

THE MULTIDIMENSIONAL ACTIONS OF THE WONDER DRUG AMALAKI IN NETRA

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ABSTRACT

“*Vayasthapanam agram*”, *Acharya Charaka* has clearly pointed out the action of the wonder drug *Amalaki* as the best drug for rejuvenation. *Amalaki* is used extensively in treating many of the *netra rogas* because of its vivid action based on *rasa panchakas*. *Acharyas* have identified the *chakshushya guna* in the drug *Amalaki* which is having *tridoshahara* as *doshaghnata*. In parlance to modern science, the proven pharmaceutical actions with regards to the *Emblia officinalis* includes anti-diabetic, anti-atherosclerotic, hypolipidemic, anti-microbial, anti-inflammatory, anti-oxidant, immunomodulator, which are equally helpful in treating ample of eye diseases and even in combating complications arising out of it. The fundamentals of treating *netra rogas* include *kriyakalpas* which have shown boundless use of *Amalaki* with vast references since *vedic* period. This study shows that *Amalaki* is one of the most commonly used and important drug in treating substantial diseases of *Shalaky tantra*, ophthalmology.

KEYWORDS: *Amalaki, Netra rogas, Kriyakalpas, Chakshushya.*

INTRODUCTION

Various references in the Ayurvedic literature show that great stress has been laid down to protect eye sight, *Netra* being *pradhanatama* among all the *indriyas* *Ayurveda*, the immortal life science which is practiced since a long time has a different approach in treating each and every disease. *Ekamulika prayogas* have been used by later on *Nighantukaras* which has shown the most appropriate analysis of our *Acharyas* in selecting each drug in different disease.

Amalaki, is one of the herb mentioned in all the ancient scriptures of *Ayurveda*. It is cited in *Rigveda*, *Skanda purana*, *Ramayana*, *Garuda purana*. In the Vedic literature *Amalaki phala* is considered as the best among the fruits.^[1]

Amalaki**Botanical name:** *Emblia officinalis*.**Family:** Euphorbiaceae.**Vernacular names:** Kannada – Nelli.

Hindi – Amla.

English – Indian gooseberry.

Nepali – Amba.

Marathi – awla.

Gujurathi – Ambla.

Telugu – Usira kaya.

Tamil – Nellikkai.

Malayalam – Nelli.

Synonyms^[2] *Abhaya, Amrta, Dhatri, Vayastha, Vayasya, Vrsya, Tisyaphala, Sitaphala, Sriphala.***Morphology**^[3]

- ❖ A deciduous small or middle sized tree with crooked trunk and spreading branches;
- ❖ Bark greenish grey, peeling off in conchoidal flakes; branchlets glabrous or finely pubescent, 10-20 cm long, often deciduous.
- ❖ Leaves are subsessile, 10-13 by 2.5-3mm, closely set along the branchlets, distichous, light green, glabrous, narrowly linear, obtuse, imbricate when young, having the appearance of pinnate leaves; stipules ovate, finely acute.
- ❖ Flowers greenish yellow, in axillary fascicles on the leaf-bearing branchlets, often on the naked portion below the leaves, with fimbriate bracts at the base. Male flowers numerous, on short slender pedicels. Sepals 6, oblong, obtuse, 1.2mm disk, Anthers 3 on a short central column. Female flowers few, subsessile. Sepals as in the males. Disk a lacerate cup. Ovary 3-celled; styles connate at the base, irregularly twice 2-fid with acute lobes.
- ❖ Fruit 1.3-1.6 cm. diam., fleshy, globose, with 6 obscure vertical furrows, pale yellow, of three 2-seeded crustaceous cocci. Seeds 6, 3-gonous.

Distribution: Throughout tropical and subtropical India, wild or planted, Ceylon –China, Malay Islands.

Different varieties:^[4] There are different cultivated varieties of *Embllica officinalis* available. Four varieties according to our *acharyas* are *Krishna*, *Amrita*, *Neelam*, *Kanchan*.

Rasa panchaka^[5]

- **Rasa:** *Lavana varjita pancharasa, amla pradhana.*
- **Guna:** *Laghu, ruksha, sara.*

- **Veerya:** *Sheeta.*
- **Vipaka:** *Madhura.*
- **Doshagnata:** *Tridoshahara.*
- **Rogagnata:** *Netra roga, Raktapitta, Prameha, Kushta, Arshas, Shoola, Mutrakrichra, Pradara, Somaroga.*
- **Upayojya anga:** *Patra and Phala.*

Ganas

| References. | Ganas/vargas. |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| <i>Charaka samhita.</i> | <i>Jwaraghna, Kasaghna, Virechanopaga, Kushtaghna, Vayasthapana.</i> |
| <i>Sushruta samhita.</i> | <i>Amalakyadi, Parushakadi, Triphala, Mustadi.</i> |
| <i>Ashtanga sangraha.</i> | <i>Virechanopaga, Kushtaghna, Kasahara, Jwarahara, Sanjyasthapana, Vayasthapana, Mushakadi, Mustadi, Parushakadi.</i> |
| <i>Ashtanga hridaya.</i> | <i>Virechanopaga, Mushakadi, Mustadi, Parushakadi.</i> |
| <i>Ashtanga Nighantu.</i> | <i>Parushakadi.</i> |
| <i>Dhanwantari Nighantu.</i> | <i>Guduchyadi.</i> |
| <i>Dravya guna sangraha.</i> | <i>Phala varga.</i> |
| <i>Shodala Nighantu.</i> | <i>Guduchyadi.</i> |
| <i>Shadrassa Nighantu.</i> | <i>Kashaya dravya skanda.</i> |
| <i>Madhava dravya guna.</i> | <i>Vividoushadi.</i> |
| <i>Hridayadeepika Nighantu.</i> | <i>Dwipada.</i> |
| <i>Madanapala Nighantu.</i> | <i>Haritakyadi.</i> |
| <i>Kaiyadeva Nighantu.</i> | <i>Aushadi.</i> |
| <i>Sarasvati Nighantu.</i> | <i>Mahavruksha.</i> |
| <i>Bhavaprakasha Nighantu.</i> | <i>Haritakyadi.</i> |
| <i>Raja Nighantu.</i> | <i>Amradi.</i> |
| <i>Shaligrama Nighantu.</i> | <i>Haritakyadi.</i> |
| <i>Nighantu darsha.</i> | <i>Amalakyadi.</i> |
| <i>Priya Nighantu.</i> | <i>Haritakyadi.</i> |

Chemical constituents^[6]

