

A review on *Kansya*: The bell metal

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Abstract

Kansya is an important *Misra Loha*, an alloy of Copper and Tin known since the period of *Samhita Kala*. *Charaka* used this metal to prepare *Vasti netra*. It is known as Bell Metal or Bronze. Bell metal is a hard alloy used for making bells and related instruments, such as cymbals. It is a form of bronze, usually in approximately a 4:1 ratio of copper to tin (e.g. 78% copper, 22% tin by mass). *Kansya Bhasma* (also spelled as *Kansa Bhasma*) is a metal-based *Ayurvedic* medicines. It is prepared from the bell metal ore, which is likely to contain about 78% copper and 22% tin. *Kansya Bhasma* is used in the treatment of intestinal worms, skin diseases with dry and hard skin and eye problems. It may not work alone, so adjuvants are required to get benefits from it. According to the description given in *Ayurveda* texts there are two varieties of *Kansya* viz. *Pushpa* and *Tailika*, only the former being acceptable for therapeutic applications.

Keywords: *kansya*, *bhasma*, bell metal, properties, copper, tin

Introduction

Kansya Bhasma

Medicine Category	: <i>Bhasma</i>
<i>Dosha</i> Effect	: Pacifies <i>Kapha</i> & <i>Pitta</i>
Potential Action	: <i>Lekhana</i>
Main Indications	: Skin Diseases, Eye Diseases & Worms
Special Organ Effect	: Skin, Blood & Intestines
Safety Profile	: Not Established
Dosage	: 125 mg to 250 mg
Best Adjuvant	: Honey or <i>Gulkand</i>
Shelf Life	: Old is good

Ingredients (Composition)

Kansa (*Kansya*) is Bell Metal, which is a main ingredient of *Kansya Bhasma*.

Chemical Composition of *Kansya*-The Bell Metal

Metallic Element	Percentage (Approx.)
Copper	: 78% by mass
Tin	: 22% by mass
Iron	: -
Sulphur	: -

Medicinal Properties

Kansa (*Kansya*) *Bhasma* has following medicinal properties:

1. Anthelmintic (used along with *Vaividang*)
2. Digestive Stimulant
3. Tonic for eyes
4. Strong Demulcent

Ayurvedic Properties

Taste – <i>RASA</i>	: <i>TIKTA</i> (Bitter) & <i>KASAYA</i> (Astringent)
Main Quality – <i>GUNA</i>	: <i>LAGHU</i> (Light), <i>RUKSHA</i> (Dry)
Potency – <i>VIRYA</i>	: <i>USHNA</i> (Hot)
Resultant – <i>VIPAKA</i>	: <i>KATU</i> (Pungent)
Therapeutic Effect – <i>PRABHAVA</i>	: <i>LEKHANA</i>
Effect on Humors- <i>DOSHA KARMA</i>	: Pacifies <i>KAPHA</i> & <i>VATA</i> and Detoxifies <i>PITTA</i>
Effects on Organs	: Eyes, Skin & Intestines

Review of Literature on *Kansya* as Per *Ayurveda* Texts

1) **Rasendra Chudamani** - (14/ 174-179) [2]

- *Shreshtha* and *Nikrishta Kansya lakshana* has been mentioned along with the procedure of *shodhana* and *marana*.
- *Kansya Nirmana Vidhi*- *Kansya* is prepared by melting and mixing 800gm of *Tamra* and 200gm of *Vanga*.
- *Kansya Shodhana*- *Kansya* is heated and quenched seven times in cow's urine.
- *Kansya Marana*- *Kansya marana* is done by applying *Shuddha Gandhak* and *Hartal* 50-50gm each on 200gm *Kansya patra*(leaflets). After this, heat is given in *Varaha Puta* and *Gaja Puta* to obtain *Kansya bhasma*.

2) **Rasa Prakasha Sudhakara**- (4/ 112-115) [3]

- *Kansya Nirmana*- *Kansya* is prepared by melting four parts of Copper in one part of Tin.

- *Kansya Shodhana*- *Kansya shodhana* is done by heating it on fire and quenching immediately in cow's urine, repeating the process seven times.
- *Kansya Marana*- *Kansya marana* is done by using *Hartal*, *Gandhak* along with *Nimbu rasa* for trituration. Five or more *Gaja Puta* can be given till the *bhasma* is formed.
- *Kansya Bhasma Guna* - *Vata Nashaka* (alleviate *Vata*) and *Sarva Prameha Nashaka* (cures all types of *Prameha*).

