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Review Articles

Conceptual Study On Effects Of *Amrita Guggulu* in the management of *Amavata*

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ABSTRACT-

Ayurveda is one of the oldest system of healthcare in the world. In *Ayurveda*, '*Amavata*' was mentioned for the first time by *AcharyaMadhavakara* as a special disease entity in which both '*Ama*' as well as '*Vata*' play a predominant role in the pathogenesis of this disease. '*Amavata*' is one of the crippling diseases causing the maximum loss of human power. It is not only a joint disorder but is also a systemic disease and is named after its chief pathogenic constituent which are '*Ama*' and '*Vata*'. The disease '*Amavata*' is very similar to Rheumatoid Arthritis. It is chronic in nature and affects mostly the middle age group. The onset of Rheumatoid arthritis is most frequent during the fourth and fifth decades of life, with 80% of all patients developing the disease between the age of 35 and 50. The

incidence of RA is more than six times as great in 60-to-64-year-old women compared to 18-to-29-year-old women. So need of time is to go for cost effective, safe and efficient treatment of *Amavata*. Although, there are many drugs available in modern medical science for the treatment of Rheumatoid arthritis (*Amavata*) but they are associated with adverse effects, so there is need of the hour to look into the safe herbal remedy which not only treat the disease but also helps in reducing the relapse of the disease. Keeping all above points in mind the *Amrita Guggulu* has been selected to know the effect in treating *Amavata* (Rheumatoid arthritis). *Amrita Guggulu* consists of 6 main contents which have different properties it consist of *Guduchi, Shuddha Guggulu, Haritaki, Vibhitaka, Aamalaki* and *Prakshepa Dravya Danti, Shunthi, Pippali, Maricha, Vidanga, Guduchi, Haritaki, Vibhitaka, Aamalaki, Twaka, Trivrit*.

Keywords: *Amrita Guggulu, Amavata, Rheumatoid arthritis*

Introduction: *Ayurveda* has taken the foremost place in the management of crippling disease. *Amavata* is one of them. Our ancestors so far have complemented, supplemented this heritage science, now we sincerely feel a time has come to create awareness anew about this heritage science of ours. The contemporary sciences, treatment modalities are trying to assess the principles of *Ayurveda*.

Ama is the basic concept of *Ayurveda* in several diseases. Disease occurs by *Ama* is the one type of constitutional diseases. *Amavata* is the one of the disease caused by *Ama*. Due to hypo functioning of *Jatharagni* or *Ushma* (*Agni*) the first *Dhatu* is not properly digested. The *Annarasa* undergoes fermentation and being retained in the *Aamasaya*. The unripped, uncooked, undigested *Annarasa* which is toxic called *Ama*. In the present context of *Amavata*, *Ama* resultant of *Jatharagnimandya* is more relevant, as the symptomatology of the disease expounded in classics mainly refers to the *Ama* caused by *Jatharagnimandya*. In the disease

Amavata, an *Ama* combines with the *Doshas* and spreads all over the body and produces the symptoms like *Sandhi Shotha, Sandhi Shula, Stabdhatata* (stiffness) and other systemic signs and symptoms.

Rheumatoid arthritis (RA) is a chronic autoimmune inflammatory, destructive and deforming symmetrical polyarthritis associated with systemic involvement disease that affects mainly the small joints of the hands and feet. RA is one of the most common inflammatory joints diseases and causes premature mortality, disability and compromised quality of life. RA is widely prevalent throughout the world. The overall worldwide prevalence is 0.8% and steadily increases to 5% in women over the age of 70. RA is two to three times more common in women compared to men. In India the prevalence has been estimated to be 0.7%. Community prevalence study shows that female are more sufferers than male and the ratio of occurrence between them is 3:1. A disease in future makes man to depend on others by afflicting the joints,

altering the appearance, affecting the other systems makes the life miserableⁱ.