The fruits

| SL. NO. | Type | Chemical constituents |
|---------|-----------------------|--------------------------------------------------------------------------------------------------------------------|
| 1. | Hydrolysable tannins. | Emblcanin A and B, Punigluconin, Pedunculagin, Chebulinic acid, Chebulagic acid, Corilagin, Geraniin, Ellagotanin. |
| 2. | Alkaloids | Phyllantine, Phyllembin, Phyllantidine. |
| 3. | Phenolic | Gallic acid, Methyl gallate, Ellagic acid, Trigallayl glucose. |
| 4. | Aminoacids | Glutamic acid, Proline, Aspartic acid, Alanine, Cystine, Lysine. |
| 5. | Carbohydrates | Pectin. |
| 6. | Vitamins | Ascorbic acid. |
| 7. | Flavanoids | Queroetin, kaempferol |
| 8. | Organic acids | Citric acid. |

- ❖ Of emblica are rich in tannins, reputed to contain high amounts of ascorbic acid (vitamin C).
- ❖ Have 28% of the total tannins distributed in the whole plant.
- ❖ The fruit contains two hydrolysable tannins Emblcanin A and B, which have antioxidant properties; one hydrolysis gives gallic acid, ellagic acid and glucose wherein the other gives ellagic acid and glucose.
- ❖ The fruit also contains Phyllembin, punigluconin, pedunculagin, corilagin.
- The leaves are rich in tannins.
- Bark contains tannins, leucodelphinidin, procyanidine.
- The root contains ellagic acid, oleanolic aldehyde and lupeol.
- The seeds yield a fixed oil which is brownish yellow in colour. It has the following fatty acids: linolenic acid, linoleic, oleic acid, stearic, palmitic, myristic acid.

Active constituents: Tannins and Gallic acid.

Nutrients in Amalaki:⁷

The nutrient source of Amalaki (mature, fresh) per 100 grams is as follows

| Nutrients | Percentage or per 100 gram |
|------------------------|----------------------------|
| Calories | 60 |
| Moisture | 81.2 |
| Fibre | 3.4 |
| Macro nutrients | |
| Protein | 0.4 |
| Fat | 0.5 |
| Carbohydrates | 14 |
| Micro nutrients | |
| Vitamin B1 | 28 |
| Vitamin B3 | 0.4 |
| Nicotinic acid | 0.2 |
| Vitamin C | 720 |
| Calcium | 15 |
| Iron | 1 |
| Phosphorous | 21 |

Pharmacological actions:^[8] Anti-diabetic, Hypoglycaemic, Anti-peptic ulcer activity, Hypolipidemic and Anti-atherosclerotic, Anti-inflammatory, Antimicrobial, Anti-emetic, Anti-oxidant, Analgesic, Antipyretic, Adaptogenic, Antitumor, Anti-tussive, Chemo-preventive, Radio, Chemo, and Immunomodulatory, Free radical scavenging, Anti-mutagenic, Hepatoprotective, CNS activity.

Amalaki in Netra rogas

| Aschyotana yogas | | |
|-----------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------------------|
| <i>Yashirodhradhi yoga.</i> | <i>Pittabhishyanda.</i> | Su.Ut.10/12. |
| <i>karanjabheeja yoga.</i> | <i>Paschat karma in Arma as a shulahara, used twice daily.</i> | Su.Ut.15/14. |
| <i>Patola patra and Amalaki kwatha.</i> | <i>Upanaha.</i> | A.S.UT.14/2. A.H.UT.11/2. |
| <i>Prapoundarikadi yoga.</i> | <i>Pittabhishyanda and Pittaja adhimantha.</i> | A.S.UT.19/19. |
| <i>Abhayamalaki yoga.</i> | <i>Shophaghna.</i> | A.S.UT.19/29. |
| <i>Nagaradi yoga.</i> | <i>Kaphaja abhishyanda.</i> | A.H.UT .16/8. |
| <i>Triphala aschyotana.</i> | <i>Sarva abhishyanda.</i> | B.P.63/152. Sha.Sam.Ut.13/ 20. |
| <i>Sharkara triphaladi yoga.</i> | <i>Raktabhishyanda.</i> | Y.R.Netra. V.S-36/96. |
| <i>Yashtyadi Kwatha.</i> | <i>Sarva netra roga.</i> | Y.R.Netra. |
| <i>Nishadi yoga.</i> | <i>Nayanabhighata.</i> | Y. R. Netra. B.R.64/56. C.D.59/57. G. N. Netra. 3/170. V.S.36/469. |
| <i>Taruna amalaki swarasa. (Nakha).</i> | <i>Netra peeda.</i> | B.R.64/42. C.D.59/42. G.N.Netra.3/462. |
| <i>Amalaki swarasa.</i> | <i>Nava druk kopam.</i> | B.R.64/6. C.D.59/16. |
| <i>Tiritadi kalka aschyotana.</i> | <i>Raktabhishyanda.</i> | B.R.64/31. |
| <i>Triphala majjadi purana.</i> | <i>Kshataja shukra, Ajakajata, Srava.</i> | C.D.59/86. |
| <i>Darvyadi aschyotana.</i> | <i>Pitta, Rakta, Vataja netra roga.</i> | G.N.Netra.3/129. |
| <i>Nagaradi yoga.</i> | <i>Shotha, Shula, Abhishyanda, Adhimantha, Raktasrava.</i> | V.S-36/128-130. |

| Seka yogas | | |
|--------------------------------|------------------------------------|---------------|
| <i>Jambvadi yoga.</i> | <i>Kukunaka.</i> | Su.Ut.19/13. |
| <i>Patolamalakadi yoga.</i> | <i>Kumbhipidaka.</i> | A.S.UT.12/4. |
| <i>Triphalamadhukadi yoga.</i> | <i>Pothaki.</i> | A.S.UT.12/8. |
| <i>Triphaladi yoga.</i> | <i>Kaphaja abhishyanda.</i> | A.S.UT.19/41. |
| <i>Dwinishadi yoga.</i> | <i>Ruja due to nayanabhighata.</i> | A.S.UT.19/41. |
| <i>Dhatrayadi kashaya.</i> | <i>Kukunaka.</i> | A.H.UT.9/26. |

