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A DESCRIPTIVE STUDY OF RASAYANA PLANTS FROM BHAVPRAKASH NIGHANTU WITH SPECIAL REFERENCE TO IMMUNOMODULATARY ACTION

[1.] Prof. Dr. Ashok G. Wali

[2.] Dr. Vitthal D. Patil

1. HOD, Dept. of Dravyaguna, Annasaheb Dange Ayurveda Medical Collage, Ashta Tal: Walava, Dist: Sangli.

2. Assistant Professor, Dept. of Dravyaguna, Annasaheb Dange Ayurveda Medical Collage, Ashta Tal: Walava, Dist: Sangli

ABSTRACT:

Immunomodulators are the drugs which are able to tackle this condition with its therapeutical potentials. The use of medicinal plants as immunomodulatory has a traditional history. From the ancient times treatment were done by modulating the immune system by using medicinal plants. Ayurveda, India's own medical system of healing, encounters more number of herbs. Many of them show magical results with immunomodulatory action. In Ayurveda, Rasayana therapy mentioned which will increase the qualities of Rasa, enriching with nutrients, subsequently attaining longevity, improving disease conditions and get rid of disorders. In general these actions can be correlated with immunomodulatory, which will be helpful in immune diseases mentioned in modern science. Medicinal plants are the base of Ayurveda, used for medicine as well as diet. Some plants are mentioned having "Rasayana" function, which proved as

immunomodulatorry in modern science, (Dahanukar et. al.1988) may helpful in autoimmune diseases.

Key Words- immunomodulatory, medicinal plants

INTRODUCTION-

An autoimmune disorder is a condition where body's immune system gets depressed and concomitantly body gets affected with more prone condition for diseases. Autoimmune diseases affects more than 23.5 million peoples in US and more diseases are now being added to auto immune disorders. This is a worldwide major problem, which has become a social problem. Immunomodulators are the drugs which are able to tackle this condition with its therapeutical potentials. The use of medicinal plants as immunomodulatory has a traditional history. From the ancient times treatment were done by modulating the immune system by using medicinal plants. Ayurveda, India's own medical system of healing, encounters more number of herbs. Many of them show magical results with immunomodulatory action. In Ayurveda, Rasayana therapy mentioned which will increase the qualities of Rasa, enriching with nutrients, subsequently attaining longevity, improving disease conditions and get rid of disorders. In general these actions can be correlated with immunomodulatory, which will be helpful in immune diseases mentioned in modern science. Medicinal plants are the base of Ayurveda, used for medicine as well as diet. Some plants are mentioned having "Rasayana" function, which proved as immunomodulatorry in modern science, (Dahanukar et. al.1988) may helpful in autoimmune diseases.

MATERIALS AND METHODS

A well known glossary of medicinal plants is Bhavprakash Nighantu. In Bhavaprakasha Nighantu, some "Rasayana" drugs are mentioned. These plants may acts as immunomodulatory in autoimmune diseases. The particular plant will act in particular autoimmune diseases, which depends upon pharmacodynamics of the plants.

The Rasayana drugs from Bhavaprakasha Nighantu were screened for "Rasayana karma" and obtained data, is presented with corresponding references.

DISCUSSION

In today's modern era there has been a tremendous advance in the field of basic immunology, which is developing area of biomedical Sciences. No doubt that, it has great promises to present the diseases and to treat wide range of disorders (Plaeger, 2003). The use of medicinal plant has a traditional history. Since longtime treatments of diseases were done by modulating the immune system by using medicinal plants. Ayurveda described in eight branches out of which "Rasayana" is one of them which is related with the immunomodulation action. Ayurveda described all diseases which occur due to external and internal factors out of which external factor are unavoidable but internal factors having their own mechanism of action which are unstoppable. Autoimmune diseases are depending on both the factors according to Ayurveda because human being and nature is one.

