

Volume 10, Issue 13, 545-558.

**<u>Review Article</u>** 

ISSN 2277-7105

# SCIENTIFIC STUDY OF BALAGRAHA AND ITS MANAGEMENT

# Karuna S. Ratnaparkhi<sup>1</sup>\* and Rajendra B. Thakare<sup>2</sup>

<sup>1</sup>HOD and Professor Dept. of Kaumarbhritya, Csmss Ayurved Mahavidyalaya, Aurangabad. <sup>2</sup>PG Scholar, Dept. of Kaumarbhritya, Csmss Ayurved Mahavidyalaya, Aurangabad.

Article Received on 12 Sept. 2021,

Revised on 02 October 2021, Accepted on 22 October 2021 DOI: 10.20959/wjpr202113-22057

\*Corresponding Author Dr. Karuna S. Ratnaparkhi HOD and Professor Dept. of Kaumarbhritya, Csmss Ayurved Mahavidyalaya, Aurangabad.

## ABSTRACT

**Background:**– Graharogas are special topic which constitutes the major portion of Kaumarbhritya. According to Ayurvedic principals 'Disease can't exist without a cause', of course many times it is invisible, as invisible entities are more than visible entities. Invisible causes of disease are termed as Graharoga, Jatharini. Even diseases cannot be attributed to Bhootadi causes, when symptomatology does not match. Hence Graharogas are counted among the invisible causes of disease. **Aim:**- to study the Graharoga and its management principals mentioned in Ayuevedic classics scientifically. **Materials and Methods:**- Materials used for this literature review is obtained from original Ayurvedic classics; Brihatrai and Laghutraisamhitas

along with relevant textbooks of Ayurveda and modern science of medicine. Literature reviewed from classics is analyzed scientifically with deep understanding of the concept putted inside the topic. The analyzed data with scientific contribution of different authors of expertise along with chronological progression of topic with further need to be done inside the study. **Results:**- Balagrahas are the infectious diseases which are caused by unhygienic conditions in the children. **Conclusion:**- Heal the atmosphere and the healed atmosphere will heal you....!!!

### **INTRODUCTION**

Ayurveda amongs its eight branches, also explains a branch by name Graha Chikitsa.<sup>[1]</sup> In this branch, various Grahas have been described and its attack lead to various personality and behavioral changes in the patient and ultimately, that patient starts behaving like the actual Graha. But the symptoms are more subjective; hence, it is better to be called as GrahaBadha.

Graharogas are the special topic which constitutes major part of Kaumarbhritya. In the mean

time, it is also the most neglected portion, may be due to excess mythological descriptions, difficulties in its clinical understanding, diagnosis and treatment.<sup>[2]</sup>

This universe is combination of visible and invisible entities. Population of invisible entities is more than visible entities. So we are surrounded by invisible microorganisms, around us. Most of the organisms are nature friendly and doesn't cause disease. Fungus, Bacteria's and virus play a significant role in decaying unwanted materials to maintain homeostasis of the environment. Moving around and a continuous effort to invade the human and animal body is a basic tendency of microorganism or Grahas. But intact immune system supported by hygienic lifestyle, food, habits prevents their entry and protects humanbody.

This review study aimed to understand the Blagrahas- what exactly they are? And how the Graharogas are different from other disorders? Symptoms of Balagrahas in Kaumarbhritya are more objective and less subjective.

In Charaka Samhita there is no explanation regarding the balgraha is found. Of course the word explained in relation to Unmada and Apasmaram as Gandharv Raksha sangrah, where personality changes and behavioral changes are more marked are explained and dealt with psychological disturbances rather than physical changes.<sup>[3]</sup> The attack of the Grahas episodic and person showing deviation from the abnormal behaviour and personality changes are highlighted that it has been considered as the main cause for such a Grahavesh by Charaka. These Grahas are completely different from Balagrahs explained in Kaumarbhrirtya. Kashyapasamhita gives more importance to Graharoga.

