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Biochemical analysis of polyherbal drug Kukkiladhi choornam

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Abstract

Siddha medicine, traditional system of healing that originated in South India and is considered to be one of India's oldest systems of medicine. The Siddha system is based on a combination of ancient medicinal practices and spiritual disciplines as well as alchemy and mysticism. Siddha treatment consist of preparations of herbs, minerals and metals in the form of decoction, paste, kizhi, powder, solid mass, rasayanam, legiyam, parpam, chendroom, chunnam, kattu, kalangu. Skin diseases are common and a significant number of outpatient visits are for dermatologic complaints. A minority of the patients are seen by dermatologists, most of the remainder are seen by primary care physicians. In this paper it describes the qualitative analysis of Kukkiladhi choornam. The qualitative analysis of the trial drug shows the interference, indicates the presence of Calcium, Starch, Chloride, Sulfate and Ferrous ion the presence of these bio-chemicals unconcealed the therapeutic action in skin.

Keywords: Siddha medicine, Kukkiladhi choornam, qualitative analysis, skin.

Introduction

India has a unique Indian System of Medicines (ISM) consisting of Ayurveda, Siddha, Unani, Naturopathy and Homoeopathy. Siddhars are the saints as well as the eminent scholars, who have attained Ashta-mahasiddhi or enlightment. They have postulated, practiced, immensely contributed and have established the concept of the Tamil medicinal system called Siddha System of Medicine (SSM). From ancient time, SSM has flourished and has been widely practiced in the southern part of India particularly in Tamil Nadu. Once mass production of Siddha medicines for commercialization came into existence, the quality and purity of the drugs tender to vary from manufacturer to manufacturer, in order to ensure safety to the public, the Government of India, considered it expedient to extend the provisions of drugs and cosmetics, Act, 1940 and exercise supervisory control over manufacture of Siddha, to enhance uniform standards. The virana roga karapan sigichai is the wonderful book for skin disease from the literature, Kukkiladhi choornam is the described for eczema and other skin disease.

Materials and Methods

Kukkiladhi choornam

Ingredients

Table:1

S.No	Drug name	Botanical name
1	Chukku	*Zingiber officinale*
2	Milagu	*Piper nigrum*
3	Thippili	*Piper longum*
4	Karunserakam	*Nigella sativum*
5	Vellaragu	*Enicostema axillare*
6	Kukkil	*Shorea robusta*

Collection, identification and authentication of the drug

The needed raw drugs were purchased from a country shop. They were authenticated by the Medical Botanist of Government Siddha Medical College, Palayamkottai.

Purification of the drug

All the ingredients of this herbal formulation were purified according to the proper procedure methods described in Siddha Classical Literature.

Preparation of the drug

The ingredients were fried, powdered and filtered in a cloth [Vasthrakayam] and taken in an air tight container. It was labelled as Kukkiladhi choornam.

Qualitative analysis

Biochemical analysis

Screening the drug Kukkiladhi choornam to identify the Biochemical properties present in the ingredients.

Chemicals and drugs

All the chemicals used in this study were of analytical grade obtained from Department of Biochemistry, Government Siddha Medical College, Palayamkottai.

Methodology

5gms of the drug was weighed accurately and placed in a 250ml clean beaker then 50ml of distilled water is added and dissolved well. Then it is boiled well for about 10 minutes. It is cooled and filtered in a 100ml volumetric flask and then it is made to 100ml with distilled water. The fluid is taken for analysis.

Table : 2

S.No	Experiment	Observation	Inference
1	**Test for calcium** 2ml of the above prepared extract is taken in a clean test tube. To this add 2ml of 4% Ammonium oxalate solution	A white precipitate is formed	Indicates the presence of calcium
2	**Test for sulphate** 2ml of the extract is added to 5% Barium chloride solution	A white precipate is formed	Indicates the presence of sulphate
3	**Test for chloride** The extract is treated with silver nitrate	A white precipate is formed	Indicates the presence of chloride

4	**Test for carbonate** The substance is treated with concentrated Hcl	No brisk effervessence is formed	Absence of carbonate
5	**Test for starch** The extract is added with weak iodine solution	Blue colour is formed	Indicates the presence of starch
6	**Test for ferric iron** The extract is acidified with Glacial acetic acid and potassium ferro cyanide	No blue colour is formed	Absence of ferric iron
7	**Test for ferrous iron** The extract is treated with concentrated Nitric acid and Ammonium thiocyanate solution	Blood red colour is formed	Indicates the presence of ferrous iron
8	**Test for phosphate** The extract is treated with Ammonium Molybdate and concentrated nitric acid	No yellow precipitate is formed	Absence of phosphate
9	**Test for albumin** The extract is treated with Esbach's reagent	No yellow precipitate is formed	Absence of albumin
10	**Test for tannic acid**	No blue black precipitate is formed	Absence of tannic acid
11	**Test for unsaturation** Potassium permanganate solution is added to the extract	It gets decolourised	Indicates the presence of unsaturated compound
12	**Test for the reducing sugar** 5ml of Benedict's qualitative solution is taken in a test tube and allowed toboil for 2 minutes and add 8-10 drops of the extract and again boil it for 2 minutes	No colour change occurs	Absence of reducing sugar
13	**Test for amino acid** One or two drops of the extract is placed on a filter paper and dried well. After drying,1% Ninhydrin is sprayed over the same and dried it well.	No violet colour is formed	Absence of amino acid
14	**Test for zinc** The extract is treated with potassium ferro cyanide	No white precipitate is formed	Absence of zinc

Results and Discussion

The Biochemical analysis of the trial drug Kukkiladhi choornam was tabulated above in table 2.

The trial drug Kukkiladhi choornam contains

1. Calcium
2. Starch
3. Chloride
4. Sulphate
5. Ferrous iron
6. Unsaturated compound.

The mode of action of the trial drug Kukkiladhi choornam which brings about the therapeutic action in bone mineralisation, electrolytes and haemoglobin in the body process, may be due to the presence of Calcium, Starch, Chloride, Sulfate and Ferrous iron Compounds in it.

Conclusion

Kukkiladhi choornam is a Siddha drug taken from a classical Siddha literature used in the treatment of Skin disease. The drug is screened for its biochemical properties. Further pharmacological analysis are needed to evaluate its potency and the drug has its own potency to undergo further research.

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