Rasayana is a treatment in which body will make change accordingly with micro level of cells. Immune system response is related with immunomodulatory agents of plants origin for therapeutic purpose. This concept related to enhancement of immune response of an organism

against pathogens. It is proven that immunomodulation could provide an alternative to variety of immunomodulator diseases in today's modern era. Rasayana drugs are believed to provide a defense against diseases and slowdowns aging process.

CONCEPT OF RASAYANA IN AYURVEDA

Immunomodulatory action in Ayurveda is correlated with Rasayana Chikitsa. Here "Rasa" means not only defined Rasa dhatus but all seven dhatus mentioned in Ayurveda and "Ayana" means path or channels for the dhatu vahan. Aacharya Sushruta defined Rasayana as below;

रसायन तंत्रं नाम वयःस्थापन आयुर्मेधाबलकरं रोगहरणसमर्थंच I सु.सु. 1/15

So Rasayanas are those who bring proper growth, improve memory and intelligence and strength gives freedom from disorders. It means Rasayana drugs works on immune system. Types of the Rasayana karmas are very well mentioned in Ayurvedic literature. Ayurvedic Aacharyas had given many drugs that act as an "Rasayana" on the basis of their function. The immune system has multilayered defence mechanism which act on different target organs. Today, Scientist have described so many other clues which can lead to the development of immunostimulatory agents e.g. physostygmine, cannabinoids, forskolin, colchicines, muscurine etc. obtained from plants are the important tools used in todays pharmacological and biochemical studies.

The simple chemical of plants is activating cytokine network could produce all the actions that have been attributed them and the hypothesis was proved scientifically by Dr. Dahanukar et al 1988.

NATURAL IMMUNOMODULATORS:

After screening of Bhavprakash Nighantu 21 plants are mentioned as having "Rasayan" karmas which are mentioned in table no. 1.

Table 1: Rasayana plants from Bhavprakash Nighantu

Sr.no.	Ayurvedic Plant	Latin Name	Main Function	Mode of action	Reference
1.	Guduchi	*Tinospora cordifolia*	Rasayan	Sanshaman	B.P.N.G.V.7
2.	Haritaki	*Terminalia chebula*	Rasayan	Anuloman	B.P.N. H.V.19
3.	Shalmali	*Salmalia malbarica*	Rasayan	Dhatu vardhan	B.P.N.V.V.55
4.	Guggul	*Commiphora mukul*	Rasayan	Dhatu prasadan	B.P.N.K.V.39
5.	Bakuchi	*Psoralea corylifolia*	Rasayan	Pitt sransan	B.P.N.H.V.207
6.	Mandukparni	*Centella asiatica*	Rasayan	Aayushya	B.P.N.G.V.280
7.	Bhrungraj	*Eclipta alba*	Rasayan	Balya	B.P.N.G.V.241
8.	Shankhpushpi	*Convolvulus pluricaulis*	Rasayan	Medhya	B.P.N.G.V.270
9.	Ashwagandha	*Withania somnifera*	Rasayan	Balya	B.P.N.G.V.190
10.	Bramhi	*Bacopa monnieri*	Rasayan	Aayushya	B.P.N.G.V.280
11.	Gambhari	*Gmelina arborea*	Rasayan	Vatanuloman	B.P.N.G.V.17
12.	Pippali	*Piper longum*	Rasayan	Dhatuvardhan	B.P.N.H.V.54
13.	Aamalaki	*Phyllanthus emblica*	Rasayan	Dhatushodhan	B.P.N.H.V.39
14.	Rason	*Allium sativum*	Rasayan	Anuloman	B.P.N.H.V.222
15.	Kumari	*Aloe vera*	Rasayan	Bhedan	B.P.N.G.V.229

16.	Shatawari	*Asparagus racemosus*	Rasayan	Dhatuvardhan	B.P.N.G.V.186
17.	Beejak	*Pterocarpus marsupium*	Rasayan	Raktshodhak	B.P.N.V.V.29
18.	Vidarikand	*Pueraria tuberose*	Rasayan	Dhatuvardhan	B.P.N.G.V.182
19.	Kakamachi	*Solanum nigrum*	Rasayan	Rechan	B.P.N.G.V.247
20.	Vruddhadaru	*Argyreia speciosa*	Rasayan	Balya	B.P.N.G.V..210
21.	Mushali	*Curculigo orchioides*	Rasayan	Vrushya	B.P.N.G.V.183

Source: Primary Data

If we correlate these Rasayana plants (table no.1) mentioned in Bhavprakash Nighantu with their chemical composition, the majority chemicals are found to be immunomodulatory in action. The chemical compositions of "Rasayana" plants are shown in table 2.