### METHODOLOGY

Three types of infectious diseases are described in ayurveda

- 1. Janpadodwasnsarogas<sup>[4]</sup>
- 2. Sankramakarogas(Contagiousdiseases)-jwarakusthanetrabhishandya<sup>[5]</sup>
- 3. Graharogas<sup>[6]</sup>

**Etiology of balagraha**- the main reason for grahavesh is failure to follow the principles of hygiene. Unhygienic conduct of mother, frightening of the child or where benedictory rites are not performed the child is attacked by Graha.<sup>[7,8]</sup>

To understand the answers of the following questions this review study is designed

1. UnderstandingBalaGrahas: what actually Grahasare?

- 2. HowBalaGraharogas are different from otherdisorders?
- 3. Why Grahas ternspathological?
- 4. What are the treatment principals of BalaGraharoga?

### **Definition of balagraha**

# ग्रहैरपि हि जायन्ते प्रछन्नैर्व्याधय शिशो । कर्मशस्तमस्तेष्:देवयुक्ताश्रयम् सदा॥अ.स. स्२/९८

One, which captures and seizes. Indicates the hidden disease. Both psychic and medical treatment is employed.<sup>[9]</sup>

**Morphology-** Grahas are described as some invisible living organisms, seen by divine eyes only. They change their shape and size.<sup>[10]</sup>

**Habitat and properties-** reside near cowsheds, water tank, roots of trees, abandoned houses. They are said to infect milk of the mother and vitiate.<sup>[11]</sup> The word seizure (convulsion) has come up probably to indicate their nature of seize to human beings. Thus are described as some living beings with contagious property, residing in unclean places protected from sunlight and have ability to feed on blood andmeat.

### Mythological concept

# पुरा गुहस्य रक्षार्थम् निर्मिता शूलपाणिना । अस

Produced from Shiva and Parvati; Purpose is to protect their son; Grahas are produced for protective purpose.<sup>[12,13]</sup>

(Micro organism serves the function of Raksha to the body due to lifelong immunity acquired after infection).

### Causes of graha attack

## धात्री मात्रो प्राक्प्रदिष्टापचारात् शौचभ्रष्टात् मड् गलाचारहीनान् ।

# त्रस्तान् हष्टान् तर्जितान् वा पूजाहेतोर्हिन्स्युरेते कुमारान्॥

Improper and unhygienic behaviour of mother and dhatri; Not following sadavritta and swasthavritta; Fearful conditions for child; Disrespect to saints and teachers; Taking food in broken kasyapatra; Psychologically unwell child; Child carried lonely and inauspicious places.

## Nature of graha

आविशन्तश्च लक्ष्यन्ते केवलम् शास्त्रचक्षुषा A.S.

एश्वर्यस्थास्ते न शक्या विशन्तो देहम् द्रष्टुम् मानुषेर्विश्वरुपा। आप्तम् वाक्यम् तत्समीक्ष्याभिधास्ये

# लिंगानि एषाम यानि देहे भवन्ति॥

## S. U.

Suksma sharer; Microscopic in nature; Attain different shapes; Seen only by divine eyes.

## **Etio- pathology**

Agantuja in nature; No vitiation of Dosha initially; Enter the body just like Suryakirana enter in to earth. Affects the child with three aims-

- 1. Himsa
- 2. Rati
- 3. Archana<sup>[14]</sup>

## **Prodromalfeatures**

तेषां ग्रहीष्यतां रुपं प्रततम् रोदनं ज्वरः A.S.

Prodromal features of Balagrahas are- Continuous crying and fever.<sup>[15]</sup>

## **General symptoms**

सामान्यम् रुपमत्रासजृम्भाभूक्षेपदीनताः फेनस्रावोध्वं दृष्ट्योष्ठदन्तदंशप्रजागराः ॥

```
रोदनं कूजनं स्तन्यविद्वेष स्वरवेकृतम्म ॥ A.H.
```

Acute infection causes fever or some neurological symptoms ending into a seizure attack. A child attacked by balgraha exhibits a symptom complex of behavioral, neurological, and gastro intestinal disorders, sometimes eruption over the skin.<sup>[16,17]</sup>

**Classification of Grahas according to different samhitas- Susruta**– 9 graha<sup>[18]</sup> (Ma. Ni. Bha.pr. Yo.R.<sup>[19]</sup>)

## Table 1: Balagraha.

1. Skandha	2. SkandhaApasmara
3. Shakuni	4. Putana
5. Andhaputana	6. Sheetaputana
7.Mukhamandika	8. Naigamesh
9. Revati	

Vagbhata- 12 (Sha.)

