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## COMPARATIVE STUDY OF JALASHUKTI AND MUKTASHUKTI BHASMA

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**ABSTRACT:**

*Oyster shell (shukti) is an important ocean product, used in Ayurvedic treatment. Its reference can be cited from various classical ayurvedic texts. In Charaka samhita, Oyster shell was used in the form of fine powder for external application only. It is prepared into a bhasma form by processing through shodhan and maran vidhi. There are two types of shukti 1)Jalashukti 2) Muktashukti. Shukti is one of the calcium containing substance, which is beneficial than other calcium drugs. Shukti bhasma was manufactured from Jalashukti and Muktashukti.. The properties of both bhasma were found to be similar, but Muktashukti bhasma is used more frequently. The calcium content of Muktashukti bhasma is more than that of Jalashukti bhasma. Benig the main ingredient of both bhasma, better acting property of Muktashukti bhasma can be due to this increase proportion of the calcium in it. Therefore the Muktashukti bhasma acts better than Jalashukti bhasma. The specificity of Jalshukti bhasma in haematuria due to small calcium and specificity of Muktashukti bhasma in ulcer healing properties cannot be explained satisfactory on the basis of chemical analysis. The further clinical study on this topic may open a new vista in the research field. The analysis shows that there is difference in the percentage of trace element also.*

**KEY WORD:** *Bhasma, Calcium content, Haematuria, Jalashukti, Muktashukti*

## INTRODUCTION

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Oyster shell (*Shukti*) is one of the important ocean products, which is used in Ayurvedic treatment. Reference of its uses can be cited from various classical ayurvedic texts. In Charaka samhita<sup>1</sup>, it is mentioned that Oyster shell should be used in fine powder form for external application only. It is prepared in a medicine by processing through *shodhan* and *marana vidhi*. There are many calcium containing substances in various Ayurvedic texts. *Shukti* is one of them. In Rasarnava and Rasaratnakar it is mentioned under the heading of '*Shukla varga*'. After 16 century *shukti* is mentioned in '*Sudhavarga*'. Two types of *Shukti* are described in ayurvedic literature.

1) *Mukta shukti*: i.e pearl producing oyster shell.

2) *Jalashukti*: i.e. non pearl producing oyster shell.

*Muktashukti*; is elliptical in shape, deep box like structure about 1 inch. Its inner surface is shiny white and many times red violet tinges are seen.

It occurs in *Ocean* lake, ponds, river etc. It is smaller than that of pearl producing oyster shell. It is half inch in depths and inner surface is smoky in nature and lusterless.

Two types of shells are used in the form of Bhasma. The process of *shodhan* and *maran* is similar for both the types of *shukti*. The medicinal properties of these two bhasma are same but the *Muktashukti bhasma* is used more frequently. The calcium content of *Muktashukti bhasma* is more than that of *Jalashukti bhasma*. Better acting property of *Muktashukti bhasma* can be due to this increase proportion of the calcium in it. Therefore the *Muktashukti bhasma* acts better than *Jalashukti bhasma*<sup>2</sup>. The specificity of *Jalashukti bhasma* in hematuria due to small calculi and specificity of *Muktashukti bhasma* in ulcer healing properties cannot be explained satisfactorily on the basis of chemical analysis. The further study on this topic may open new vistas in the research field.

**MATERIAL AND METHODS**

**MATERIALS**

Samples of Oyster shell (*shukti*), Aloe vera (*kumari*), Lemon juice,

Instruments: Morter and pestel, Sharavasamputa, Dola yantra, Cloth, Pot, Burner etc.

**Methodology-** *Shodhana*, *Marana*, and *Bhavana* processes are same for the *Jalashukti* and *Muktashukti*.

**SHODHANA PROCESS**

A) *Samanya* (General) *shodhana*.

*Shukti* were kept in lukewarm water over night to remove the external dirt and afterward washed with simple water.

B) *Vishesh* (Special) *Shodhana*<sup>3</sup>

**Experiment No 1 and 2 Shodhana of Jala and Muktashukti.**

**Table: 1 :Weight difference before and after Shodhan.**

No.	Samples	Wt.before <i>shodhana</i>	Wt. After <i>shodhana</i>	Difference percentage
1	<i>Jalashukti</i> 100 gm	85 gm	15 gm	15%
2	<i>Muktashukti</i> 100 gm	90 gm	10 gm	10%

*Nimbu swarasa* was prepared by using juicer. *Shukti* was kept in *pottali*.

*Dolayantra* assembly was prepared with the help of *ghatayantra*, stick, and thread. 375 ml *Nimbu swarasa* was poured in *ghatayantra*. *Pottali* was kept immersed in *swarasa* without touching the inner wall of *ghata*. *Dolayantra* was subjected to low heating till 3 hours. *Nimbu swarasa* of same temperature was added to *dolayantra* when required.

*Maran* Process for both *shukti*<sup>4</sup> :

**MATERIAL:** *Shudha Jala shukti* and *Mukta shukti* 90 gm each.

**APPARATUS:** *Sharava samputa*, *Gopichandan clay*, cloth, Heating apparatus.

**METHOD:** Pair of *sharava* was taken and their inner surface was coated with slaked lime. Coarse pieces of purified *shukti* were taken in one of the *sharava* and it is closed with the other *sharava*. Its joint was sealed with *matakapada (cloth)*. The apparatus

was dried in sunlight. The apparatus was subjected to heat in coal furnace for 3 hours. After 3 hours the apparatus was allowed to cool by itself. Next day apparatus was opened and the contents were taken in mortal and triturated for 3 hours to form a powder. Half part of the sample was collected in dry glass bottle and labelled bhasma without *bhavana*.

