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Determination of Ash content in *Varatika* and *Abhraka* used in Ayurveda Rasa pharmaceuticals

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Varatika is the shell of *Cyprea moneta* (shell of cowry) and chemically it is identified as a carbonate of calcium ($CaCO_3$). This is used in *Rasa Shatra* as a key ingredient. Among *Abhraka* varieties *Krishna vajra abhraka* (Biotite Mica) is the finest variety used for therapeutic purposes. Mineral compounds that are prepared through *Shodhana* (purification), *Bhavana* (trituration) and *Marana* (incineration) are considered pharmaceutically as the most suitable forms as they are superior, non-toxic and highly potent for therapeutic point of view. Owing to the superiority of mineral drugs in the place of herbal drugs it has been described that the supremacy might be due to their fast action in smaller dose with good palatability. Hence determination of the total ash content and the acid soluble ash content of *Varatika* and *Abhraka bhashma* are important, as it could be helpful to understand the effectiveness of those Ayurveda medicines in the human body.

Purification of *Varatika* and *Krishna vajra abhraka* (six samples each) and preparation of *Dhanyabhraka* and *Dhanyabhraka chakrika* were carried out using traditional methods described in authentic Ayurveda texts. Samples were ashed using Muffel furnace and total ash content and acid soluble ash content were determined.

Ash content of unpurified and purified *Varatika* was 55.64% and 57%, respectively. When compared with the traditionally incinerated sample it is lower (8.50%) than the sample incinerated in a Muffle furnace (14%). These results revealed the importance of improving traditional methods using modern techniques for the manufacture of quality Ayurvedic medicines and this result could be useful to interpret the therapeutic effect of *Varatika Bhashma* used in hyper acidity.

The ash content of unpurified *Abhraka* was 0.94g (±0.00) in 1g of sample and it was 0.95g (±0.01) in 1g of purified sample. Acid soluble ash content has increased during the purification from 5% to 7.8%. Total ash content and acid soluble ash content of *Dhanyabhraka* was 0.92g (±0.01) and 10% respectively, and 0.66g (±0.01) ash amount was determined in *Abhraka chakrika*. Acid soluble ash content in *Abhraka chakrika* was 5.8%. These results highlight the significance of purification process in Ayurveda pharmaceutical preparation.

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