Above 9+ Swagraha, Pitrugraha, Shuskarevati.

## Kashyapa

Clearlly mentions 10 in no.(Grahastudashakirtitaha)...sutrasthana.<sup>[20]</sup>

Given prime importance to Revati and has given 20 synonyms (Kalpasthana) Also explained Vmanasadhya 4 and Virechanassadhya 5 in chikitsastana. **Hareeta**-Explains only Putanagraha and its 8 types.

**Charaka**has not mentioned Balagraha but explains Graha as innumerable in number.<sup>[21]</sup> (Unmadaapsmarachikitsa)

# **Prognosis**<sup>[22]</sup>

Attacking with intention of Himsa	Asadhya
Attacking with intention of Rati	Kasthasadhya
Attacking with intention of	Sadhya
Archana	

# Treatment

- 1. Daiva Vyapasraya<sup>[23]</sup>
- > MantaPrayoga
- SwastiVachana
- > Bali
- Homa/ Havana
- 2. Yuktivyapasraya<sup>[24,25,26]</sup>

- Oushadhi dharana
- Snana
- Gritaprayoga
- > Parisheka
- ➢ Lepa

www.wjpr.net

- > Dhoopana
- Avagaha

## Skanda-Apsmara

```
संज्ञानाशो मुहू: केशल्ंचन कन्धरानति: ।
```

विनम्य जृम्भमाणस्य शकृन्मूत्रप्रवर्तनम् ॥ फेनोद्वमनमूर्ध्वक्षा हस्तपाद नर्तनम् । स्तनस्वजिहवासन्दंश संरम्भज्वरजागरः ||A. S.

निःसंज्ञो भवति पुनर्भवेत् ससंज्ञः संरब्धः करचरणेश्च नृत्यतीव। विण्मूत्रे सृजति जुम्भमाणः फेनश्च

प्रसृजतितत्सखाभिपन्नः ॥ स्.उ.२७/९

Symptoms resemble to Grandmal epilepsy-

The irregular convulsive movements of face and limbs; recurrent attacks of unconsciousness; Tonic clonic spasm of muscles; Urine and stools passes during attack; Biting of tongue ornipple.<sup>[27]</sup>

## Skandagraha

तत्रैकनयनस्रावी शिरो विक्षिपते मुहुः । हतैकपक्ष स्तब्धांग सस्वेदो नतकन्धरः ॥ दन्तखादई स्तनद्वेषी त्र्यस्यन् रोदिति विस्वरः । वक्त्रवक्त्रो वमन लालां भृशमूर्ध्व निरिक्षते ॥ वसास्रगन्धिरुद्विग्नो बद्धमुष्टिशकृत् शिशुः । चलतैलाक्षिगण्डभ्रु संरक्तोभयलोचनः ॥

# स्कन्दार्तस्तेन वैकल्यं मरणं वा भवेद् धृवम् ॥ अ.सं.उ.३/१५-१७

# Understanding of skandagraha

Skanda graga resembles infection with polio virus as- Stiffness in the muscles of the body; Paralysis of the muscles of trunk and the extremities. Involvement of cranial nerves is seen in bulbar form ofpolio.

Polio infection either kills the child or leaves with disability. Facial palsy when there is

bulbar involvement or polio encephalitis.<sup>[28]</sup>

### Clinical features of poliomyelitis abortivepolio- (No CNSinvolvement)

Fever, sore throat, nausea, vomiting, headache, un localized abdominal pain.