**Bhavana process of bhasma<sup>5</sup>:**

Material required: Sample of both bhasma and *Kumari juice*.

**Apparatus:** Mortar and Pestle.

**Method:** Prepared both *shukti bhasma* was taken in mortar. *Kumari juice* was added to it till all the bhasma is covered. It is triturated till the mixture become dry. The sample was labelled as *a bhasma* with *bhavana*. Thus total four samples of *Jalashukti* and *Muktashukti bhasma* collected and were subjected to chemical analysis.

**OBSERVATIONS**

**Table 2: Material required**

No.	Drug name	Quantity	Drug name	Quantity
1)	Jalashukti	100 gm	Muktashukti	100 gm
2)	Nimburasa	375 ml	Nimburasa	375 ml
3)	Plain water	375 ml	Plain water	375 ml

**3.Weight difference before and after *Maran*.**

No	Sample	Wt. Before <i>Maran</i>	.Wt.After <i>Maran</i>	Difference Percentage
1	<i>Jalshukti</i>	80 gm	5 gm	5.88%
2	<i>Muktashukti</i>	85 gm	5 gm	5.88%

PH Values of *Jalashukti* and *Muktashukti bhasma* was =10.5 i.e mild alkaline in nature.

Bulky density of *Jalashukti* and *Muktashukti bhasma* was same i.e. 1.28 Particle size was = 105 micron.

**Table No. 4 Calcium percentage (PPM) in *Bhasma* :**

No.	Samples of <i>Bhasma</i>	Ca%	Difference
1)	<i>Jalashukti</i> without <i>bhavana</i>	520	32%
2)	<i>Jalashukti</i> with <i>bhavana</i>	552	
3)	<i>Muktashukti</i> without <i>bhavana</i>	514	70%
4)	<i>Muktashukti</i> with <i>bhavana</i>	584	

The elements were estimated by inductively coupled plasma technique. (By Icp – Jobin voyon 24 (ppm))

**Table No. 5 :Observation table showing Elemental concentration(PPM):**

No	Name of the element	<i>Jalashukti</i> without <i>bhavana</i>	<i>Jalashukti</i> with <i>bhavana</i>	<i>Muktashukti</i> without <i>bhavana</i>	<i>Muktashukti</i> with <i>bhavana</i>
1	Zn	0.062	0.217	0.542	0.253
2	Co	0.011	0.006	0.384	0.012
3	Cd	0.008	0.003	0.194	-----
4	Mn	0.008	0.035	0.124	0.030
5	Fe	0.569	0.780	1.06	0.838
6	Mg	0.966	2.02	0.163	2.14
7	Cu	0.044	0.045	0.140	0.359
8	Al	0.938	1.23	0.543	0.982
9	Sr	2.42	2.37	1.84	1.69
10	Ca	520	552	514	584
11	Na	2.28	3.65	0.218	13.4

## RESULT

The analysis shows that in addition to calcium, there are ten different trace elements which are present in the both samples in detectable amount.

A calcium content of *Muktashukti bhasma* is 584 ppm and *Jalashukti bhasma* is 552 ppm in sample of with *bhavana*.

## DISCUSSION

In case of sodium, *Jalashukti bhasma* without *bhavana* is 2.28ppm and it is 3.65ppm in sample of *Jalashukti bhasma* with *bhavana*. The increased value of Sodium in the sample is due to the *sanskara* of aloe vera. However if we compare value of sodium in *Muktashukti bhasma* is 0.218ppm in samples without *bhavana* and 13.4 ppm in sample with *bhavana*. It is therefore clear that the amount of sodium present in *Muktashukti bhasma* is quite less with compare to *Jalashukti bhasma* in sample without *bhavana*. From above table it is seen that the amount of trace element increases after the *bhavana sanskara* and therefore the change (mostly addition) can be attributed to *bhavana sanskara*.

One important property of both types of *shukti bhasma* is *deepana*<sup>7</sup> as well as

*shishira*<sup>6</sup>. Usually the substances which act as *deepana* are of *ushna guna*. But *Jalashukti* and *Muktashukti* both are *sheeta* as well as *deepana*. Due to these properties it works effectively in various *pittajvikara*.

Where there is vitiation of the *pittadosha* with *drava* as well as *ushna guna*. Due to its *deepana guna* the liquidity and associatrd *Agnimandya* is reduces and due to its *shishir* property the *ushna guna* can also be countered. Therefore use of both types of *shukti bhasma* is mentioned in the treatment of *Amalapitta*, *Pittaja garhani* etc .

Calcium content percentage wise is more in *Muktashukti bhasma* as compare to *Jalshukti bhasma*.

## CONCLUSION

Calcium content of *Muktashukti bhasma* is more than *Jalashukti bhasma*. Better acting property of *Muktashukti bhasma*

can be due to increased proportion of calcium in it. Therefore *Muktashukti bhasma* acts better than *jalshukti bhasma*..

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