

MARINE PRODUCTS AND THEIR THERAPEUTIC IMPORTANCE

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ABSTRACT

Ayurveda is the ancient thought and treatise that deals with the knowledge of living a healthy life. There are several types of medicaments that are being used in the Ayurvedic mode of treatment. The source of these drugs is diverse and belongs to different category. The category ranges from plants and animals to minerals, and encircles around different types of species of plants and animals with vivid habitats. In the course of last thirty years, marine organisms have been proven to be a rich source of wide range of worthy compounds for medicine. This review makes a humble effort to summarize and gather knowledge about different types of marine drugs that are described and explained in Ayurvedic system of medicine.

KEYWORDS: Marine product, varatika, agnijara, samudraphena, mukta

INTRODUCTION

Marine products are those products or substances which are obtained from sea. They have many therapeutic properties. Hence they are used therapeutically in Ayurveda i.e ancient times. The evolution and development of Rasashastra occurred due to the necessity for using natural products in the field of medicine. Though some of these products were being used as a part of food yet others need to get purified and processed so that they can be used for medicinal purpose.

Rasashastra dealt with the substances that were found in the nature but in a crude form with the development of Rasashastra. These substances were purified and processed and used for healthy and diseased person. To get the desired results, shodhana, marana techniques were adopted. In Rasashastra most of the drugs are of mineral origin but

with the progress of time, marine products came in to existence in medicinal world. In Rasaratna samuchaya, marine products find place under sadharana rasa as agnijara, kaphardika¹. In ratna varga, muktha and pravala are the marine products².

Rasatarangini introduced a new group sudha varga in which shankha, shukthi, shambuka and samudraphena of sea origin were included³. Later on kurma prishta was added. Lavana varga includes samudra lavana that is derived from sea.

AIM AND OBJECTIVES

The aim of this work is to enlist the marine products, their shodhana, marana and therapeutic importance.

MATERIALS AND METHODS:

The marine products were dealt in sequence and Shodhana, marana process are given in table with their recommended doses. These

marine products are used either in Bhasma form or pishti form. Bhasma is obtained by heating the shodhita product for certain duration at specific temperature while pishti does not require heat. The drug is given bhavana of certain liquid rose water oftenly for certain period.

MARINE PRODUCTS AND THEIR THERAPEUTIC IMPORTANCE:

1. VARATIKA⁴: varatika is the shell of a sea animal of mollusca family. The animal inside the shell gets killed on boiling and the shell itself is known as varatika. It is used in Jarana process of mercury.

THERAPEUTIC ROLE: It is used in agnimandya, netra roga, karna srava, parinama shola, grahani, apache, shotha

FORMULATIONS: Agnikumara rasa, grahanikapata rasa, pravala panchamruta rasa, lokanatha rasa, pradarrantaka louha

2. AGNIJARA⁵: (ambargis)

It is used for abhraka dravana (rasarnava)

It is a wax like material originating in the digestive tract of sperm whale. It is rare and expensive.

THERAPEUTIC ROLE: Dhanurvata and all vata vyadhis

Obesity and blood disorders.

FORMULATIONS: bruhat vata chintamani rasa, jahar mohar vati, dhatri rasayana

3. MUKTA⁶: (pearl)

Mukta obtained in shukti from the sea is considered the best for medicinal purpose. These are either natural or cultured.

It is said in garuda purana that when sun moves in to swatinakshatra. The water drops that fall from the clouds get in to the oyster shell and transform into pearls.

THERAPEUTIC ROLE: it improves eyesight and digestive fire; acts as anti-dotes to poisons, expels the accumulated doshas, and improves potency.

FORMULATIONS: mukta-bhasma, mukta pishti, muktapanchamruta rasa, chaitanyodaya rasa, chintamani rasa, hiranya garbha pottali etc.

4. PRAVALA⁷: (coral)

Pravala is a marine life called as anthozoan polyp. According to zoology, it is 'coralligenous zoophytes'.

It is said that these species, are attacked to one another continuously that appears like a plant/ tree shape.

THERAPEUTIC ROLE: it is chakshushya, good appetiser and digestive. Especially kapha-vata diseases, cough, haemorrhagic disorder, excessive sweating, poisoning and viral or bacterial afflictions.

FORMULATIONS: drshti-prasadajanya (Sushruta), indushekhara rasa, hemanatha rasa, rasendra vati, mihirodaya vati, vasantamalati rasa, hemagarbha rasa, pravala panchamruta rasa etc.