### Non –Paralytic poliomyelitis (CNS involvement)

The symptoms are headache, nausea, vomiting, stiffness of neck, trunk, back and legs. (Aseptic meningitis)

**Paralytic poliomyelitis**- The symptoms are muscle pain, spasm, fever, rapid onset of flaccid paralysis.<sup>[29]</sup>

Negamesh आध्मान पाणिपादस्य स्पंदनं फेनर्वमिः । तृणमुष्टिबन्धातीसारस्वरदैन्य विवर्णताः। ओष्ठदंशांससंकोच स्तम्भबस्ताभगन्धता ॥ उर्ध्व निरिक्ष्य हसनं मध्ये विनमन ज्वर । मूछेंकनेत्रशोफ च नैगमेष ग्रहाकृति । असं उ.३ १५-१७

The initial constitutional symptoms of fever, cough, recurrent vomiting, Excitability with stiffness of the body, especially of neck, some of the points designate Meshagraha as meningitis.<sup>[30]</sup>

### **Clinical features of meningitis**

**Newborn** - Refusal of feed, fever, decreased activity, shock, decreased tone, weak/absent of neonatal reflexes, stiffness of limbs, focal seizure, projectile vomiting.

Children - Fever, altered behavior, delirium, drowsiness, convulsion, neck stiffness.<sup>[31]</sup>

Shwagraha कम्पो इषितरोमत्वं स्वेदः च चक्षुर्निमीलनम्। बहिरायामनं जिहवादंशोऽन्त कण्ठकूजनम् ॥

धावनं विट्सगन्धत्वं क्रोशनं च श्वानवत् शुनि ॥

अ.सं.उ.३/१५-१७

Phariynx and larynx producing throaty cooing or sounds like a dog; Jaw muscles bites the tongue;

Spasm of different group of muscles can occur in tetanus. But the peculiar symptom that the child makes sounds like a dog, Swagraha closure to rabies.<sup>[32]</sup>

## Pitrugraha

```
रोमहर्षो मुहुत्रासः सहसा रोदनं ज्वरः ।
```

```
कासातिसार वमथ् जुम्भा तृट्शवग्निधताः ॥
```

अड् गेष्वाक्षेपशोष स्तम्भविवर्णताः।

```
मुष्टिबन्धः स्रतिश्र्वाक्ष्णोर्बालस्य स्यूः पितृग्रहे ॥ अ.सं.उ.३
```

The initial cough, fever, vomiting and loose motions, this type of infection is quite common in viral diarrhea, irritability, restlessness associated with dehydration and typical symptoms of electrolyte imbalance.<sup>[33]</sup>

## Pootana

## पुतनायां वमि: कम्पस्तन्द्रा रात्रौ प्रजाग

हिध्माध्मानं शकृद्भेद् पिपासा मूत्रनिग्रह ॥ स्रस्तहृष्टाड् गरोमत्वं काकवत् पूतिगन्धिताः ॥ अ.सं.उ.३

The symptoms are vomiting; loose motions; Irritability; restlessness. It resembles to gastroenteritis with dehydration.<sup>[34]</sup>

## Revati

रेवत्यां श्यावनीलत्वं कर्णनासाक्षिमर्दनम् ।

कासहिध्माक्षिविक्षेप वक्त्र वक्त्रत्वरक्तताः ॥

बस्तगंधो ज्वर: शोष: प्रिषं हरितं द्रवम् ॥ अ.सं.उ.३

The symptoms presented in Revati that of Diarrhea with fever and cough. Viral diarrhea.<sup>[35]</sup>

### Shakooni

स्रस्ताङ् गत्वमतीसारो जिहवातालुगले व्रणाः । स्फोटा: सदाहरुक् पाका सन्धिषु स्युः पुनः पुनः ॥ निश्यन्हि प्रविलीयन्ते पाको वक्त्रे गुदेऽपि वा।

भयं शकुनिगन्धत्वं ज्वरः च शकुनिग्रहे ॥

The symptoms are redness of muco-cutanious junctions, ulcers in throat and mouth and fever.

The painful crop develops, burning blisters mostly in joints, recurring daily.