A. According to modern text book of Rheumatology.ⁱⁱ

Signs and symptoms of Rheumatoid Arthritis

1. Morning stiffness (more than one hour for more than six weeks).
2. Arthritis involving three or more joint areas (with or without soft tissue involvement lasting more than six weeks).

3. Arthritis of hand joints (wrist, MCP, or PIP joints more than six weeks)
4. Symmetrical arthritis (at least one area lasting for six weeks).
5. Rheumatoid nodules.
6. Rheumatoid factor
7. Radiographic changes.

B. The following Signs and Symptoms of 'Amavata' according to Ayurvedic text book.

अङ्गमर्दोऽरुचिस्तृष्णा आलस्यं गौरवं ज्वरः । अपाकः शूनताऽङ्गानामामवातस्य लक्षणम् ॥६॥ स कष्टः सर्वरोगाणां यदा प्रकुपितो भवेत् । हस्तपादशिरोगुल्फत्रिकजानूरुसन्धिषु ॥७॥
 करोति सरुजं शोथं यत्र दोषः प्रपद्यते । स देशो रुज्यतेऽत्यर्थं व्याविद्ध इव वृश्चिकैः ॥८॥
 जनयेत् सोऽग्निदौर्बल्यं प्रसेकारुचिगौरवम् । उत्साहहानिं वैरस्यं दाहं च बहुमूत्रताम् ॥९॥
 कुक्षौ कठिनतां शूलं तथा निद्राविपर्ययम् । तृदृच्छिर्भ्रममूर्च्छाश्च हृद्ग्रहं विड्विबद्धताम् ।
 जाड्यान्लकूजमानाहं कष्टांश्चान्यानुपद्रवान् ॥१०॥
 पित्तात् सदाहरागं च, सशूलं पवनानुगम् । स्तिमितं गुरुकण्डूं च कफदुष्टं तमादिशेत् ॥११॥

(Madhava Nidana- AMAVATA NIDANAM, CHAPTER 25/6-11)

Thus due to the signs and symptoms of rheumatoid arthritis is mostly similar to

the Amavata and the evidences are given below as references.

• Sandhishoola (Pain in joints)	• Apaka (Indigestion of food)	• Tritt (Thirst)
• Sandhistabdhat (Stiffness in joints)	• Shoonatanganaa m (Numbness in the joints)	• Chhardi (Vomiting)
• Sandhigraha (Restriction of movement)	• Bahumutrata (Polyuria)	• Bhrama (Hallucination)
• Sandhishotha (Swelling of joints)	• Agnidaurbalya (Indigestion)	• Moorchha (Syncope)
• Sandhisparshaasahya ta (Tenderness at joints)	• Utsahahani (Diminished action to do any work)	• Hridyagraha (Heaviness in cardial region)

• <i>Angamarda</i> (Bodyache)	• <i>Nidraviparyaya</i> (Disturbed sleeping)	• <i>Vidvibadhata</i> (Constipation)
• <i>Aruchi</i> (Anorexia)	• <i>Praseka</i> (Salivation)	• <i>Jaadyataa</i> (Body stiffness)
• <i>Trishna</i> (Polydipsia)	• <i>Vairasya</i> (Change in mouth taste)	• <i>Aanaha</i> (Flatulence)
• <i>Aalasya</i> (Lassitude)	• <i>Daha</i> (Burning sensation in body)	• <i>Aantrakunjanam</i> (Hum sound in abdomen)
• <i>Gaurava</i> (Heaviness of body)	• <i>Kukshikatinata</i> (Heaviness of abdomen)	• <i>Stimitam</i> (Stiffness of body)
• <i>Jwara</i> (Fever)	• <i>Kukshishoola</i> (Pain in Abdomen)	• <i>Kandu</i> (Itching of whole body)

Rationale:The drugs are the tools of a Physician. The rational use of drug means that the half of the treatment is over. In *Ayurvedic* classics there are a lot of single and compound drugs which mentioned in several contexts. In *Ayurveda*, *Dravya (Aushadha)* is considered as one of the four fold constituents of "*ChikitsaChatushpada*". Action of *Aushadha* has been explained on the basis of theory of *Rasa, Guna, Virya, Vipaka* and *Prabhava*. The right choice of *Aushadha* plays vital role in the treatment of the particular disease. In *Ayurveda*, the pharmacodynamics of the drug reverses or breaks the *Samprapti* without producing any side effects.