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| <i>Triphaladi yoga.</i> | <i>Raktabhishyanda.</i> | Sha.Sam.Ut.13/9. Y. R.Netra. |
| <i>Dhatriphaladi sechana.</i> | <i>Sarva Shukra.</i> | Y.R.Netra. G.N.Netra.3/201. |
| <i>Prapoundarikadi seka.</i> | <i>Pittaja abhishyanda.</i> | B.R.64/22. |
| <i>Dhatriphaladi kwatha.</i> | <i>Sarva netra roga.</i> | B.R.64/71. |
| <i>Dhatryadhi seka.</i> | <i>Sarva shukra.</i> | C.D.59/74. |
| <i>Patolamalaki kashaya.</i> | <i>Pothaki.</i> | C.D.59/238. |
| <i>Lodhradi seka.</i> | <i>Raktabhishyanda.</i> | G.N.Netra 3/138. |
| <i>Triphala sechana.</i> | <i>Abhishyanda, Srava, Raga, Timira, Samrambha, Shula, Raga, Ashru, Drukprasadana.</i> | G.N.Netra 3/162-163. |

Putapaka yogas

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| <i>Triphaladi yoga.</i> | <i>Shukra.</i> | V.S-36/183-184. |
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Anjana yogas

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| <i>Sumanakoraka yoga.</i> | <i>Pitta-Raktapaha.</i> | Cha.Chi.26/241. |
| <i>Saindhavadi yoga.</i> | <i>Shleshma akshiroganut.</i> | Cha.Chi.26/242. |
| <i>Krishna sarpa vasadi yoga.</i> | <i>Sarva akshi roga, Kacha, Arbuda, Mala.</i> | Cha.Chi.26/259. |
| <i>Dhatri rasanajana.</i> | <i>Pitta rakta akshi roga, Timira, Patala.</i> | Cha.Chi.26/260. |
| <i>Trisaindhavadi yoga.</i> | <i>Andhya, Patala.</i> | Cha.Chi.26/261. |
| <i>Mustadi rasanajana.</i> | <i>Pittabhishyanda.</i> | Su.Ut.10/8. |
| <i>Saindhavanjana.</i> | <i>Shleshmabhishyanda.</i> | Su.Ut.11/6. |
| <i>Trikatvadi anjana.</i> | <i>Shleshmabhishyanda.</i> | Su.Ut.11/7. |
| <i>Amalakyadi anjana.</i> | <i>Pishtaka.</i> | Su.Ut.11/14. |
| <i>Patoladhyanjana.</i> | <i>Raktabhishyanda.</i> | Su.Ut.12/11-12. |
| <i>Amalakyadi rasanajana.</i> | <i>Raktabhishyanda.</i> | Su.Ut.12/49. |
| <i>Triphala rasa kriya.</i> | <i>Raktabhishyanda.</i> | Su.Ut.12/49. |
| <i>Gomutradi anjana.</i> | <i>Ratrandhya.</i> | Su.Ut.17/19. |
| <i>Kshudranjana.</i> | <i>Shleshma vidagdha drushti.</i> | Su.Ut.17/22. |
| <i>Srotoanjana.</i> | <i>Sarva kacha chikitsa.</i> | Su.Ut.17/44-45. |
| <i>Srotoanjana.</i> | <i>Drushtigata roga.</i> | Su.Ut.18/85. |
| <i>Manashiladhyanjana.</i> | <i>Kandu, Timira, Shuklarma, Raktaraji.</i> | Su.Ut.18/100. |
| <i>Guduchyadhyanjana.</i> | <i>Kukunaka.</i> | Su.Ut.19/13.(Dal). |
| <i>Triphaladhya anjana.</i> | <i>Kukunaka.</i> | Su.Ut.19/13.(Dal). |
| <i>Utsadananjana.</i> | <i>Shuddha shukla.</i> | A.S.Ut.14/25. |
| <i>Churnanjana.</i> | <i>Shleshma abhishyanda, Shleshma adhimantha.</i> | A.S.Ut.19/33. |
| <i>Bhruhatyadyanjana.</i> | <i>Shleshma abhishyanda, Shleshma adhimantha.</i> | A.S.Ut.19/33. |
| <i>Pratyanjana.</i> | <i>Rakta abhishyanda, Rakta adhimantha.</i> | A.S.Ut.19/37. |
| <i>Badari daladi yoga.</i> | <i>Abhishyanda.</i> | A.S.Ut.19/41. |
| <i>Shanmakshika yoga.</i> | <i>Timira, Arma, Kleda, Kacha, Kandu.</i> | A.S.Ut.19/41. |
| <i>Krishnasarpadi rasakriya.</i> | <i>Sarvaaksh roga, Kacha, Patala.</i> | A.S.Ut.19/41. |
| <i>Manjishtheadhyanjana.</i> | <i>Shuskakshipaka.</i> | A.S.Ut.20/2. |
| <i>Triphaladhyanjana.</i> | <i>Timira.</i> | A.H.Ut.11/25-27. |
| <i>Ksharanjana.</i> | <i>Shukra.</i> | A.H.Ut.11/45. |
| <i>Pundarahyadhyanjana.</i> | <i>Shukra.</i> | A.H.Ut.11/49-50. |
| <i>Marichadhyanjana.</i> | <i>Timira.</i> | A.H.Ut.13/25. |
| <i>Akshabeejadi gutikanjana.</i> | <i>Timira.</i> | A.H.Ut.13/43. |
| <i>Marichadhyanjana.</i> | <i>Timira.</i> | A.H.Ut.13/44. |
| <i>Souviranjana.</i> | <i>Timira.</i> | A.H.Ut.13/66. |
| <i>Vyagradi anjana.</i> | <i>Shopha and Ruk.</i> | A.H.Ut.16/43. |
| <i>Pathyaksha dhatryadyanjana.</i> | <i>Netra srava, Vata and Pittaja ruja.</i> | B.P.63/200. |
| <i>Churnanjana.</i> | <i>Sarva netra roga.</i> | B.P.63/214. |
| <i>Souviranjana.</i> | <i>Sarva netra roga.</i> | B.P.63/218. |
| <i>Mrudu churnanjana.</i> | <i>Sarva doshahara.</i> | Sha.Sam.Ut.13/111-112. |
| <i>Souviranjana.</i> | <i>Sarvakshi roga.</i> | Sha.Sam.Ut.13/124. |
| <i>Amalakyadi rasakriyanjana.</i> | <i>Sannipataja and Sasmsargaja timira.</i> | Y.R.Netra. |
| <i>Darvyadi anjana.</i> | <i>Pittaja timira, Shula.</i> | Y.R.Netra. |
| <i>Pippalyadhyanjana.</i> | <i>Timira, Kacha, Kandu, Shukra, Arjuna.</i> | Y.R.Netra. |