3) *Rasaratan Samuchyaya*– (5 /205-212) [4]

- *Kansya Nirmana Vidhi*- Eight parts of *Tamra* and two parts of *Vanga* are heated and melted together to obtain *Kansya*.
- *Grahya Kansya*- Sample of *Kansya* having *Teekshana Shabdham*(sharp sound), *Mridu*(soft), *Snigdha*(smooth to touch), *Eshat Shayamalam* (slightly grayish), *Shubhram/Nirmalam* (without impurities), *Dahe raktam*(turns red on heating) is preferred for therapeutic purposes.
- *Kansya Shodhana*- Heating *Kansya patra* on fire and quenching immediately in cow's urine seven times makes it pure.
- *Kansya Marana*- *Shuddha Gandhak* and *Shuddha Hartal* are used for *Kansya marana*.

4) *Sharngadhara Samhita*- *Madhyama Khanda* (11/ 27) [5]

- Similar procedure for the preparation of *Tamra*, *Pital* and *Kansya bhasma* has been mentioned. *Samyoga* of *Gandhak* (treated with *Arka* milk, *Bargad* milk, *Sambhalu patra kalka*, *Chiraunji kalka*) with *Tamra*, *Pital* and *Kansya* forms their *bhasma*.

5) *Rasendra Chintamani*-(6/13) [6]

- *Kansya Shodhana* is done by performing its *Sechana* seven times with *Nirgundi rasa*.

6) *Ayurveda Prakasha*- (4 /64-65, 75-80) [7]

- *Kansya Properties*-*Kashaya*(astringent), *Tikata*(bitter), *Ushna*(hot),*Lekhana*(scrapping), *Vishada*(non-slimy), *Saram*(mobile), *Guru*(heavy), *Netrahitam*(useful for eyes), *Ruksham*(dry), *Kaphapitta hara* (alleviates *Kapha* and *Pitta*).
- *Pushpa* and *Tailika* are the two varieties of *Kansya*. *Pushpa Kansya* is *Shwetatam* (white) and *Grahya*.
- *Samanaya Shodhana* of *Kansya*- *Kansya patra* are heated on fire and quenched thrice in the following media *Taila*, *Takra*, *Gomutra*, *Kanji* and *Kulattha kwatha*.
- *Vishesh Shodhana* of *Kansya* - *Kansya patras* are heated at a high temperature in cow's urine for one *prahara*.
- *Kansya Marana* – *Gandhak* is grinded in *Arka* milk and this paste is applied on *Kansya patras*. The heat of *Gaja Puta* is supplied and *Kansya bhasma* is obtained after two *Putra*.

7) *Rasa Tarangini* - (22/ 21-34) [8]

- *Kansya* Synonyms- *Kansiya*, *Kansyaka*, *Kansya*, *Ghoshpushpa*, *Ghoshaka*, *Vahnilauha*, *Ghosha*.

Kansya Nirmana- *Kansya* is prepared by melting and mixing *Shuddha Tamra* (four parts) and *Shuddha Vanga* (one part).

- *Kansya Shodhana* (1st Method) - Heating *Kansya patras* on fire and quenching seven times in cow's urine make it pure.
- *Kansya Shodhana* (2nd Method) - Heating *Kansya churna* in *Gomutra* mixed with *Saindhava lavana* for one *prahara*.
- *Kansya Marana* (1st Method) – *Gandhak* mixed with *Arka* milk is applied on *Kansya patra* and dried. Now three *Gaja Puta* are given.
- *Kansya Marana* (2nd Method) - *Shuddha Kansya churna* and *Shuddha Hingul* is taken in equal quantities, trituated with *Nimbu swarasa* and three *Gaja Puta* are given.
- *Kansya Marana* (3rd Method) - *Shuddha Kansya churna* and *Manahshila churna* is mixed with *Gandhak* in equal quantities and trituated with *Ghritkumari rasa*. After the above mixture dries three *Gaja Puta* are given.

Benefits and Medicinal Uses of *Kansya*

Kansa (Kansya) Bhasma has properties of *Tamra Bhasma* and *Vanga Bhasma*. It is used in worm infestation, skin diseases and blood disorders. However, Potency (*VIRYA*) of *Kansya Bhasma* is *USHNA* (Hot), but it pacifies *PITTA* because of its *TIKTA* (Bitter) & *KASAYA* (Astringent) taste (*RASA*). Due to qualities like *LAGHU* (Light) & *RUKSHA* (Dry), it may not be beneficial in *VATA* disorders. Therefore, it should be used in *KAPHA-PITTA* disorders. *Kansya Bhasma* contains copper and tin elements. Here are some benefits of copper and tin in the human body.

