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A STUDY OF MERCURIC PER CHLORIDE (VEERAM) ON BEFORE AND AFTER PURIFICATION- ANALYTICAL STUDY

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ABSTRACT

Introduction: Purified (perchloride of mercury) *veeram*, plays a vital role in combination of medicines treating cancers, *vatha* diseases, skin diseases, and venereal diseases. Purification of *veeram* by Jatropha curcas (*kattamannaku*) showed the efficacy of the drug by eliminating the toxic metals mercury when compared to other purification method. **Objective:** To estimate the chemical compounds present in the *veeram* before and after purification. **Methodology:** *Veeram* was purified by the process called *surukku*, with *kattamanaku* milk (Jatropha curcas). **Results:** This analysis will help us to estimate the heavy metals present in the compound after purification process. **Conclusion:** The aim of the study is to showcase the effective purification, in terms of eliminating the heavy metals to below detection limit and also to minimize the toxicity of the drug and enhance the potency of the drug.

KEYWORDS: Veeram- Purification- Kattamannaku milk-Icopes.

INTRODUCTION

Veeram (savveeram) hydrargyrum perchloride; it is a corrosive sublimate and it is said to be highly toxic material, and excessively used in combination of drugs after processing and purification, it is used to treat the disease like cancers, venereal diseases, and skin diseases.[1] Its prepared medicine were; *Maha veera mezhugu, veera mathirai as thiri thoda mathirai, savveera chendooram, savveera kattu, veera rasa parpam, veera neer* (external application),

veera kalimbu, veera kuzhampu as *amirtha vennai* (or) *amirtha mezhugu and Jaya veera rana singa kayiru* and so on.[2]

Veeram produce high toxicity when used in unpurified form. Hence the purification of the raw material and physiochemical analysis is mandatory to assess the toxicity of *veeram.* The concept of *(suthi)* purification in siddha is not only a process of purification, but also to enhanced the safety, potency and efficacy of the drug.

Purification of *veeram* by Jatropha curcas showed the efficacy of the drug by eliminating the toxic metals mercury when compared to other purification method. So mandatory purification of the drug to be done to reduce the toxicity and enhance the safety and efficacy of the drug.

MATERIALS AND METHODS

The Raw *Veeram* were procured from country merchant shop, Tirunelveli. *Kattamanakku* milk (Jatropha curcas) was collected from the road side river of srivaikundam and milk was collected in the sterile container. The mineral drug and herbal was identified and authenticated by the experts of PG Gunapadam faculties, of Government Siddha Medical College Palayamkottai, and certified that it were genuine one according to the physical and chemical nature of the compound.

Ingredients

- Raw *Veeram* (Mercury perchloride) – 3.1/2gram, (1varagan)
- *Kattamanakku* milk (Jatropha curcas) -100ml.

Method of purification

Raw *Veeram* (3.1/2gram) was kept in the earthen plate and heated and *kattamanakku* milk(Jatropha curcas) was poured drop by drop (*surukku*) to the *veeram* until the *surukku* process gets completed.

Reference

Anbogha vaithya navaneetham part IV (mentioned in *Dhanvanthri chendooram*) pg no 603.

Process of *surukku*


Kattamanaku* milk Raw *veeram


Veeram surukku* process Purified *Veeram

RESULTS

ICP-OES Analysis of *veeram*:(after *kattamanakku suthi*)

Inductively coupled plasma optical emission spectrometry (ICP-OES)

The purified *veeram* sample by *kattamanaku* milk was analyzed by the Inductively coupled plasma optical emission spectrometry (ICP-OES) to detect the trace elements and other heavy metals.[3] It has been compared and tabulated below. Mentioned as (V5).

Unpurified *veeram*[4] denoted as (V1)

Purified *veeram* with *milagu kudineer*[5] (reference from *Sarakku suththi sei muraigal tamil maruthuva nool varisai* -8, pg no 54) denoted as (V2).

Purified *veeram* with *padigaram*[3] (reference from *Anuboga vaithya navaneetham part I Hakkem B mugamathu Abdulla sayabu* pg120) denoted as (V3).

Purified *veeram* in *ilaneer*[6] (reference from *Gunapadam Thathu Jeeva Vaguppu*) denoted as (V4).

BDL- Below Detection Limit

S.NO	ELEMENTS	WAVE LENGTH in nm	V1 mg/L	V2 mg/L	V3 mg/L	V4 mg/L	V5 mg/L
1	**Aluminium**	Al396.152	BDL	BDL	BDL	BDL	BDL
2	**Arsenic**	As188.979	BDL	BDL	BDL	BDL	BDL
3	**Calcium**	Ca315.807	2.180	BDL	2.080	BDL	BDL
4	**Cadmium**	Cd228.802	BDL	BDL	BDL	BDL	BDL

5	**Copper**	Cu327.393	BDL	BDL	BDL	BDL	BDL
6	**Mercury**	Hg253.652	5.621	4.012	4.258	3.345	03.098
7	**Nickel**	Ni231.604	BDL	BDL	BDL	-	BDL
8	**Lead**	Pb220.353	BDL	BDL	BDL	-	BDL
9	**Phosphorous**	P213.617	16.341	116.341	96.381	-	06.300

DISCUSSION

The ICP-OES analysis of before and after purification of *veeram* revealed the presence of calcium, mercury and phosphorous. The present analysis shows that mercury and phosphorous was reduced after the purification when compared to unpurified *veeram*. In *kattamanaku* milk *suthi* of *veeram* (V5), revealed that mercury toxicity was reduced while comparing with other purification methods (V2), (V3), (V4).

CONCLUSION

Siddha system of medicine insists on the process of purification before consuming them. This is the preliminary study to estimate the changes in the *veeram* after the purification process. It shows that *kattamanakku* milk *suthi* (jatropha curcus) proves to be very effective when compared to other purification process.

REFERENCES

1. Perumal R, Sagayam S, Brindha P. Preparation and standardization studies on veera mezhugu - a siddha anticancer formulation. Int J Pharm Pharm Sci., 2014 Jan 1; 6: 26–33.
2. Rajamanoharan P. A Comparative Chemical analytical study of Mercuric Chloride (Veeram) on before and after purification, 2020 Dec 11.
3. Anuboga Vaidya Navaneetham- Part 1 (Tamil) | Exotic India Art [Internet]. [cited 2024 Aug 5]. Available from: https://www.exoticindiaart.com/book/details/anuboga-vaidya-navaneetham-part-1-tamil-hav727/
4. Standardisation on purification process of veeram a comparative analysis. [cited 2024 Aug 4]. Available from: https://core.ac.uk/download/pdf/288215857.pdf
5. Sarakku suthi sei muraigal. [cited 2024 Aug 5]. Available from: https://www.tamildigitallibrary.in/book-detail.php?id=jZY9lup2kZl6TuXGlZQdjZQ8lZly#book1/
6. Gunapadam Thathu jeeva vagupu. [cited 2024 Aug 5]. Available from: https://www.tamildigitallibrary.in/