda<sup>16</sup>. Due to limitations in language development in newborns they denote the same symptom to indicate many diseases and i.e., cry-

ing. But continuous cry, vigorous inconsolable cry, fearful continuous cry is a characteristic symptom to infer the only *Graha badha*. As fever is the most common symptom of almost all the infective cases with some rare exceptions it helps us to understand the antigenicity and infective nature of the *Grahas*.

**General Symptoms:** The symptoms appearing in a child due to affection of *Graha Badha* may depend upon the infliction of that particular *Graha*. Given table shows the various symptoms of *Bala Grahas*<sup>17,18</sup>

**Table 3:** Various symptoms of *Bala Grahas*

<b>Particulars</b>	<b>Symptoms</b>
General Symp-toms	Fever, irritability, excessive crying, yawning, shouting, bites lips, clenches teeth, clenches fists, injures himself or the mother with the nails or teeth, refusal to take feeds, emaciation, excessive lacrimation, rubs his eyes, ears and nose miserable look, eyes become red etc,
Psychological	Fear, pulls his hairs, laughs alone without any reason and becomes cruel.
Central Nervous System	Vacant stare, unconsciousness, drowsiness, giddiness, irritability, hypotonia, rolling of eyeballs, jerky movements of head, twitching of eyelids and facial muscles, tremors, defective posture, dribbling of saliva (due to facial palsy), change in voice and speech, incontinence of urine and stool, fainting, etc.
Gastro -intestinal symptoms	Diarrhea, distension, vomiting thirst, constipation, stomatitis, distention of abdomen, etc.
Respiratory Symptoms	Cough, hiccup, grunting respiration, change in voice, dyspnea, running nose. etc.
Skin	Change in colour of skin, blisters urticaria, prominent veins over skin of abdomen, etc.
Smell of body	The child may emit fishy, bed bug like, fleshy or bloody, cow's fecal matter, goat's urine, etc. smell according to influence of particular <i>Grahas</i> .

### Treatment principles of *Graha Rogas*:

Treatment of *Graha Rogas* includes both *Daiva* and *Yukti vyapashraya chikitsa*<sup>19</sup>. *Daiva vyapashraya chikitsa* is an *Adravyabhuta chikitsa* which helps to correct the disturbed mind. *Ayurveda* believes in global approach, so, treatment of mind is equally important to correct a physical illness. Also, if we see *Purva roopa* of *Graha roga* is narrated as *Jwara* and main symptom of *Jwara* is *Santapa*. *Santapa* can affect both body and mind. Modern science also says that every disorder is a psycho-somatic disorder, so, *Daiva vyapashraya chikitsa* can be employed in each and every case.

### Scientific view of *Graha Chikitsa*:

#### 1. *Daiva vyapashraya Chikitsa*-

1. **Mantra chikitsa**<sup>20</sup>- *Mantra Chikitsa* is not just limited up to chanting of certain *Mantra* with certain religious intentions which is related with God. *Mantras* when chanted in a rhythmic way create sound waves of different wavelengths and amplitudes which are able to modulate the electromagnetic wave patterns of the brain. They keep the mind in a positive attitude and remove the negativity of the mind. Different *Mantras* of different *Grahas* contains details of individual *Grahas*, its greatness, and its method of worship, clinical symptoms and details of treatment. So, doctors get revised with the subject concerned who helps them for management. Further *Mantra chikitsa* can be correlated with music therapy.

2. **Swasthi vachana**- Meaning of *Swasthi vachana* is to pray for welfare of the patient. This can be correlated with counseling of the patient and make him realize the true facts of health.

3. **Bali chikitsa**<sup>21</sup>- The word *Bali* is not involved in just killing the animals, as a ritual of satisfaction of God and the evil spirits but *Bali* is the method of mass-disinfection or community disinfection adopted by *Ayurveda*. Micro-organisms are very virulent in the society, spreads the diseases from person to person. Their normal tendency is to move towards the host. Crossroads, temple, dark areas, near tree, etc are the areas where maximum contamination is predicted due to movement of crowd where *Bali* is offered. Meat of different animals easily gets necrosis, putre-

faction with bad smell and provides a favorable medium for the growth of micro-organisms. Vegetarian foods like *payasa*, *mudga*, *paya*, *godhuma*, etc. are also used for *Bali* as they undergo fermentation process and provide medium for growth of micro-organisms and also attracts surrounding micro-organisms towards it. So, *Bali* acts as a natural culture medium for the growth of micro-organisms.

4. **Vastra pradan chikitsa**<sup>22</sup> -Our skin has bacteria on the surface of our skin, in our nose and in our gut, many skin conditions can easily transfer through cloths. So, *Vastra pradan* is one of the ways of disinfection adopted by *Ayurveda*.