The crops come out in the night and get melted away in the day. The common peculiar entero- virus infection is known as hand foot mouth disease having rashes over buttock, hand, foot, and inside mouth. Plague is also kind of sickness in which such skin lesions are seen. Crops of painful blisters recurring daily and leaving ulcerated areas with fever and loose motions are characteristics of pemphigus.<sup>[36]</sup>

### Different odors of graham roga

A typical smell from the body of graharogi is special finding of graharoga. Each graharoga emits different kinds of smell.

Usually bad odour from the body and urine is a common manifestation of inborn or acquired metabolic disorders. Extreme unhygienic conditions resulting a bad smell. Toxic metabolites impart different colures of the urine as evidenced in DM, Phenyl ketonuria, Maple syrupsyndrome.

### Treatment principles of graharoga

Treatment of balgraha includes both Daiva and Yuktivyapashrayachikitsa. Principle followed in graharoga is almost anti-infective treatment.

### Bath to a child

Bath is mentioned in all graharoga; Medicated lukewarm bathing water helps to remove bad smell and gives freshness to the patient. This also removes the contamination of the skin by accumulation of unhygienic substances. Bathing should be done with the drugs of kashaya rasa. Bathing with drugs produces aromatic smell. Drugs mentioned for bath areBala, Nimba, Agnimantha, Paribhadra, Jambu, Shonak, Varun, Apamarga, Patol, Shigru, Kapitha and Karanja.

### Use of grita

Pharmacologically, grita preparations help the chemical constituents to dissolve in lipid media and fascinating, its easy absorption. Grita is pitta anila hara and increase the rasa, shukra, varna, swara and oja. It is also grahadoshahara.

### Dhoopana

This is very useful and effective method for prevention of graharoga.

Present day we use fogging methods for prevention of infection is of similar kind Most of the dhoopanakalpas explained by Kashyapa are for graharoganashana. If we assume that grahas are microorganisms then its natural anti infective property together with sterilization benefits of dhoopana are justified.

Common drugs used for dhoopana-

Kushta, putikaranja, karpas, vacha, hingu, sarshapa, ajamoda, grita, guggula, bhallataka, laksha, haridra, tagara.

Benefits – living area, cloths, bed, personal belongings, cots and chairs can be fumigated to maintain aseptic measures.

### Role of mantra chikitsa

Vedic mantras are considered as best music of those days.

The mantras; when chanted in the rhythmic way creates sound waves of different wavelengths and amplitudes which are able to modulate the electromagnetic wave patterns of the brain.

Belief and faith plays a vital role in attitude. Mantra and Swasti vachana creates a positive environment upon which Yuktivyapashraya (medicine) will work.

Role of music therapy in treatment is a new topic now a days.(in stress disorders, malignancies.

- Daivavyapashrya is Adravyabhutachikitsa which helps to correct disturbedmind.
- □ Every disorder is psycho-somatic disorder, it has clearly mentioned as manasa is

L

responsible for happiness and sorrow.

Hence daivavyapasrayachikitsa should be employed by different methods to stabilize the mind.

### DISCUSSION

By considering all the above facts, BalaGrahas are living entities with microscopic nature. Graha could be invisible living entiety, which can pass through different phases in its growth and is pathological or antigenic to the body. This points towards understanding of microorganisms with respect to Graha. So, Graha can be microscopic microorganism like virus, bacteria, fungus, yeast, amoeba or larva of different worms which is invisible to necked eyes. Nature of Graha is that which can frequently change their size and shape. This is also witnessed in microorganisms like virus- bacteria's. Micro organism's causes generalized pathological changes in the body with multisystem involvement. The cause of disease according to Ayurveda is Adharma and it refers to faulty methods of living in terms of hygiene, food, regimen, lifestyle, conduct, thinking make human body more vulnerable to invasion to microorganisms. Balagraharogas are different to other disorders because of they are separate entity from other general disorders with respect to different etiological factors, symptoms and management. Certain undefined, uncommon factors are responsible for such disorders. Total manifestation of symptoms, complications, pathology is very fast and severe with difficulties in diagnosis and treatment. These all the elements are freely moving in universe and are invisible due to their microscopic nature. Grahas are produced for protective purpose; moroorganosm serve the function of Raksha in the form of developing lifelong immunity to the body acquired after infection. Grahas turns pathological due to human errors (pradnyaparadh), unhygienic lifestyle, food and regimen.<sup>[37]</sup>

