Aswin. I. R
P.G. Scholar Dept. of Rasa Shastra and Bhaishajya kalpana S.V.Ayurvedic College Tirupati.

ABSTRACT:
Mruddarasrunga (Lead oxide) is one among the least explored drug in Ayurveda Rasa Shastra field. The reason behind this is lack of proper references of Mruddarasrunga in Classical Rasashastra text books. In compilation works also only a few references are available about Mruddarasrunga and its practical utility. But there are some Vaidyas belonging to South India, who have been using this drug in practice for various ailments both internally as well as externally. This paper is dealing with the types, Vernacular names, properties, therapeutic indications, Shodhana (purification) and Marana (incineration) procedures.

Key words: Mruddarasrunga, Shodhana, Marana, Lead oxide.

INTRODUCTION: Only after 8th century some references about Mruddarasrunga in Ayurveda Rasa Shastra texts is available. In Classical texts like Rasaratna Samuchaya, Rasaprakasa Sudhakara Mruddarasrunga has been included one among Saadharana rasa. In Rasaamrutha the reference of Mruddarasrunga can be found in Uparasa Vijnaaneeya Adhyaya. In some other texts like Rasa Tarangini Mruddarasrunga is included in Naga Prakarana (while describing lead and its compounds). Only external usage of Mruddarasrunga is explained in most of the Ayurveda Rasasastra texts

<table>
<thead>
<tr>
<th>Rasaratna Samuchaya</th>
<th>Saadharana rasa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rasaprakasa Sudhakara</td>
<td>Saadharana rasa</td>
</tr>
<tr>
<td>Rasaamrutha</td>
<td>Uparasa</td>
</tr>
<tr>
<td>Rasa Tarangini</td>
<td>Naga Prakarana</td>
</tr>
</tbody>
</table>

Various Taila, Malahara Kalpanas contain Mruddarasrunga as chief ingredient known to be very effective in managing skin disorders and non healing ulcers. The internal usage of Mruddarasrunga Bhasma is seen in Rasayogarasagara and also in Rasa Tantra Sara va Siddha Prayoga

Synonyms:

<table>
<thead>
<tr>
<th>Synonyms</th>
<th>AP</th>
<th>RRS</th>
<th>RT</th>
<th>RA</th>
<th>RC</th>
<th>RP</th>
<th>RPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mruddarasrunga</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mudrasankha</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>_</td>
</tr>
<tr>
<td>Murdasankhaka</td>
<td>_</td>
<td>_</td>
<td>+</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>_</td>
</tr>
<tr>
<td>Kedarasrunga</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>+</td>
<td>_</td>
</tr>
<tr>
<td>Vodarasrungka</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>_</td>
</tr>
<tr>
<td>Bodarasrungaka</td>
<td>+</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>+</td>
<td>_</td>
<td>_</td>
</tr>
<tr>
<td>Nagasatva</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>_</td>
</tr>
<tr>
<td>Seesasatva</td>
<td>+</td>
<td>+</td>
<td>_</td>
<td>_</td>
<td>+</td>
<td>_</td>
<td>_</td>
</tr>
<tr>
<td>Seesagarbha</td>
<td>_</td>
<td>_</td>
<td>+</td>
<td>_</td>
<td>_</td>
<td>_</td>
<td>_</td>
</tr>
</tbody>
</table>

Mruddarasrunga is identified chemically as Lead oxide. PbO occurs in two polymorphs, one litharge having a tetragonal crystal structure and the other Massicot having an orthorhombic crystal structure.
Vernacular names:\(^{13}\):
- English name : Litharge, Lead oxide
- Latin name : Plumbum oxidum
- Hindi : Mudra sankha
- Telugu : Muddarasingu
- Tamil : Mudarusrungi
- Malayalam : Mrudarsrungi

Classification:
I) Based on Origin\(^{14}\) – 1. Khanija
  2. Krutrima
II) Based on Colour\(^{15}\) – 1. Peeta
  2. Pandura
III) Based on Structure\(^{16}\) – 1. Sadala
  2. Nirdala

Note: Almost all classical texts mention the appearance of Mruddarasrunga in Nature as Sadala and Peethabha.

Availability\(^{17}\):
- From the surroundings of Mt. Abu and Aravaliin Guffera mandala (presently in Rajasthan).
- Now a days it is prepared artificially also by heating Lead Nitrate, Lead dihydroxide, lead carbonate.
- Artificial variety is considered as good as it is devoid of other impurities.

Note: According to classical texts availability of Mruddarasrunga is found maximum in Arbudagiriparswa.

Properties:
- Rasa (taste): not mentioned
- Guna (quality): Guru (heavy to digest), Khara (rough)
- Veerya (potency) Shishira (Cold)
- Karma (action): Kaphahara (Rasaratna Samuchaya)\(^{18}\)
  - Vata Kaphahara\(^{19}\)
  - Lekhana, Rechaka, Kesa Rachana\(^{20}\)
  - Samkochaka, Kesya\(^{21}\)

Clinical Indications\(^{22}\): Pama Kandunashana, Phirangangagadapaha, Vrana Ropana, Bhagna Sandhanajanaka, Tvak Doshashamana.