Table 2: Chemical compounds of Rasayana plants –

Sr.no.	Ayurvedic Plant	Latin Name	Chemical composition	Action
1.	Guduchi	*Tinospora cordifolia*	Berberine, Palmetine,Tembetarine, Tinocordiside Cordifolioside A	Imunomodulatory
2.	Haritaki	*Terminalia chebula*	Chebulagic acid, Corilagin	Imunomodulatory
3.	Shalmali	*Salmalia malbarica*	Steroids, Tannins	Imunomodulatory
4.	Guggul	*Commiphora mukul*	Guggulsterones	Imunomodulatory
5.	Bakuchi	*Psoralea corylifolia*	Bakuchiol, Psoraliden	Imunomodulatory
6.	Mandukparni	*Centella asiatica*	Asiatic acid, Quercetin	Imunomodulatory
7.	Bhrungraj	*Eclipta alba*	Wedelolactone	Imunomodulatory
8.	Shankhpus	*Convolvulus*	Beta sitosterol	Imunomodulatory

	hpi	*pluricaulis*		
9.	Ashwagandha	*Withania somnifera*	Withanolide	Imunomodulatory
10.	Bramhi	*Bacopa monnieri*	Alkaloids Brahmine, Saponins	Imunomodulatory
11.	Gambhari	*Gmelina arborea*	Polyphenols	Imunomodulatory
12.	Pippali	*Piper longum*	Piperine	Imunomodulatory
13.	Aamalaki	*Phyllanthus emblica*	Phykkemlin, Tannins	Imunomodulatory
14.	Rason	*Allium sativum*	Organosulfur compounds	Imunomodulatory
15.	Kumari	*Aloe vera*	Anthraquinone , Polysaccharides, Dihydrocoumarin derivatives	Imunomodulatory
16.	Shatawari	*Asparagus racemosus*	Sitosterols	Imunomodulatory
17.	Beejak	*Pterocarpus marsupium*	Pterocarpol, Marupin	Imunomodulatory
18.	Vidarikand	*Pueraria tuberosa*	Puerarin, daidzein	Imunomodulatory
19.	Kakamachi	*Solanum nigrum*	Salasonine	Imunomodulatory
20.	Vruddhadaru	*Argyreia speciosa*	Quercetin	Imunomodulatory
21.	Mushali	*Curculigo orchioides*	Decane , benzoic acid	Imunomodulatory

Source: Primary Data

ABBREVIATIONS:

1. B.P.N. – BhavPrakash Nighantu,
2. B.P.N.G.V. – BhavPrakash Nighantu Guduchyadi Varga,
3. B.P.N.H.V. – BhavPrakash Nighantu Haritakyadi Varga,
4. B.P.N.V.V. – BhavPrakash Nighantu Vatadi Varga,
5. B.P.N.K.V. – BhavPrakash Nighantu Karpooradi Varga.

CONCLUSIONS AND FUTURE PROSPECTIVE

The immune system is a complex system containing interrelating biochemical mechanisms. The concept of "Rasayana" as mentioned in Ayurveda gives magical results in auto immune disorders. The main role of "Rasayan" therapy is not only about immunomodulatory action but also on other effects like anti aging, adaptogenic, antistreess. Above said list of "Rasayan" herbs is very limited but there are many other herbs which shows imunomodulatory action. There is a need to research on their varying use as a natural immunomodulators, which have the major potential to normalize the immune activity.

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