5. **Mangala homa and havana chikitsa**<sup>23</sup> - In an ancient period *Homa* is done to assess the prognosis of *Graha rogas*. As the body surface of *Graha rogi* emits different abnormal smells, which when comes in contact with the fire may give different colors to fumes. Also, expiratory air of a *Graha rogi* may contain certain abnormal metabolic toxic compounds, which on contact with the fire may give different colors to the fumes. Also, by this method air gets purified by medicinal fumes and environmental pathogens are cleared off along with their individual effects.

#### 2. *Yukti vyapashraya chikitsa*-

1. **Oushadhi dharana chikitsa**<sup>24</sup>- Drugs tied in *Potali* for and then tied around the neck of child in *Oushadhi dharana chikitsa*. Drugs used for that are having strong aromatic smell which easily prevents the communication of the diseases by droplet or through air born infection. Also, these drugs can be used as emergency measures. So, principle behind the *Oushadhi dharana* ensures the disinfectant nature and being ready for emergency measures if needed.

2. **Snana chikitsa**<sup>25</sup> -For *Snana* purpose it is advised to use *Aushadhi siddha kosha jala*. Drugs like *agnimantha*, *nimba*, *shigru*, *karanja*, *paribhadra*, etc. are used for the purpose having *Kashaya rasa* and antiseptic properties. Bathing with these drugs *Siddha kosha jala* helps to remove bad smell, gives freshness and avoids contamination of the skin by the accumulation of unhygienic substances.

3. **Ghrita prayoga**<sup>26</sup>- Pharmacologically, a *Ghrita* preparation helps the chemical constituents to dissolve in lipid media and facilitating its easy absorption.
4. **Parishekh and Avagaha**<sup>27</sup>- *Avagaha* and *parishekh* done with the help of water medicated with the drugs having antiseptic properties. Both acts externally and prevent the spread of infection, overcome the bad smell, sterilize the wound and avoid contamination.
5. **Lepas**<sup>28</sup>- External application of *Lepa* prevents the spread of infection through the bite of mosquitoes and also overcomes the bad smell.
6. **Dhupana chikitsa**<sup>29</sup>- In *Dhupana* drugs are made to burn in lipid medium like *Ghrita*, *Taila*. Drugs are present in solid form but after burning get converted into a gaseous form and easily get absorbed from mucus membrane of respiratory track to yield beneficial effects. Inhalation therapies like puffs, spacers, nebulization are also having the similar principle. *Dhupana* using *Naadi* (tube) gives nebulization like effect. Drugs used for *Dhupana* like *vacha*, *guggulu*, *jatipushpa*, etc. are having strong aromatic smell. Strong smell of *Dhupana* acts as a potent antibacterial agent and clears the micro-organisms. Certain animal products like skin of snake, fecal matter of animals and birds are also used for *Dhupana* as they emit bad smell and rich in urea, uric acid, ammonia and release some chemicals with oxides when burnt to yield beneficial effect. So, *Dhupana* acts as an antibacterial, antimicrobial, antiseptic, disinfectant, bactericidal and bacteriostatic in nature and can be used for sterilization of individual, room and belongings.
7. **Dhoomapana**- *Dhoomapana* is the highly individualistic disinfectant procedure. Drugs having anti-infective, disinfectant, antiseptic properties and of nature like *katu*, *tikta*, *kashaya ras*, with *ushna*, *tikshna*, *sukshma* and *shlakshna* qualities are made into a wick and burnt and their fumes are inhaled to yield beneficial effect. So, all these concepts are completely scientific, and they aim to prevent infection individually, in community or

among the masses.

## DISCUSSION

*Graha roga* is the most neglected portion due to its excess mythological explanations, difficulties in clinical understanding, diagnosis and treatment. Though aetiopathogenesis, general symptoms of *Graha* has now been felt as fake among scholars but really, they are explained in an applied clinical manner. Their movement and attacking nature, their prone time of movement, method of invasion, change in size and shape, their intention to enter inside the body, invisibility by naked eyes, having fever as the main symptom, etc. all these particulars shows similarities with Micro-organisms. Also, the way of treatment measures mentioned earlier gives priority to absolute hygiene and immunity besides symptomatic management. Acts as an antibacterial, antimicrobial, antiseptic, disinfectant, bactericidal and bacteriostatic in nature and can be used for sterilization of individual, belongings, community and masses.

## CONCLUSION

In a nutshell *Graha* are not mythological and now compared with various microbial infections which can be treated with a combined approach of therapeutic and psychiatric management. Thus, this arise the importance of cleanliness and hygienic measures to adopt in routine practice. The abode of pregnant woman and child is to be kept clean, well fumigated by various protective measures prescribed for child and puerperal woman are measures to prevent infection. The review of Literature also supports the use of these ayurvedic Chikitsa not only to treat *Graha Roga* but also as agent to prevent or control the bacterial infections. However here is an effort done by author to fulfill lacuna in understanding of *Graha badha* or *Rogas* but may require further modification in future.

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