Shodhana:
1. Samanya Shodhana – Bhavana of Mruddarasrunga with Matulunga (Nimbu) Swarasa or Ardraka Swarasa for 3 days\(^{23}\).
2. Mruddarasrunga – Bhavana with Bijapura (Nimbu) Swarasa for 3 days\(^{24}\).
3. Visesha Shodhana – Mruddarasrunga is powdered in Khalvayantra, impurities are discarded and sieved through cloth to get fine powder. 15 days trituration is done with pure water. Then it is dried in sun\(^{25}\).
4. Mruddarasrunga is triturated with 1/4\(^{th}\) part of Saindhava lavana for 1 prahara in Khalvayantra and 4 times of water is added, kept over one night. Then the water is discarded on the next day and the same procedure is repeated for 21 days\(^{26}\).

Marana\(^{27}\): The Mruddarasrunga sample was pounded into small pieces and soaked in Nimbu swarasa (Nimajjana) for 3 days. While pounding earthen impurities should be removed from the sample. On 4\(^{th}\) day take Mruddarasrunga from Nimbu swarasa and wash with luke warm water. Marana method of Mruddarasrunga is not often found in Ayurveda Rasa Shastra text books. For Marana process Shodhita Mruddarasrunga was triturated well with Nimbu swarasa and made into chakrikas of uniform size and was subjected to Kapota Puta (using 8 upalas). The Putas should be continued up to the desired qualities of Bhasma attaining. The fourth and final stage of Mruddarasrunga Bhasma preparation consists of 3-3 Bhavanas with Triphala Kwatha, Kumari Swarasa, Gomutra, Nimbu Swarasa respectively.

Therapeutic uses of Mruddarasrunga Bhasma:
- For Mrubhakshnajanya Vikaras - In children Mruddarasrunga Bhasma 1/4
Mruddarasrunga Bhasma 1 rathi (30 mg approx.) can be given with Virechanaoushadha[28].

- Mruddarasrunga Bhasma 1 rathi (125 mg) can be given for Prameha with Haridra Churna and Honey[29].
- In Upadamsa – Mruddarasrunga Bhasma 1 rathi (125 mg) can be given with Lavanga, Maricha, or Ghruta or Sarkara according to the condition[30].

**Siddha point of view:** In Siddha system of medicine Mruddarasrunga is widely used for curing various ailments. Detailed description about Mruddarasrunga is available in various classical Siddha treatises. Yakkob Siddha[31,32], Machamuni[33] gave detailed description about Mruddarasrunga in their Classic texts. Artificial preparation of Mruddarasrunga, convenient method of various Shodhana and Marana procedures are readily available in Siddha Classics. According to Siddha tradition Mruddarasrunga is one among the 64 Pashanas (poisonous drugs). Mruddarasrunga is one of the chief ingredients among the Navapashanasindoora (potent Kaptha Vatahara Oushadha having multilevel of action).

**DISCUSSION:** Mruddarasrunga is one among the Sadharana Rasa according to Rasaratnasamuchaya. It is chemically lead oxide and available in two forms Litharge and Massicot. Now a days, it is available in mainly Rajasthan and Southern part(Andhra Pradesh & Tamilnadu) of India. Even though various Shodhana methods of Mruddarasrunga are available in classical Rasa Shastra texts, Marana procedure is found only in Rasayogasagara. For the Marana Kapota puta is advised. The reason behind in the selection of Kapota Puta was that PbO is not stable in higher temperature. PbO will be reduced to Metallic Lead at 1200°C[34]. Mruddarasrunga Bhasma is mainly indicated in Prameha and Upadamsa. It is mainly Kapahara in nature. It will be effective in managing Prameha as the causative Dosha is Kapha. In Upadamsa also the Bhasma will be effective. The Bhasma also having Vrana Shodhana and Ropana quality. It can be given in various skin disorders.

**CONCLUSION:** The Mruddarasrunga Bhasma is one among the effective drug practised in South India for various Non healing ulcers, Psoriasis etc. But due to the lack of proper references and practice it remains as least explored. This paper covers the important references, the properties, Shodhana, Marana and various therapeutic applications. Mruddarasrunga Bhasma is a cost effective medicine which produces desired effects with in less duration of time.

**REFERENCE:**

5. https://en.m.wikipedia.org/wiki/Tetragonal_crystal_system


31. YakoobVytheeyam 300, R.C Mokan, Tamarantalakam, Chennai. Page No. 9
32. Yakoob Vydyam Chintamani 700 R.C Mokan. Tamarantalakam, Chennai.Sloka 423 Page No. 219
33. Machamuninayanar 800, Utyavanan, MokanPuthakanilayam, Chennai. Page No. 67-68

Corresponding Author:
Dr.Aswin. I. R
P.G.Scholar Dept. of Rasa Shastra and Bhaishajya kalpana S.V.Ayurvedic College Tirupati.
Email: aswinayur@gmail.com

Source of support: Nil
Conflict of interest: None Declared