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| <i>Pippalyadi gutikanjana.</i> | <i>Timira, Kacha, Kandru, Shukra, Arjuna, Ajaka.</i> | Y.R.Netra. |
| <i>Shriparnyadhyanjana.</i> | <i>Raktabhishyanda.</i> | Y.R.Netra. |
| <i>Seesadi shalakanjana.</i> | <i>Timira, Patala, Kandru, Srava, Rakta prakopa, Sandhi, Vartma roga.</i> | Y.R.Netra. Sha.Sam.Ut.13/117. V.S-36/352-353. |
| <i>Tuttadi churnanjanana.</i> | <i>Akshikopa.</i> | G.N.Netra.3/152. |
| <i>Triphaladhyanjana.</i> | <i>Kshata shukra, Ajaka, Ashru.</i> | B.R.64/82. |
| <i>Seesa shalakanjana 1 and 2.</i> | <i>Garudopama chakshu.</i> | B.R.64/104. V.S.36/352-353. Sha.Sam.Ut.13/117. C.D.59/143-145. |
| <i>Pippalyadi gutikanjana.</i> | <i>Arma, Kacha, Kandru, Shukra, Arjuna, Ajaka.</i> | B.R.64/134-135. C.D.59/201-202. |
| <i>Dhatraydyanjana.</i> | <i>Pitta and Anila akshiroga, Timira, Patala.</i> | B.R.64/110. |
| <i>Gutikanjana.</i> | <i>Arma, Timira, Kacha, Kandru, Shukra.</i> | G.N.Netra.3/304. |
| <i>Dhatrayadi rasakriyanjana.</i> | <i>Pittanila netra roga, Timira, Patala.</i> | G.N.Netra.3/309. V.S-36/286. |
| <i>Souviranjanana churna.</i> | <i>Timira.</i> | G.N.Netra.3/312. |
| <i>Churnanjanana.</i> | <i>Jathyandha.</i> | G.N.Netra.3/334. |
| <i>Haritakyanjanana.</i> | <i>Sarva timira.</i> | G.N.Netra.3/338. |
| <i>Sriparnadi yoga.</i> | <i>Raktabhishyanda.</i> | V.S.36/104. |
| <i>Sumanaksharaka yoga.</i> | <i>Pitta raktapaha.</i> | V.S.36/106. |
| <i>Dhatriphaladi yoga.</i> | <i>Shukra hara.</i> | V.S.36/166. |
| <i>Souviradhyanaja.</i> | <i>Shukra.</i> | V.S.36/201. |
| <i>Dhatryadi rasakriya.</i> | <i>Patala.</i> | V.S.36/294. |
| <i>Krishnasarpadi rasakriya.</i> | <i>Sarva akshi roga, Vedana.</i> | V.S.36/319. |
| <i>Nagarjunanjanana.</i> | <i>Timira, Patala, Netra peeda.</i> | V.S.36/337-349. |

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| Pindi yogas | | |
| <i>Triphala.</i> | <i>Vata Pittaja netra roga.</i> | B.P.63/157. |
| <i>Pathya, Aksha, Amalaka, Khas khas valkala.</i> | <i>Sakala abhishyanda.</i> | B.P.63/159. |
| <i>Dhatri</i> | <i>Pittabhishyanda.</i> | Sha.Sam.Ut.13/26. Y.R.Netra. |
| <i>Triphala.</i> | <i>Shlesma Pittaja netra roga.</i> | Sha.Sam.Ut.13/26. |
| <i>Haridradi pindika.</i> | <i>Netrobhava vyatha.</i> | G.N.netra 3/ 456. |

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| Ghrita | | |
| <i>Mayura ghrita.</i> | <i>Akshi roga.</i> | Cha.Chi.26/258-265 |
| <i>Maha mayura ghrita.</i> | <i>Urdhwa jatru gata roga.</i> | Cha.Chi.26/266-274. |
| <i>Triphala ghrita.</i> | <i>Shonita pitta roga, sarva timira – shodhananga.</i> | Su.Ut.17/29. |
| <i>Triphala ghrita.</i> | <i>Sarva timira.</i> | Su.Ut.17/31. |
| <i>Patoladi ghrita.</i> | <i>Shukla, Timira, Nakthandhya, Ushna amla dahahrut.</i> | A.S.Ut.16/5. Y.R.Netra. |
| <i>Triphala ghrita.</i> | <i>Timira.</i> | A.S.Ut.16/6. A.H.Ut.13/10-11. |
| <i>Mahatriphala ghrita.</i> | <i>Param drushtiviakarajit.</i> | A.S.Ut.16/7. A.H.Ut.13/12-13. |
| <i>Jeevantiyadi ghrita.</i> | <i>Timira.</i> | A.H.Ut.13/2-3. |
| <i>Drakshadi ghrita.</i> | <i>Kacha, Timira, Raktaraji, Shiroruja.</i> | A.H.Ut.13/ 4-5. |
| <i>Patoladi ghrita.</i> | <i>Ghrana, Karna, Asya, Vidradhi, Jwara, Dushtaru, Visarpa, Apachi, Kushta, Shukra, Timira, Nakthandhya, Ushna vidagdha drushti, Amla Vidagdha drushti, Daha.</i> | A.H.Ut.13/6-9. B.R.64/233-236. C.D.59/90-93. |
| <i>Mahatriphala grhita.</i> | <i>Rakta, Raktasrava, Nakthandhya, Timira, Kacha, Neelika, Patala, Arbuda, Abhishyanda, Adhimantha, Pakshma kopa, Sarva tridoshaja netra roga.</i> | B.P.63/232-238. Y.R.Netra. |
| | <i>Added adrushti, Manda drushti, Vata pitta pradoshaja vikara, Vatapittaja srava, Kandru, Asana duradruk,</i> | B.R.64/249-256. C.D.59/174-181. |