Copper Benefits

1. Red blood formation
2. Important for immune system
3. Collagen Formation
4. Antioxidant
5. Copper require to make energy
6. Stimulate bile secretion from the liver and increase peristaltic movements and cures constipation

Tin Benefits

1. Supports Adrenal Gland Functions
2. Reduces fatigue & treat skin problems
3. Improves digestion
4. Support hair growth
5. Enhances reflexes
6. Anti-cancer
7. Induces sleep and treats insomnia
8. Tin also works in cases of depression with treatment failure with other remedies.
9. Intestinal parasites

Beneficial for Eyes

Kansya Bhasma is good for eyes. It helps improving vision. It contains copper, which is essential for preventing and inhibiting progress of the age-related macular degeneration. Copper is also antioxidant, which helps fighting off free radicals in the body. In eyes, it

maintains health of the flexible connective tissue. In optic neuropathy, it prevents further deterioration of the vision.

Intestinal Parasites (Worms)

Tin in *Kansya Bhasma* has Anthelmintic properties. Copper helps building non-specific immunity of the body, which helps the body fight off all types of microbes as well as parasites.

In worm infestation, *Kansya Bhasma* should be used with *Vaividang Churna* and other remedies as follows

Remedies	Quantity
<i>Kansya Bhasma</i>	125 mg *
<i>Ajwain</i> (Carom Seeds)	500 mg *
<i>Vaividang Churna</i>	1000 mg *

* Twice a day keeping 3 hours gap between *Kansya Bhasma* and meal or any type of food

Internal Abscess

However, draining the pus is a good method for all types of abscess including internal abscess and skin abscess. In some cases, draining internal abscess require a surgery in addition to antibiotic treatment. In Ayurveda, *Kansya Bhasma* is best for all types of abscess especially, internal abscesses. It dries up the pus and prevents spreading of the infections. *Kansya Bhasma* also has antimicrobial, antibacterial and antiprotozoal activities, so it also eradicates the associated infections.

Dosage and Administration of *Kansya Bhasma*

Infants	Not Recommended
Children	30 to 60 mg *
Adults	60 to 250 mg *
Pregnancy	Not Recommended
Geriatric (Old age)	60 to 125 mg *

Maximum Possible Dosage (per day or in 24 hours in 500 mg in divided doses)

* Twice a day with Honey or *Gulkand*

How to Take

Kansya Bhasma should be taken with appropriate adjuvants and supporting *Ayurvedic* medicines according to disease. Three Hour gap should be kept between meal and *Kansya Bhasma*.

Safety Profile

Kansya Bhasma may be useful in above listed conditions, but it should be taken under supervision of *Ayurvedic* doctor. There are no side effects observed with the use of *Kansya Bhasma* for a short period (less than 4 weeks).

Side Effects of *Kansya Bhasma*

However, side effects are not observed with well-prepared *Kansya Bhasma*, but Raw *Kansya Bhasma* may

cause following side effects due to deficient processing methods.

1. Anal Fissure (generally observed with presence of Raw copper)
2. Nausea
3. Vertigo

Contradictions

In following diseases, *Kansya Bhasma* is not appropriate to use.

- Anal fissure
- Kidney impairment & Renal failure

Emphasis is given to purification of metals and their conversion to micro-fine powders by following specified guidelines, processes which were termed 'Ayaskriti'. Charaka suggest using these metallic preparations with great authority, stating them to be safe and efficacious if used judiciously. He also emphasizes that great caution is needed when using such metallic powders in therapeutics. In addition to the therapeutic utilization; different metals ranging from gold to iron were also used in preparing equipments like *Jihva Nirlekhana Yantra* (tongue scrappers), *Nabhi Kartana Yantra* (sharp instruments to cut umbilical cord), *Vasti Netra* (nozzle of enema pot), different *Anjana Shalakas* (metallic applicator for application of medicaments into eyes) etc. Besides this, Charak recommends preparing containers and vessels with different metals like gold, silver, copper, iron and some alloys etc. where instructions for pharmaceutical procedures like boiling etc. are given.

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