

## STUDIES ON MRTASANJIVANI SURA

MUZAFFER ALAM, R.BHIMA RAO, K.K.A. DASAN, S.JOY  
And K.K. PURUSHOTHAMAN

Captain Srinivasa Murti Drug Research Institute for Ayurveda, Madras 600 106 India

---

Received: 4 May 1987

Accepted: 10 March 1988

---

**ABSTRACT:** Mrtasanjivani sura was prepared according to the formulary in an earthen pot and in a glass vessel. The drug fermented in glass vessel was distilled using glass joint distillation apparatus and that fermented in earthen pot was distilled by baka yantra method. The alcohol content in the finished medicine in the glass distilled and baka yantra methods were 3.44% and 4.70% respectively. The medicine of each container was acidic in nature.

### Introduction

Mrtasanjivani sura is a compound formulation involving 45 ingredients. Though it is placed in the group of asavas and arishtas as it is prepared by the process of fermentation, it differs in one aspect in the sense that final product is obtained by distillation.

The method of preparation involves mixing of 22 out of 45 ingredients including jiggery in water (23<sup>rd</sup> ingredient). This drug mixed solution is taken in an earthen pot and is buried in a heap of grains. It is opened on 16<sup>th</sup> day and the remaining 22 drugs are mixed and the pot is closed and kept in the heap of grains for another 4 days followed by distillation. The distillation is carried out either by mayura yantra or baka yantra or mocika yantra (Anonymous 1978).

Mrtasanjivani sura was prepared as per textual and modified method in our Laboratory. In the modified method the drug was prepared in a glass container. It was distilled in a distillation flask fitted with a condenser. These values are compared and discussed with that of the drug prepared by classical method.

### Materials and methods

Botanically identified ingredients were used in the preparation of Mrtasanjivani sura.

### Preparation of Mrtasanjivani sura by textual method

The ingredients and method of preparation were same as described in ayurvedic formulary Part I, Government of India (Anonymous 1978). The drugs mixed solution was taken in an earthen pot, previously coated with a layer of ghee and smoked with pippali. It was closed with a lid, sealed with mud smeared cloth and was buried in the sand. The fermented solution was distilled using baka yantra.

#### **Preparation of Mrtasanjivani sura by modified method**

The ingredients and method of preparations were same as described above except that it was kept for fermentation in a glass vessel at room temperature for the same specified period. The fermented drug was distilled using all glass ground joint assembly until almost entire volume of liquid distilled out. It was collected in a clean container.

#### **Analytical methods**

pH was determined on Elico digital pH meter. Total sugar and alcohol was estimated as described earlier (Alam et al 1979).

#### **Results**

The distilled Mrtasanjivani sura was a colourless and clear liquid. The pH of the solution and the total sugar content were 5.99% and 6.17% respectively before fermentation. On 16<sup>th</sup> day, the fermented drug was having 3.16% and 1.6% alcohol in the modified and textual method of preparations respectively (Table 1). The alcohol content on 20<sup>th</sup> day in glass vessel was 3.06 % and in earthen pot was 1.86% (Table 2). The distilled drug by the glass distillation method had 3.44% alcohol whereas the earthen pot drug distilled by baka method showed 4.7% alcohol (Table 3). The earthen pot fermented product on distillation in glass apparatus (used for modified method) possessed 2.38% alcohol (Table 4).

**TABLE 1 Analytical values of Mrtasanjivani sura after 16 days of fermentation prepared as modified and textual method.**

Parameter	Modified	Textual
pH	3.19	3.27
Total sugar %(W/V)	0.26	0.2
Alcohol% (V/V)	3.16	1.6

**TABLE 2 Analytical values of Mrtasanjivani sura after 20 days of fermentation.**

Parameter	Modified	Textual
pH	3.18	3.22
Total sugar %(W/V)	0.26	0.2
Alcohol% (V/V)	3.06	1.86

**TABLE 3 Analytical values of Mrtasanjivani sura after distillation in modified and textual method.**

Parameter	Modified (By glass assembly distilled)	Textual (By Baka yantra)
pH	3.0	3.14
Alcohol% (V/V)	3.44	4.70

**TABLE 4 Analytical values of Mrtasanjivani sura prepared as per textual method but distilled in glass assembly.**

Parameter	Value
pH	2.69
Alcohol% (V/V)	2.38

## **Discussion**

The solution in the glass container fermented better than earthen pot. There was almost complete utilization of sugar in each container but the production of alcohol did not correspond to the utilized sugar. It may be due to utilization of sugar by the non-fermenting organisms. There was fungal growth in each container.

The distilled alcohol content in glass apparatus was found to be less compared to baka yantra method. It was because the whole solution was distilled out and only a small amount of pot residue was left in the distillation flask where in baka yantra method more solution remained undistilled in the pot. This preparation was similar to arak preparation where first few ml of distilled quantity is discarded and last portion is also not collected (Anonymous 1978). In

our preparation we did not discard the initial portion and started collecting the distillate from the first drop onwards. But we discarded the last portion which had resulted in the concentration of alcohol in the distillate (Table 3). The distilled drug in either container was acidic.

### **Conclusion**

The alcohol content in Mrtasanjivani sura depends on the fermentation of sugar. If the entire sugar had been utilized by the alcohol fermenting organism the alcohol content would have been high in the drug. The method of distillation also determines the quantity of alcohol in the finished product.

### **Acknowledgement**

Thanks are due to director, central Council for Research in Ayurveda & Siddha, New Delhi for financial assistance.

### **REFERENCES**

Alam, M., Ali, S.U., Varadarajan, T.V. and Purushothaman. K.K Process and Product standardization of Asavas and Arishtas.

Hair Om Ashram award paper, Gujarat Ayurved University, Jamnagar (1979).

Anonymous: The Ayurvedic Formulary, Part I, Government of India (1978).