A number of formulations have been mentioned in *Ayurvedic* classics for the treatment of *Amavata*. *Vata* and *Aama* are the predominant *Doshas* involved in the pathogenesis of *Amavata*. The treatment must be of *Ama* and *Vatahar* properties. Therefore the drugs with the above said qualities are needed for relieving the symptoms of *Amavata*.

Keeping all above points in mind the *Amrita Guggulu* has been selected to know the effect in treating *Amavata* (Rheumatoid Arthritis).

Aims and Objectives :

- To evaluate the role of *Amrita Guggulu* in the management of

Amavata with special reference to Rheumatoid arthritis.

Materials and Methods :

- Ayurvedic textbooks were referred to collect the relevant materials.
- The index, non-index medical journals were referred to collect relevant information.

Drug Review : Even the ancient sages were well aware about the disease

प्रस्थमेकं गुडूच्याश्चसार्धप्रस्थंतुगुगुलोः। प्रत्येकं त्रिफलायाश्चतत्प्रमाणं विनिर्दिशेत् ॥59॥

सर्वमेकत्रसंक्षिप्यक्वाथयेन्नल्वणेऽम्भसि । पादशेषपरिक्वाथ्यकषायंग्राहयेद्विषक् ॥60॥

पुनःपचेत्कषायंतुयावत्सान्द्रत्वमाप्नुयात् । दन्तीव्योषविडङ्गानि गुडूचीत्रिफलात्वचः॥61॥

ततश्चार्धपलंपूतंगृह्वयाद्वाप्रतिप्रति। कर्षतुत्रिवृतायाश्चसर्वमेकत्रचूर्णयेत् ॥62॥

तस्मिन्सुसिद्धं विज्ञायकोष्णंपात्रे विनिक्षिपेत्। ततश्चाग्निबलंदृष्ट्वा तस्य मात्रां प्रयोजयेत्॥63॥

वातरक्तं तथा कुष्ठं गुदजानग्निसादनम् । दुष्टव्रणं प्रमेहं च आमवातभगन्दरान्॥64॥

खाञ्ज्याढ्यवातान्धयथून्सर्वान्वातान्व्यपोहति। अश्विभ्यां निर्मितः पूर्वममृताद्यश्च गुग्गुलुः॥65॥

'Amavata' and various descriptions regarding the disease have been mentioned in different classical text books by different Acharya. Moreover, the Acharya have mentioned several herbs and formulations in the management of Amavata. They all are potent in its own way in the management of Amavata. Out of many such drugs, one formulation 'Amavata' has been selected for the study.

1. AMRITA GUGGULU:

(YOGARATNAKARA, PART-1, CHAPTER 26, VATARAKTAADHIKARA)

CONTENTS OF 'AMRITA GUGGULU':

(A) Kwatha Dravya (Yavakuta) :

S.no.	Drugs	Botanical name	Part used	Quantity
1.	<i>Guduchi</i>	<i>Tinosporacordifolia</i>	Stem	1 Prastha (768gm)
2.	<i>ShuddhaGugulu</i>	<i>Commiphoramukul</i>	Resin	1.5 Prastha (1152gm)
3.	<i>Haritaki</i>	<i>Terminaliachebula</i>	Fruit	0.5 Prastha (384gm)
4.	<i>Vibhitaka</i>	<i>Terminalia bellirica</i>	Fruit	0.5 Prastha (384gm)
5.	<i>Aamalaki</i>	<i>Emblica officinalis</i>	Fruit	0.5 Prastha (384gm)