### CONCLUSIONS

#### Graham rogas could be understood as

- □ Graharogas couldn't is exactly related to anydisease.
- □ Actually it's not disease, these aresyndromes.
- □ The concept of micro organism do well support to relating to all graha with viraletiology
- □ These are pediatric viruses primarily affecting children only and not toparents.
- □ Graharogas have extreme severity so they could be considered as acute viralinfections.
- Grahas were being made to safeguard the kartikeya; it could be consider as once a child had an infection with a specific entero virus, the child is typically immune to that

L

particularvirus.

### REFERENCES

- Dr. Brahmhananda Tripathi, Ashtanga Hridaya, Published by Chaukhambha Sanskrita Pratishtana Delhi Sutrasthana, 2012; 05: 1-5.
- Acharya's Text book of Kaumarbritya vol.2. Srinidhi kumar Acharya, Chaukhamba Orientalia, Varanasi, 176 - 22.
- 3. Vd. Y. G. Joshi, Editor, Charakasamhita, Vimansthana, adhyaya6, Reprint 2003Vaidyamitra publication Pune, 2003; 21: 584.
- Vd. Y. G. Joshi, Editor, Charakasamhita, Vimansthana, adhyaya 3, Reprint 2003 Vaidyamitra publication Pune, 2003; 515-530.
- 5. Vd. Y. G. Joshi, Editor, Charakasamhita, Nidansthana, adhyaya Reprint 2003 Vaidyamitra publication Pune, 2003; 1: 425.
- 6. Vd. Y. G. Joshi, Editor, Charakasamhita, Nidansthana, adhyaya, Reprint 2003Vaidyamitra publication Pune, 2003; 7: 480-487.
- Kaviraj Ambikadatta Shastri, Editor, Sushruta Smhita, Hindi commentary, Uttartantra, 6 7. Reprint 2013, Chaukhamba Sanskrita Sansthana Varanasi, 2013; 27: 66.
- 8. Dr. Shivaprasad Sharma, Ashtanga sangraha, with Shashilekha Sanskrita commentary by Indu, Published by Chaukhamba Sanskrita Sansthana Varanasi 2006, UDr. Shivaprasad
- 9. Sharma, Ashtanga sangraha, with Shashilekha Sanskrita commentary by Indu, Published by Chaukhamba Sanskrita Sansthana Varanasi, 2006; 2: 98.
- Dr. Shivaprasad Sharma, Ashtanga sangraha, with Shashilekha Sanskrita commentary by Indu, Published by Chaukhamba Sanskrita Sansthana Varanasi, 2006; 3: 35.
- KavirajAmbikadattaShastri, Editor, Sushruta Smhita, Hindicommentary, Uttartantra, 27:
  18.
- 12. Reprint 2013, Chaukhamba Sanskrita Sansthana Varanasi 2013.
- Dr. Brahmhananda Tripathi, Ashtanga Hridaya, Published by Chaukhambha Sanskrita Pratishtana Delhi, 2012; 899: 3-1.
- Kaviraj Ambikadatta Shastri, Editor, Sushruta Smhita, Hindi commentary, Uttartantra Reprint 2013, Chaukhamba Sanskrita SansthanaVaranasi, 2013; 199: 37 - 4.
- 15. Dr.Brahmhananda Tripathi, Ashtanga Hridaya, Published by Chaukhambha Sanskrita Pratishtana Delhi, 2012; 900: 3-32.
- Dr. Brahmhananda Tripathi, Ashtanga Hridaya, Published by Chaukhambha Sanskrita Pratishtana Delhi, 2012; 904: 3, 40-41.