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| | <i>Ghridra drushtikaram, Sadhyo bala varna agni vardhana.</i> | V.S.36/394-401. |
| <i>Mahatriphala ghritha.</i> | <i>Timira, Kacha, Nakthandhya, Shukla, Srava, Kandu, Shwayathu, Patala, Sarvanetramaya.</i> | B.P.63/232-238. V.S.36/402-409. |
| <i>Dasha mula ghritha.</i> | <i>Vataja timira.</i> | Y.R.Netra. |
| <i>Rasnadi ghritha.</i> | <i>Vataja timira.</i> | Y.R.Netra. V.S.36/423. V.S.36/274. |
| <i>Vibhitakyadi ghritha.</i> | <i>Shotha, Akshipaka roga, Pilla, Savrana shukra, Raga.</i> | Y.R.Netra. V.S.36/144-145. |
| <i>Baladi ghritha.</i> | <i>Pittaja timira.</i> | Y.R.Netra. |
| <i>Triphala ghritha.</i> | <i>Sarva netra ruja, Timira, Kamala, Kacha, Arbuda, Visarpa, Pradara, Kandu, Shwayathu, Khalitya, Palitya, Keshha patana, Vishama Jwara, Arma, Shukra, Vartma roga.</i> | Y.R.Netra. B.R.64/257-262. C.D.59/182-187. |
| <i>Shadanga kwatha guggulu ghritha.</i> | <i>Shotha, Shula, Paka, Pilla, Savrana shukra.</i> | B.R.64/46. G.N.Netra.3/259-260. |
| <i>Triphaladi ghritha.</i> | <i>Timira.</i> | B.R.64/240. |
| <i>Triphaladi ghritha.</i> | <i>Tridoshaja timira.</i> | B.R.64/249. |
| <i>Triphala ghritha pana.</i> | <i>Pittabhishyanda.</i> | V.S.36/90. |
| <i>Triphala siddha ghritha.</i> | <i>Chakshushya, Bhedana, Hridhya, Deepana, kapha nashana.</i> | V.S.36/386. |
| <i>Phalatrikadhya ghritha.</i> | <i>Daruna timira.</i> | V.S.36/387. |
| <i>Mahatriphala ghritha.</i> | <i>Khalitya, Kamala, Kacha, Arbuda.</i> | V.S.36/388-393. |
| <i>Mahapatoladi ghritha.</i> | <i>Sarva murdha aamaya, Kacha, Arma, Nakthandhya, Kandu, Pilla, Vartma sopha, Asanna timira, Adrushti, Manda drushti, Sarva netramaya, Bala varna karam.</i> | V.S-36/415-422. |
| <i>Patoladi ghritha.</i> | <i>Chakshushya, Shukrahara, Ghrana, Karna, Akshi, Vartma, Twak, Mukharoga, Vranapaham, Kamala, Jwara, Visarpa, Gandamala.</i> | V.S.36/210-213. |

Vividha upayogas

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| <i>Triphala ghritha</i> , as a post pandrial drink, after having food. | <i>Timira.</i> | Su.Ut.9/ 9. |
| <i>Triphala ghritha pana.</i> | <i>Amladyushita.</i> | Su.Ut.10/14. B.R.64/62. C.D.59/64. G.N.Netra.3/174. |
| <i>Sada avalihyate triphala churna .</i> | With <i>ghrita</i> in <i>pittaja timira</i> . With <i>taila</i> in <i>vataja timira</i> . With <i>madhu</i> in <i>kaphaja timira</i> . | Su.Ut.17/31. C.D.59/101. G.N.3/228. V.S.36/295. |
| <i>Triphala – Pathya.</i> | Will not get <i>ghora timira</i> . | Su.Ut.17/48. G.N.netra.3/ 235. |
| <i>Amalaki payasa.</i> | <i>Timira Pathya.</i> | Su.Ut.17/49. G.N.Netra.3/233. V.S.36/297. |
| <i>Amalaki yavagu.</i> | <i>Timira Pathya.</i> | Su.Ut.17/49(Dal). |
| <i>Triphala kalka or kwatha – Virechana yoga.</i> | <i>Pittarakthothklishhta.</i> | A.S.Ut.12/5. |
| <i>Pippalyadi Nasya yoga.</i> | <i>Lagana.</i> | A.S.Ut.12/10. |
| <i>Nimba patradi yoga.</i> | <i>Gritapana in Kukunaka.</i> | A.S.Ut.12/13. |
| <i>Patoladi yoga.</i> | <i>Kashaya pana in Kukunaka.</i> | A.S.Ut.12/13. |
| <i>Amalakyadi yoga.</i> | <i>Prakshalana in Kukunaka.</i> | A.S.Ut.12/13. |
| <i>Kasisadi pratisarana yoga.</i> | <i>Krimigranthi.</i> | Su.Ut.14/8. A.S.Ut.14/5. A.H.Ut.11/6. Y.R.Netra. B.R.64/144. |

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| | | C.D.59/212. G.N.Netra.3/353. |
| <i>Triphala ghrita pana.</i> | <i>Shukla.</i> | A. S.Ut.14/17. |
| <i>Triphala churna with ghrita at night.</i> | <i>Timira.</i> | A.S.Ut.16/8. A.S.UT.16/26. A.S.UT.20/12. A.H.Ut.13.14/15. |
| <i>Lohadi yoga – Internally.</i> | <i>Timira.</i> | A.S.Ut.16/9. |
| <i>Hemadi yoga – Internally.</i> | <i>Timira.</i> | A.S.Ut.16/9. |
| <i>Tapyadi yoga – Internally.</i> | <i>Timira.</i> | A.S.Ut.16/9. |
| <i>Triphaladi virechana yoga.</i> | <i>Timira.</i> | A.S.Ut.16/17. |
| <i>Triphala ghrita pana.</i> | <i>Pittaja timira.</i> | A.S.Ut.16/18. |
| <i>Triphala Prayoga.</i> | <i>Chaksu raksha vidhi.</i> | A.S.Ut.16/30. A.H.Ut.13/99. |
| <i>Vyoshamalaka yoga.</i> | <i>As a bhojana after shashtra karma chikitsa.</i> | A.S.UT.17/9. |
| <i>Dashamuladi yoga.</i> | <i>As a bhojana in Vataja abhishyanda.</i> | A.S.Ut.19/6. |
| <i>Triphaladi virechana yoga.</i> | <i>Pittaja abhishyanda, Pittaja adhimantha.</i> | A.S.Ut.19/22. |
| <i>Tuvarakadai netra prakshalana yoga.</i> | <i>Pilla roga.</i> | A.S.Ut.20/9. |
| <i>Patoladi kashaya pana.</i> | <i>Shuddha shukra.</i> | A.H.Ut.9/26. |
| <i>Triphala kwatha pana.</i> | <i>Preoperatively before harshana of shukra.</i> | A.H.UT.11/ 43. |
| <i>Triphala kashaya with ghrita.</i> | <i>Timira.</i> | A.H.Ut.13/17. |
| <i>Vara payasa.</i> | <i>Timira.</i> | A.H.Ut.13/18. |
| <i>Virechana yoga.</i> | <i>Vataja timira.</i> | A.H.Ut.13 /50. Y.R.Netra. V.S.36/276. |
| <i>Snehapana with jeevaniya phalatrikadi ghrita.</i> | <i>Pittaja timira.</i> | A.H.Ut.13/63. |
| <i>Vatyadi yoga – Vilepi.</i> | <i>Paschat karma of linghanasha.</i> | A.H.Ut.14 /20. |
| <i>Triphala.</i> | <i>Pathya.</i> | A.H.Ut.16/63. B.R.64/280. Y.R.Netra. V.S.36/296. |
| <i>Chitrakadi kwatha.</i> | <i>Chakshushya, Timira.</i> | Y.R.Netra. G.N.Netra.3/166 |
| <i>Triphala ghrita pana.</i> | <i>Kaphaja timira.</i> | Y.R.Netra. |
| <i>Triphala.</i> | <i>Chakshushya varga.</i> | Y.R.Netra. B.R.64/88. C.D.59/100. V.S/36/269. |
| <i>Yatha dosha triphala paryoga.</i> | <i>Srava.</i> | Y.R.Netra. G.N.Netra.3/352. C.D.59/211. V.S.36/499. |
| <i>Lehya with ghrita and triphala churna.</i> | <i>Timira.</i> | B.R.64/89. |
| <i>Triphala kwatha with ghrita.</i> | <i>Timira.</i> | B.R.64/92. |
| <i>Phala trikadi ghrita.</i> | <i>Tridoshaja timira.</i> | B.R.64/263. C.D.59/188. |
| <i>Netra dhavana.</i> | <i>Sarva netra roga.</i> | B.P. 63/146. Y.R.Netra. B.R.64/93. C.D.59/105. G.N.Netra.3/237. V.S.36/298. |
| <i>Drushti prasadani Shalaka.</i> | <i>Sakala netramaya.</i> | B.P. 63/194. |
| <i>Triphala yoga –Pana.</i> | <i>Amladhyushita.</i> | Y.R.Netra. |
| <i>Triphala yoga dhavana.</i> | <i>kaphaja netra roga.</i> | H.S.45/6. |
| <i>Shuntyadi yoga.</i> | <i>Sannipataja and Raktaja netra roga.</i> | H.S.45/7. |
| <i>Triphaladi lepa.</i> | <i>Vataja netra roga.</i> | H.S.45/8. |
| <i>Navaneetadi lepa.</i> | <i>Kaphaja netra roga.</i> | H.S.45/11. |
| <i>Triphala Prayoga.</i> | <i>Nayanabhighata.</i> | B.R.64/55. |