5. SHANKHA⁸: (conch-shell)

This is the shell of a marine creature called "turbenalla raphe" belonging to 'mollusc' group.(molluscs are the groups of animals which have no bone and are covered by hard shell.)

THERAPEUTIC ROLE: usefil in amlapitta, agnimandhya, parinama shola, grahani, yavana pidaka, visha dosha. This acts as a grahi, balya and varnya.

FORMULATIONS: agnikumara rasa, kaphaketu rasa, shankha kalpa, shankha vati, agnikumara rasa, shankha dravaka, shankha varti etc.

6. SHAMBUKA⁹: (pila) This is also the shell of mollusc living in water. The shape of the shell is like a conch-shell but thin, round and without curves.

THERAPEUTIC ROLE: this acts as deepana, pachana, anti-colic, anti-diarrhoeal and is useful in eye-disorders.

FORMULATIONS: shankha Bhasma

7. SHUKTHI¹⁰ (OYSTER CELL)

This has been in use from the time of charaka, Sushruta, vagbhata. The inner part of the oyster shell is lustrous, smooth and outer part is rough, striated and blackish to blackish white in colour.

THERAPEUTIC ROLE: improves taste perception, appetiser, useful in colic, heart diseases, dysponea, urinary calculi, splenomegaly and stomach disorders.

FORMULATIONS: shukhti Bhasma

8. SAMUDRAPHENA¹¹: (cuttle fish bone)

This is a marine product, reminense of a creature, called as “cuttle fish bone” which is available on the sea shores. This is an oblongate light material covered in one side by bony-sheath compactly filled with smooth white material which can be

scratched by nails. Since this is found in the sea and looks like frothy mass, it is named as samudraphena.

THERAPEUTIC ROLE: this is given directly after Shodhana, it is used externally I dushta vrana, pootikarna etc. this has the action of lekhana, deepna, pachana. It increses peristalsis of the intestine. Good for eyes and skin disorders.

9. KURMA PRUSHTA(TORTOISE SHELL)

This is the tortoise shell, is hard and when the tortoise is dead this portion was taken out and used.

THERAPEUTIC ROLE: this gives strength to the bones, useful in children, lactating mothers, person suffering from pthisis, epilepsy.

FORMULATIONS: Kurmaprushta bhasma.

10. SAMUDRA LAVANA¹²:

This is prepared out of sea water. Hence it can be taken under marine origin.

THERAPEUTIC ROLE: It is used in hridroga, shula, aruchi, digestive disorders, constipation.

Table 1: Showing Merine Drugs With Shodhana, Marana and Other Properties.

Sl .No	Marine origin drug	Varga	Synonyms	Bheda	Shodhana	Marana	Dose	Anupana	Qualities
1	Varatika	Sadhara na rasa ⁴	Charachara, Varata, Bala,kreedanaka, Varatika ⁴ .	Dhoosara-3/4 nishka Shwetha-1nishka Peeta -1.5 niska ⁴	Swedana in Dolayantra containing kanji for 3 hours.	Kept in musha + Gaja puta	2 ratti	Water	Katu rasa,guru, ushna veerya
2.	Agnijara	Sadhara na rasa ⁵	Vanhijara Sindhu plava Arnabhodh	-	No need of shodhan ¹⁸	-	1/4 th ratti	Honey,gh ee,butter	Laghu,ush na

			ava Jarayu Agni nakra ⁵						
3.	Muktha	Ratna varga ⁶	Ambasara Chandra ratna Shakti mani Muktha phala	2 types Prakrutha Kruthrima	Swedana in Dolayantra for 3 hours containing jayanthi swarasa	Godugd ha or gulab arka bhavana +3 laghuput a	¼ -1 ratti	Honey,gh ee,butter	Sheeta ,laghu,ma dhura vipaka,she eta veerya
4.	Pravala	Ratna varga ⁷	Vidhruma ,bhouma ratna,raktan ga,abdiyant hu,latamani	4 types Shwetha, dhoosara, krishna,ra ktha	Swedana in Dolayantra for 3 hours containing jayanthi swarasa/ks hara dravya/tand uleeya	Godugd ha/kuma ri bhavana + 3laghu puta	½-2 ratti	Honey,Bu tter	Laghu,sni gdha,ma dhura rasa,sheet a veerya
5.	shanka	Sudha varga ⁸	Shanka,sha nkhaka,ka mbu,deerga nada	2 types Vamavart ha Dakshina vartha	Swedana in Dolayantra for 3 hours containing jayanthi swarasa/ja mbeera swarasa,tan dulodaka	Shodhit a shanka Sharava samputa 2 gaja puta	Upto 2 rattis	Nimbu swarasa,h ot water	Laghu,she eta
6.	Shambu ka	Sudha varga ⁹	Shambuka, kshudra shanka,swa lpa shanka,ksh ullaka		Swedana in Dolayantra for 1/2 yama containing amla dravya	Subjecte d to 1 gaja puta	2 ratti	Nimbu swarasa,h ot water	Laghu,she eta
7.	Shukthi	Sudha varga ¹⁰	Shukthi,mu ktamata,	2 types Muktha shukthi Jala shukthi	Swedana in Dolayantra for 3 hours containing jayanthi swarasa/ja mbeera swarasa	Subjecte d to 1 gaja puta	2 ratti	Honey ,ghee,mil k	Katu rasa Madhura