- 17. Dr. Brahmhananda Tripathi, Ashtanga Hridaya, Published by Chaukhambha Sanskrita Pratishtana Delhi, 2012; 901: 3, 4-5.
- 18. Dr. Shivaprasad Sharma, Ashtanga sangraha, with Shashilekha Sanskrita commentary by Indu, Published by Chaukhamba Sanskrita Sansthana Varanasi, 2006; 3-19.
- Kaviraj Ambikadatta Shastri, Editor, SushrutaSmhita, Hindi commentary, Uttartantra Reprint 2013, Chaukhamba Sanskrita Sansthana, 2013; 183: 27, 4-5.
- 20. Vaidya Shri Laxmipatishasri, Yogaratnakara, Vidyonitihinditika, Published by Chaukhambapakashana, Varanasi, Balrogachikitsaadhyaya, 2017; 447.
- 21. Prof. P. V. Tewari, Kashyapa Samhita or Vriddhajivaka Tantra, Published by Chaukhambha Vishwabharati Prakashana Varanasi Sutrasthana, 2016; 46: 27-56.
- 22. Vd. Y. G. Joshi, Editor, Charaka samhita, Vimansthana, adhyaya-Reprint 2003Vaidyamitra publication Pune, 2003; 21(575): 8-21.
- 23. Dr. Brahmhananda Tripathi, Ashtanga Hridaya, Published by Chaukhambha Sanskrita Pratishtana Delhi uttartantra, 2012; 903: 3, 33-34.
- 24. Dr.Brahmhananda Tripathi, Ashtanga Hridaya, Published by Chaukhambha Sanskrita Pratishtana Delhi, 2012; 4, 15-21, 908-909.
- 25. Prof. P. V. Tewari, Kashyapa Samhita or Vriddhajivaka Tantra, Published by Chaukhambha Vishwabharati Prakashana Varanasi Chikitsasthana, 2016; 104-105.
- 26. Dr.Brahmhananda Tripathi, Ashtanga Hridaya, Published by Chaukhambha Sanskrita Pratishtana Delhi uttartantra, 2012; 906: 3, 58-60.
- 27. Kaviraj Ambikadatta Shastri, Editor, Sushruta Smhita, Hindi commentary, Uttartantra Reprint 2013, Chaukhamba Sanskrita Sansthana Varanasi, 2013; 189: 29-4.
- 28. Acharya's Text book of Kaumarbritya vol.2. Srinidhi kumar Acharya, Chaukhamba Orientalia, Varanasi, 215: 22.
- 29. Acharya's Text book of Kaumarbritya vol.2. Srinidhi kumar Acharya, Chaukhamba Orientalia, Varanasi, 211: 22.
- 30. Poliomylitis in Western Pacific, https://www.who.int/westernpacific/health-topics/poliomylitis
- 31. Acharya's Text book of Kaumarbritya vol.2. Srinidhi kumar Acharya, Chaukhamba Orientalia, Varanasi, 219-222: 22.
- 32. Meningitis Symptoms in Children, https://www.meningitis.org/meningitis/checksymptoms/toddlers
- 33. Acharya's Text book of Kaumarbritya vol.2. Srinidhi kumar Acharya, Chaukhamba Orientalia, Varanasi, 22: 251-252.

- 34. Acharya's Text book of Kaumarbritya vol.2. Srinidhi kumar Acharya, Chaukhamba Orientalia, Varanasi, 22: 252-253.
- 35. Acharya's Text book of Kaumarbritya vol.2. Srinidhi kumar Acharya, Chaukhamba Orientalia, Varanasi, 22: 224-235.
- 36. Acharya's Text book of Kaumarbritya vol.2. Srinidhi kumar Acharya, Chaukhamba Orientalia, Varanasi, 22: 238-250.
- 37. Prof. P. V. Tewari, Kashyapa Samhita or Vriddhajivaka Tantra, Published by Chaukhambha Vishwabharati Prakashana Varanasi Chikitsasthana, 2016; 104.
- 38. Rekha V. Shinde, Ranjit Ambad, Sunanda C. Patil, Parag Aradhey. A Prospective Observational Case Series of Liver Injury in Paediatric Patients Secondary to Consumption of Ayurvedic Herbomineral Formulations. Indian Journal of Forensic Medicine & Toxicology, October-December, 2020; 14(4): 7121-7125.