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| | | C.D.59/56. G.N.netra.3/171. V.S.36/468. |
| <i>Triphala</i> in the form of <i>kwatha</i> , <i>kalka</i> or <i>churna</i> with <i>ghrita</i> or <i>madhu</i> . | <i>Sarva timira</i> . | B.R.64/90. C.D.59/102. G.N.Netra.3/229. V.S.36/291. |
| <i>Triphaladi yoga</i> . | <i>kamala roga</i> . | G.N.Netra.3/129. |
| <i>Triphala churna</i> with <i>yashti</i> or <i>madhu</i> and consumed along with <i>triphala ghrita</i> . | <i>Garuda drushti</i> . | G.N.Netra.3/232. |
| <i>Yaoudana</i> with <i>triphala kwatha</i> . | <i>Timira</i> . | G.N.Netra.3/233. |
| <i>Triphaladi yoga</i> taken in <i>dinanta</i> . | <i>Sarva gada</i> . | G.N.Netra.3/234. |
| <i>Vishama matra ghrita</i> and <i>madhu</i> with <i>triphala-bhakshana</i> . | <i>Timira</i> . | G.N.Netra.3/234. |
| <i>Dhatri yoga</i> . | <i>Tridosha netra roga</i> . | G.N.Netra.3/370. |
| <i>Triphala kwatha</i> . | <i>Timira, Patala, Kandu, Srava, Rakta prakopa, Vartma roga, Pilla of tridoshas, Sita, Asita, Sandhi, Vartma roga</i> . | G.N.Netra.3/413-414. |
| <i>Triphala ghrita pana</i> . | Before <i>shastra karma</i> of <i>linganasha</i> . | G.N.Netra.3/ 420. V.S.36/367. |
| <i>Triphala yoga</i> . | <i>Sarva netra roga</i> . | G.N.Netra.3/ 470-471. |
| <i>Triphala kashaya pana</i> . | <i>Sarva netra roga</i> . | G.N.Netra.3/ 481-482. |
| <i>Sayamkala triphala</i> with <i>madhu</i> and <i>ghrita</i> in evening. | <i>Netra roga</i> . | C.D.59/103. Y.R.Netra. |
| <i>Triphala ghrita</i> . | <i>Timira</i> . | C.D.59/173. |
| <i>Prapoundarikadi yoga</i> - Internally. | <i>Netra roga</i> . | V.S.36/77. |
| <i>Yashtyadi yoga</i> – Internally. | <i>Sarvagata roga</i> . | V.S.36/132. |
| <i>Guduchyadi yoga pana</i> . | <i>Sarva abhishyanda</i> . | V.S.36/133. |
| <i>Vibhitakyadi yoga pana</i> . | <i>Shohta, Akshipaka roga, Pilla, Savrana shukra, Raga</i> . | V.S.36/144-145. |
| <i>Triphala</i> . | <i>Vranaghi</i> . | V.S.36/191. |
| <i>Yashtyadi yoga</i> – Internally. | <i>Sarva shukra</i> . | V.S.36/206. |
| <i>Triphaladi yoga</i> – Internally. | <i>Timira</i> . | V.S.36/280. |
| <i>Triphala pana</i> . | <i>Kaphaja timira</i> . | V.S.36/282. |
| <i>Madhu amalaki kalka Snana</i> . | <i>Pittaghna, timirapaha</i> . | V.S.36/288. |
| <i>Chitrakadi yoga</i> – Internally. | <i>Timira</i> . | V.S.36/290. |
| <i>Lohadi yoga</i> – Internally. | <i>Timira</i> . | V.S.36/293. |
| <i>Bhuktopari triphala kashaya and ghrita pana</i> . | Never become blind. | V.S.36/299. |
| <i>Triphala ghrita sada avalihyate</i> . | <i>Sarva netra roga</i> . | V.S.36/300. |
| <i>Triphaladi yoga</i> – Internally. | <i>Patala, Timira, Kacha, Arbuda, Kandu, Vedana, Andhya</i> . | V.S.36/307-309. |

| Kashaya | | |
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| <i>Shadanga kwatha guggulu</i> . | <i>Shohta, Shula, Paka, Pilla, Savrana shukra</i> . | B.R.64/45. |
| <i>Bruhat vasakadi kwatha</i> . | <i>Timira, Kandu, Patala, Arbuda, Shukra, Savrana and Avrana shukra, Daha, Saraga, Pilla, Samastha netra roga</i> . | B.R.64/51. Y.R.Netra. V.S.36/147-149. |
| <i>Vasakadi kashaya</i> . | <i>Rakta srava, Kapha hara, Chakshushya</i> . | B.P .63/248. Y.R.Netra. G.N.Netra.3/259-260. V.S-36/146. C.D.59/47. |
| <i>Patola kwata</i> . | <i>Pilla roga</i> . | G.N.Netra.3/392. |
| <i>Triphaladi kashaya</i> . | <i>Pittabhishyanda, Srava, Timira, Samrambha, Daha, Shula, Rakta vikara, Drukprasadana</i> . | V.S.36/150-151. |