8.	Samudra phena	Sudhavarga ¹¹	Samudra phena, phenasaphena	-	Outer surface is scrapped, bhavana done in nimbu swarasa for 1 day.	-	2 ratti	Honey, water	Kashaya rasa, sheeta veerya
9.	Kurma prushta	Sudhavarga	Kurma prushta, kurmasthi.	-	Kept in takra for 12 hours, wash with hot water.	Bhavana with kumara swarasa subjecte to gajaputa.	1-2 ratti	Honey, gudhuchisatwa	-
10.	Samudralavana	Lavanavarga ¹²	Samudralavana	-	-	-	-	-	Lavana rasa, snigdha guna, madhura vipaka.

MARINE PRODUCTS AND MODERN PHARMACOLOGICAL FINDINGS:

Anti-ulcer activity:

1. Study revealed that Mukta bhasma produced significant protection in cold restraint stress induced gastric ulcer and diclofenac induced ulcer in low doses of therapeutic range when compared with control. Thiobarbituric acid reacting substances of stomach in ulcer induced rat was also reduced by Mukta bhasma¹³.

2. Study revealed that Mukta bhasma possess variable reduction in free and total acidity, peptic activity and acid output in pyloric ligated rat model¹⁴.

Anti Osteo arthritis effect:

Study revealed that pravala bhasma is effective in the prevention of calcium and estrogen deficient bone loss which was induced by ovariectomized and concurrent

calcium deficient female rat model and thus the use of Pravala bhasma in traditional system of Indian medicine for management of bone metabolic disorders such as osteoporosis, osteoarthritis and osteomalacia is justified by the research study¹⁵.

Cytotoxic activity:

Study revealed that ten new derivatives of ambrein, isolated from Agnijara, which was prepared by chemical transformation, exhibit cytotoxic activities against human liver carcinoma, colon adenocarcinoma, lung carcinoma and human breast adenocarcinoma cell lines¹⁶.

Anti-cataract activity:

Study revealed that Ayurvedic eye drops containing Mukta has significant anti cataract activity. Anti-cataract potential was evaluated using steroid induced cataract developing chick embryos, sodium selenite induced cataract in rat pups and galactose

induced cataract in rats. Result revealed significant anti cataract activity by including noticeable delay in the progression of cataract in the selenite galactose induced cataract models¹⁷.

DISCUSSION

1. In above mentioned ten marine products, Samudra lavana, Varatika, Shankha, Shukti, shambhuka are easily available.
2. Agnijara, Mukta, Kurmaprista are more cost effective.
3. Mukta, Pravala, samudra lavana, Shankha, Shukti etc., are regularly used.
4. Contravertioal drug: Agnijara; It was opined by some Rasashastris that the placenta of a Agninakra, flots on the sea and in due course of time, it becomes as a mass of Agnijara¹⁸. In present days it is believed that the constipated intestines of sperm whale come out after death and becomes Agnijara.

CONCLUSION

Ayurveda the traditional Indian system of medicine has a rich history of utilization of marine drugs. There is a complex pharmaceutical processing of these drugs which convert them to more biocompatible bhasma form, and hence causes direct enhancement in their bioavailability. The main chemical constituents of these drugs are calcium carbonate, but they also contain trace amount of other minerals, which results in the difference of therapeutic efficacy. The therapeutic role of these marine products in the management of hyperacidity, gastric reflux disease, dyspepsia, sexual incompetency, etc is supported by modern pharmacological findings. Further research work and

theoretical work in this field is awaited, from budding researchers.

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