(B) Prakshepa Dravya (Churna):

S.no.	Drugs	Botanical name	Part used	Quantity
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1.	<i>Danti</i>	<i>Baliospermum montanum</i>	Root	0.5 Pala(24gm)
2.	<i>Shunthi</i>	<i>Zingiber officinale</i>	Rhizome	0.5 Pala(24gm)
3.	<i>Pippali</i>	<i>Piper longum</i>	Fruit	0.5 Pala(24gm)
4.	<i>Maricha</i>	<i>Piper nigrum</i>	Fruit	0.5 Pala(24gm)
5.	<i>Vidanga</i>	<i>Embeliaribes</i>	Fruit	0.5 Pala(24gm)
6.	<i>Guduchi</i>	<i>Tinosporacordifolia</i>	Stem	0.5 Pala(24gm)
7.	<i>Haritaki</i>	<i>Terminalia chebula</i>	Fruit	0.5 Pala(24gm)
8	<i>Vibhitaka</i>	<i>Terminalia bellirica</i>	Fruit	0.5 Pala(24gm)
9	<i>Aamalaki</i>	<i>Emblica officinalis</i>	Fruit	0.5 Pala(24gm)
10	<i>Twak (Dalchini)</i>	<i>Cinnamomum zeylanicum</i>	Bark	0.5 Pala(24gm)
11	<i>Trivrit (Nishotha)</i>	<i>Operculinaturpethum</i>	Root's bark	1 Karsha(12gm)

METHOD OF PREPARATION:

One *Prastha* *Guduchi*, One and half *Prastha* each of *Guggulu* and *Triphala* should be pounded together and be decocted with One *Nalvana* (*Drona*) of water until reduced to one fourth. After filtering it should be cooked again to thick

consistency and half Pala each of *Danti*, *Vyosha*, *Vidanga*, *Guduchi*, *Triphala* and *Twak* and One *Karsha* *Trivrit* should be powdered together and be mixed with it in the same pot while it is lukewarm and tab of 500 mg each will be prepared in the pharmacy of NIA, Jaipur.

Name	Rasa	Guna	Virya	Vipaka	Doshaghanta	Karma
1. <i>Guduchi</i>	<i>Tikta, Kashaya</i>	<i>Guru, Snigdha</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Tridoshahara, Rasayana</i>	<i>Kushtha, Vatarakta, Trishna, Aruchi, Agnimandhya, Yakridvikar, Amlapitta, Krimi, Hriddaurbalya,</i>
2. <i>Shuddha Guggulu</i>	<i>Tikta, Katu</i>	<i>Laghu, Ruksha, Tikshna, Vishada, Sukshma, Sar .</i>	<i>Ushna</i>	<i>Katu</i>	<i>Tridoshahara</i>	<i>Medoghna (Puranaⁱⁱⁱ), Mehaghna, Ashmaghna, Rasayana, Shothahara, Shoolahara, Vranashodhana,</i>

3.Haritaki	Kashaya , Madhura, Amla, Katu, Tikta	Laghu, Ruksha	Ushna	Madhura	Tridoshasham aka, especially Vat ashamaka	Kaphaghna, Srotah-shodhana, Shothahara, Vedanasthapana
4.Bibhitaki	Panchar asa, Kasayap radhana (without Lavana)	Ruksha, Laghu	Ushna	Madhura	Tridoshasham aka, especially Kap hashamaka	Shothahara, Vedanasthapana, Raktastambhana, Krishnikarana, Madaka, Deepana, Anulomana, Krimig hna,
5.Amalaki	Amla, Madhura, Kashaya , Tikta, Katu	Guru, Ruksha, Sheeta	Sheeta	Madhura	Tridoshasham aka, especially Pittashamaka	Dahaprashamana, Chakshushya, Keshya, Medhya, Nadibalya, Balya, Rochana, Deepana