| Varti | | |
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| <i>Drushtipradavarti.</i> | <i>Timira.</i> | Cha.Chi.26/254-255. B.R.64/194-195. C.D.59/115-116. G.N.Netra.3/ 261. V.S.36/327-328. |
| <i>Shuntyadi varti.</i> | <i>Shuddha shukla.</i> | A. S.Ut.14/24. |
| <i>Prapoundarikadi Varti.</i> | <i>Sira shukla.</i> | A. S.Ut.14/30. |
| <i>Sumanaksharadi varti.</i> | <i>Pittaja and Raktaja netra roga.</i> | A.S.Ut.19/41. |
| <i>Saindhavadi varti.</i> | <i>Kaphaja netra roga.</i> | A.S.Ut.19/71. |
| <i>Vimala varti.</i> | <i>Kaphaja timira, Druk vaimalya karam.</i> | A.H.Ut.13/70. |
| <i>Kokila varti.</i> | <i>Kaphaja timira.</i> | A.H.Ut.13/71. |
| <i>Sumana koraka varti.</i> | <i>Pitta-Raktapaha.</i> | A.H.Ut.16/23. |
| <i>Saindhavadi varti.</i> | <i>Shleshmakshi roga.</i> | A.H.Ut.16/24. |
| <i>Saindhavadi varti.</i> | <i>Pilla and Shukra.</i> | A.H.Ut.16/54. |
| <i>Pathyadi varti.</i> | <i>Srava.</i> | Y.R.Netra. G.N.Netra.3/352. |
| <i>Dhatrayadi varti.</i> | <i>2 harenu matra – Netrasrava and rakta Pittaja netraroga.</i> | Sha.Sam.Ut.13/86. |
| <i>Sarivadi varti</i> | <i>Pittaja timira.</i> | Y.R.Netra. |
| <i>Nepaladi varti.</i> | <i>Kaphaja timira.</i> | Y.R.Netra. V.S-36/285. |
| <i>Saindhavadi varti</i> | <i>shukra.</i> | B.R.64/76. C.D.59/79. V.S-36/172. |
| <i>Triphala phala majjavarti.</i> | <i>Netra raga, Srava.</i> | B.R.64/142. |
| <i>Haridradai varti.</i> | <i>Picchiti, Dhuma darshi, Timira, Sarva netra.</i> | B.R.64/158-159. C.D.59/227-228 |
| <i>Saindhavadi varti.</i> | <i>Shleshma abhishyanda, Pothaki, Vartmoparodha, Krimi, granthi, Kukunaka.</i> | B.R.64/169. |
| <i>Nagarjuna varti</i> | <i>Timira, patala, pilla, pushpa</i> | B.R.64/171-175. |
| <i>Kokila varti.</i> | <i>Timira.</i> | B.R.64/176. C.D.59/131. |
| <i>Chandanadi varti.</i> | <i>Timira.</i> | B.R.64/196. C.D.59/117. V.S-36/335. |
| <i>Trayushnadi varti.</i> | <i>Kleda, Upadeha, Kandu, Kapha rogas.</i> | B.R.64/197. |
| <i>Pathyadi varti.</i> | <i>Ashru praghada, sophu.</i> | C.D.59/210. |
| <i>Sindhuttadi varti.</i> | <i>Kaphaja abhishyanda, pothaki, vartmoparadha, krimigranthi, kukunaka.</i> | C.D.59/241. |
| <i>Trayushnadi varti.</i> | <i>Kapha, Upadeha, Kandu.</i> | C.D.59/120. |
| <i>Sri nagarjuna varti.</i> | <i>Timira.</i> | C.D.59/125-129. |
| <i>Chatura dashangi varti.</i> | <i>Nayanamayashini, specifically timira.</i> | G.N.Netra.3/129. |
| <i>Shrinagarjuna chatur dashangi varti.</i> | <i>Timira and patala roga.</i> | G.N.Netra.3/264-268. |
| <i>Akshabheejadi varti.</i> | <i>Timira.</i> | G.N.Netra.3/ 280 |
| <i>Shadangi varti.</i> | <i>Timira.</i> | G.N.Netra.3/ 288 |
| <i>Sarvatobhadra varti.</i> | <i>Sarva netramaya.</i> | G.N.Netra.3/ 287. |
| <i>Navangi varti.</i> | <i>Kleda, Upadha, Kandu.</i> | G.N.Netra.3/290. |
| <i>Sudarshana varti.</i> | <i>Sarva netra roga.</i> | G.N.Netra.3/291-295. |
| <i>Chandra prabha varti.</i> | <i>Pushpa, Timira, Patala, Nishandhya, Kamala, Shwayathu.</i> | G.N.Netra.3/ 471-476. |
| <i>Katakadi varti.</i> | <i>Patala, Timira, Shukra, Raji, Shukrakshi, Arma, Sannipataja nera roga.</i> | V.S-36/331-333. |
| <i>Trayushnadi varti.</i> | <i>Kleda, Ushna, Daha, Kandu, Kaphapaha.</i> | V.S.36/350 |

| Vati | | |
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| <i>Purana gudadi gutika.</i> | <i>Nishandhya.</i> | A.S.UT.16/25. |
| <i>Mahaneela gutika.</i> | <i>Shuddha shukra.</i> | A.H.Ut.11.39/40. |
| <i>Lohadi guggulu.</i> | <i>Shuklani sarvani nihanti sarva.</i> | B.R.64/211. |
| <i>Netrashani rasa.</i> | <i>Raktaja netra roga, Rakta srava, Nakthandhya, Kacha, Timira, Neelika, Patala, Arbuda, Abhishyanda, Adhimantha, vata-pitta-kaphaja netra rogas.</i> | B.R.64/212-219. |
| <i>Timira hara loha.</i> | <i>Timira.</i> | B.R.64/220 |
| <i>Nayanamrita loha.</i> | <i>Sarva netra roga.</i> | B.R.64/221-223 |
| <i>Madhukadi loha.</i> | <i>Akshiroga.</i> | B.R.64/224. |
| <i>Saptamrutha loha.</i> | <i>Timira, Kshata, Raktaraji, Kandru, Ratrandhya, Arbuda, Toda, Daha, Shula, Patala, Kacha, Pilla, Darshana, Shrivanaurdhwa kantanam mahagada, Palita.</i> | B.R.64/225-229. |
| <i>Triphala guggulu.</i> | <i>Shotha, Shula, Akshiroga.</i> | Y.R.Netra. |
| <i>Shadanga guggulu.</i> | <i>Shotha, Akshipaka, Shula, Pilla, Savrana Shukra.</i> | G.N.Netra.3/ 259-260. |
| <i>Prabhavati gutika.</i> | <i>Kandru, Timira, Shukra, Arma, Raktaraji. Anjana.</i> | G.N.Netra.3/ 294-296. |
| <i>Kokila gutika.</i> | <i>Timira.</i> | G.N.Netra.3/ 297. |
| <i>Dhatryadi gutika.</i> | <i>Netra peeda.</i> | V.S.36/82. |

| Churna | | |
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| <i>Triphala churna.</i> | <i>Timira, Arbuda, Raktaraji, Kandru, Kshanadandhya, Daha, Shula, Toda, Patala, Shukla, Kacha, Pilla and other than netra rogas also.</i> | Y.R.Netra. |
| <i>Loha churna.</i> | <i>Timira and other than netra rogas also.</i> | Y.R.Netra. |
| <i>Shatavryadi churna.</i> | <i>Akshyamaya, Kandru, Dhuma, Timira, Kacha, Patala, Raktaja netra roga.</i> | Y.R.Netra. |

| Taila | | |
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| <i>Ushiradi taila.</i> | <i>Kapha roga in the form of nasya.</i> | Su.Ut.17/41. V.S.36/425. |
| <i>Vibhitkyad taila.</i> | <i>Timira.</i> | V.S.36/424. |
| <i>Ajitha taila / Abhijita taila.</i> | <i>Timira, Drshti vaimalyakara.</i> | B.R.64/234-235. C.D.59/198-199. V.S.36/429-430. |
| <i>Neelotpaladi taila.</i> | <i>Timira, Kacha, Nishandhya, Pakatyaya, Patala, Arjuna, Neelika, Pilla, Arbuda, Arma, Raktasrava, Vartma kandru and other than netra rogas also.</i> | V.S.36/431-434. |
| <i>Mahapippalyadi taila.</i> | <i>Timira, Nakthandhya, Shukra, Chaturvidha kacha, Nashta drushti, Manda drushti, Sthabdha drushti, Kandru, Pittaja srava, Raktaja, Vataja, Vatapittaja, Pitta shkeshmaja Netra rogas.</i> | V.S.36/441-451. |

Research Works^[9]

- ❖ **Anti-diabetic property and hypoglycemic activity:** Emblica fruit powder reduced blood sugar levels in normal rabbits, as well as in hyperglycemic rabbits proving the hypoglycemic activity (Tripathi et al., 1979).
- ❖ **Hypo-lipidemic and anti-atherosclerotic activity:** Amla (fed to rabbit) showed hypo - lipidemic and anti-atherosclerotic activity (Mand et al., 1991).
- ❖ **Anti-microbial activity:** Emblica fruit found to have very potent anti-bacterial activity (Vinayagamorthy, 1982).
- ❖ **Anti-inflammatory:** The water fraction of the methanol extract of leaves was effective in rat paw inflammation (Summanen et al., 1993).

- ❖ **Anti-oxidant:** The long-lived belief that the therapeutic effects of *amla* is due to its rich vitamin C content has thus been dispelled. The potent vitamin C-like activity of *amla* fruits has now been located in the low Mr hydrolysable tannins. Four such compounds, Emblicanin A, Emblicanin B, Puniglucomin and Penduculagin, have been isolated from the fruit pericarp (Ghosal et al., 1996).
- ❖ **Rasayana activity:** *Amalaki rasayana* is said to have growth promoting effect (growth and longevity), (Tewari et al; 1968).

DISCUSSION^[10,11]

Amalaki is called as a wonder drug because of its multi-dimensional actions. It is used in all most all the kriya kalpas which shows its significance in *netraroga*. By

going through the *samhitas*, it has been noted that *amalaki* is used more in the preparations of *anjanas* used for *drushtigata rogas* which indicates that it can reach the *drushti* (posterior segment) and nourish the same.

- ✓ There is a strong relationship between antioxidants and vision health. Antioxidants are the antidote to oxidation. Free radicals produced as a part of metabolism are the atom that lacks an electron. They roam about the body, scavenging electrons and stealing electrons from healthy cells. This results in permanent damage to these afflicted cells which ultimately can result in disease. Significant research has shown that antioxidants protect against this cellular damage and are essential for maintaining health. The eye is vulnerable to free radical damage. Therefore, providing the body with sufficient antioxidants helps to prevent eye disease and maintain healthy vision.
- ✓ Tannins are biological antioxidants; they are widely believed to be an important line of defence against oxidative damage which has been implicated in a range of pathological conditions including aging. Tannoids might counter the polyol pathway-induced oxidative stress as there was a reversal of changes with respect to lipid peroxidation, protein carbonyl content, and activities of antioxidant enzymes.
- ✓ Diabetic cataracts are caused by an elevation of polyols within the lens of the eye catalyzed by the enzyme aldose reductase. It has been a drug target because of its involvement in the development of secondary complications of diabetes, including cataract. Suryanarayana *et al.* assessed the inhibition of aldose reductase by constituents of *E. officinalis* both in vitro and in lens organ culture.
- ✓ The level of glutathione in the lens alters with advancing age. *Amalaki* is a rich source of glutathione and ascorbic acid which protects the lens against oxidative damage and further helps to maintain the normal glutathione mechanism.
- ✓ Cysteine, glycine and glutamine are especially important for vision because they help to build glutathione, which is essential for eye.

CONCLUSION

Acharya Charaka by knowing its importance, he included *Amalaki* under "*Nithya sevaniya dravya*".¹³ Being a *Sheetaviry* dravya it helps to nourish the *chakshu* which is *sheetasatmya*. It has been used in many forms which indicate its rational usage in almost all the *netra rogas*. Being a rich source of Vitamin C, have antioxidant property, act as free radical scavenger and therefore can prevent ocular degenerative conditions such as cataract, ARMD etc. executing this anti-atherosclerotic activity, anti-inflammatory activity, anti-oxidant, anti-microbial activity, *amalaki* has drawn much attention in treating posterior segment diseases. As it is clearly said by our *acharyas*, it has to be consumed daily as a *Pathya* to get rid of degenerative processes of eye and even for *swasthyarakshana*.

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