1.Guduchi: As per research the dried stem of *T. cordifolia* produced significant anti-inflammatory effect in both acute and subacute models of inflammation. *T. cordifolia* was found to be more effective than acetylsalicylic acid in acute inflammation^{iv}. The alcoholic and aqueous extracts of *T. cordifolia* have been tested successful for immuno-modulatory activity^{v,vi}. *T.cordifolia* improves the phagocytic function without affecting the humoral & cell mediated immune systems. Active components syringing &cardiol inhibit the in vitro immune haemolysis of antibody coated sheep erythrocytes by guinea pig serum, which is due to inhibition of C3convertase of classical complement pathway. The compounds also give rise to significant increases in IgG antibodies in serum^{vii}.

2.Guggulu: The anti-inflammatory and analgesic effects of 85% ethanol extract (EE) of *CommiphoraMukul*.^{viii} effects of individual herbal extracts and combined extract on anti-inflammatory and analgesic activities^{ix}. Antiarthritic activity: The oleoresin fraction showed significant antiarthritic activity in some studies. The acid fraction was also effective. Antiinflammatory activity: It is reported significant in rats in cotton pellet test. (Indigenous drugs of India1958). The water fraction of the methanol extract of plant leaves was effective in rat paw inflammation and was effective inhibitory action of human polymorphonuclear invitro. (Plant medica USU 1993) The drug was found to have anabolic affect (Jewari et al 1968)

3.Haritaki: The laxative property of *T.chebula* is studied in one of the clinical studies. Symptoms other than frequency, evacuation and consistency were improved with *T. chebula* fruit powder(6gm) given after meals for seven days. Total response of the drug was excellent in 20% cases and good in 80% cases of simple constipation. No side effects reported.^x *Terminalia chebulah* has cytoprotective effect on gastric mucosa. Effects of ionizing radiation on microbial decontamination, phenolic contents, and antioxidant properties of triphala. (Kumari N, Kumar P, Mitra D, Prasad B, Tiwary BN, Varshney L. Microbial & Molecular Genetics Lab, Dept. of Botany, Patna Univ., Patna 800 005, India.) Biological screening of 100 plant extracts for cosmetic use (II): anti-oxidative activity and free radical scavenging activity. (Kim BJ, Kim JH, Kim HP, Heo MY. College of Pharmacy, Kangwon National University, Chuncheon, Korea.)

4.Bibhitaki: Bark is mildly diuretic and is useful in anemia and leucoderma. Fruits are anti-inflammatory, styptic, digestive, antihelminthic, expectorant, antipyretic, antiemetic, rejuvenating (Sharma TJ et al 2002), they are useful in dyspepsia, flatulence, vomiting, cardiac and ophthalmic disorders, skin disease and general debility. It also has bronchodilatory, antispasmodic and anti asthmatic activity (Trivedi et al). Oil obtained from seeds is useful in dyspepsia, skin disease, leucoderma, graying of hair.

5.Amlaki: Immunomodulatory action: It showed Antibody depressant actions [J.E. P.V. 44(1) 1994] reported Rasayana Effect: As it increases the total protein level and increases the body weight in rabbits due to positive nitrogen balance. The

drug was found to have anabolic effect (Tewari et al 1968) Anti-inflammatory action: The fraction of methanol extract of plant leaves was effective in rat paw inflammation, and was an effective inhibitory action of human polymorphonuclear in Vitro (Plant Medica USU 1993). Antioxidant activity is reported of active tanoid principle of *Emblca officinalis* in IJ of experimental biology 1999.

PrakshepDravya:

1.Danti: All the five phorbol esters viz. montanin, baliospermin, 12-deoxyphorbol-13-palmitate, 12-deoxy-16-hydroxyphorbol-13-palmitate and 12-deoxy-5 β -hydroxyphorbol-13-myristate isolated from roots of *B. montanum* were evaluated for their in vivo anti-leukemic activity and the results of the study showed significant activity^{xi}. The homogenate of leaves of *B. montanum* showed significant (S)-HNL activity.^{xii} The crude ethanolic extract of leaves of *B. montanum* was evaluated for its antimicrobial potential by disc diffusion method.^{xiii}

2.Shunthi: The dried rhizomes of *Zingiberofficinale*, Ethanol extract shows Anti-inflammatory, Analgesic affect in mice and rats.^{xiv} Ginger exerts an Anti-inflammatory effect on lung attenuating RTHR and COX metabolites seem to be involved in these processes.^{xv} It has shown marked Anti-inflammatory activity in rats which is comparable to prednisolon.^{xvi}

3.Pippali: Decoction of immature fruits and roots is used in chronic bronchitis, cough, and cold.^{xvii} Alcoholic extract of the fruits of *Piperlongum* and its component piperine have shown effective immunomodulatory and anti-tumour activity in cell-line and animal experiments.^{xviii}

4. Maricha: Anti-oxidant radical scavenging activities -Water and ethanol crude extracts from black pepper were investigated for their anti-oxidant and radical scavenging activities. Both water extract and ethanol extract of black pepper exhibited strong total anti-oxidant activity.^{xix}

5. Vidanga: Aqueous extract of *Embeliaribes* administered orally at doses 100 mg/kg and 200 mg/kg body weight significantly decreased the levels of pancreatic superoxide dismutase, catalase and glutathione in the streptozotocin (at a dose of 40 mg/kg,

intravenously as a single dose) induced diabetic rats.^{xx}

6. Twaka: Aqueous extract of *C. Zeylanicaum* (*C. Verum*) exhibited anti-complement activity (Chem. Pharm. Bull. 1981, 29, 2686). Aqueous extract of *C. Cassia* administered orally to rats with nephritis prevented increase of protein level in urine (Chem. Abstr. 1981, 28, 35420a and Kiroku, 1980)

7. Trivrutta: The extracts of *Opercuinaturpethum* leaves demonstrated a potent cathartic activity through causing: discharge of watery faeces, enhanced intestinal motility and increase in intestinal fluid content.^{xxi}

आमवत चिकित्सा सिद्धांतः

“लघनंस्वेदनंतिक्तं दीपनानिकटूनिच।
विरेचनंस्नेहपानं बस्तयश्चाममारुते।
सैन्धवाच्चेनानुवास्यक्षारबस्तिः प्रशस्यते”॥

(चक्रदत्त आमवात चिकित्सा प्रकरणम् २५/१)

Each content of the drug *Amrita guggulu* is acting according to the *Chakradatta Amavata Chikitsa Siddanta* Like their *Deepana*, *Paachana Virechana* properties and also by their *Rasa*, *Guna*, *Veerya*, *Vipaka*, *Prabhava* and *Karma* properties which are help to break the pathogenesis of *Amavata*.

Conclusion: Due to wide spectrum of disease, much prevalence in the society and lack of effective medicine, disease is being chosen for the study. Worldwide prevalence of RA is estimated between 0.3% and 1% and is commonly seen in women in developed countries^{xxii}. In India the prevalence is estimated to be 0.75%^{xxiii}. Though causes of RA are not yet clearly

understood, it is believed to affect persons who are genetically susceptible as a manifestation of response to an infectious agent^{xxiv}. A potent medicine for its cure is today's requirement. *Amrita guggulu* mentioned in *yogratnakar* could play this role. It is composed of *Guduchi*, *Shuddha Guggulu*, *Haritaki*, *Vibhitaka*, *Aamalaki* and *Prakshepa Dravya-Danti*, *Shunthi*, *Pippali*, *Maricha*, *Vidanga*, *Guduchi*, *Haritaki*, *Vibhitaka*, *Aamalaki*, *Twak*, *Trivrit*. Further, various researches have already been conducted in favour of their anti-rheumatic properties. So we can use this medicine for the treatment of *Amavata* (Rheumatoid Arthritis).

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