

BIO -CHEMICAL ANALYSIS OF PACHAI KARPOORA MATHIRAI

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ABSTRACT:

Siddha system of medicine is ancient and traditional medicine based on pancha bootha theory and taste based medicine. Human body also based on pancha bootha theory, any imbalance in pancha bootham in human body alter the three vital humors (Vatham, Pitham and Kabam) causes disease in human. [20] So human disease can be treated with pancha bootha theory based siddha drugs. Pacchai Karpooora mathirai is siddha medicine used for treating all type of fever (Suram) Especially kabasuram. Kabasuram is a siddha term more or less related to Bronchitis in modern aspect of medicine in pediatric age group. Author decided to use a Pacchai karpooora mathirai for treating the kabasuram (Bronchitis) based on ingredients in the drug. [13][14][15][16][17] The bio-chemical analysis of Pacchai Karpooora Mathirai was done in Biochemistry lab, National Institute of Siddha, Chennai-47. Preliminary qualitative phytochemical screening was done by Kolkate (1) method. The bio-chemical analysis shows the presence of Carbonate, Aluminium, Zinc, Magnesium.

INTRODUCTION:

Siddha system of medicine, medicine are classified into 2 types, 2 internal medicines and 32 external medicine. Pacchai karpooora mathirai is classical siddha drug. In siddha system, medicine chosen for treating the disease on the basis of 6 type of taste and pancha bootham's on the drugs, for deranged vatha, pitha and kaba. Kabasuram in pediatric age group have a classical symptoms of fever. Before onset of fever rigor starts first and then followed by fever, cough, abdominal distension due to constipation, pain present in upper and lower limb and also tiredness, sweatness in mouth, pallor of motion and urine, increased sleep, vomiting, salivation and fever gradually reduced within 17 days. [5][6][7]

Author decided to choose the PKM according to ingredient in the drug which may correct the vitiated humors in the kabasuram and pre-clinical study of Bio-Chemical analysis was done. Bronchitis means that the tubes that carry air to the Lungs (the bronchial tubes) are inflamed and irritated and it causes the tubes swell and produce mucus.

There are two types of Bronchitis:

- a. Acute Bronchitis
- b. Chronic Bronchitis

KEY WORDS:

Pancha bootha theory, Pacchai Karpoora Mathirai , siddha drug ,Kabasuram,Bronchitis,Bio chemical analysis.

PREPARATION OF THE TRIAL DRUG PACCHAI KARPOORA MATHIRAI INGREDIENTS:

The test drug Pacchai Karpoora Mathirai was prepared in Gunapadam lab, National Institute of Siddha, Chennai-47.

(BALAVAGADAM PAGE NO;434 DR.MURUGESA MUTHALIYAR) Pacchai karpooram(Borneo camphor) - 2 Kazhanchu (10gm)

Elavanga pattai (Cinnamomum verum) - 2 Kazhanchu (10gm)

Saathikkai (Myristica fragrans) - 2 Kazhanchu (10gm)

Nervalam (Croton tiglium) - 6 Kazhanchu (30gm)

Katrzhai saaru (Aloe vera juice) - Required amount

[9][10][11][12][20]

SOURCE OF TRIAL MEDICINE

The required drugs were purchased from a raw drug shop and raw drugs were authenticated by the medicinal botanist in National Institute of Siddha. The drugs were purified and medicine was prepared in Gunapadam laboratory of National institute of Siddha. The prepared medicine was also authenticated by the Head of the Department of Gunapadam for its completeness.

AUTHENTICATION

The herbal raw drugs were authenticated by the medical botanist, in National Institute of Siddha, Chennai. Pacchai Karpooram (Bornea camphor) was identified and authenticated from dept. of Gunapadam in National Institute of Siddha, Tambaram Sanatorium Chennai 47.

Method of purification:

PURIFICATION OF PACCHAI KARPOORAM:

It is to be soaked in the juice extracted from sengazhuneer flower for 1 nazhigai(24 mins) and then dried.

[Ref: Sikitcha Rathina deepam pg no .36]

PURIFICATION OF ELAVANGAPATTAI:

Dried in moon light.

[Ref: Sikitcha Rathina deepam page no 32]

PURIFICATION OF SATHIKKAI :

The skin is peeled off and cut into small pieces and dried in sunlight.

[Ref:Sikitcha Rathina deepam page no 29]

PURIFICATION OF NERVALAM :

The seeds are to be cooked in the extract of buffalo dung and washed. Then it is cut into two halves, the skin is peeled off and the sprout like inner part are removed. Then place it and tie in a cloth tied loosely and kept cooked in raw rice, remove it when the rice is completely cooked. Repeat the procedure once again. Then the seeds are boiled in milk washed and dried. Finally the seeds are fried in the castor oil coated bowl and stored.

[Ref;Sikitcha Rathina deepam page no 33]

PURIFICATION OF KATRAZHAI:

The skin is peeled off and washed with running water for 7times **Method of preparation:**

The above mentioned first 3 drugs each of 2 kazhanchu(10gms) is grinded along with the juice of aloe vera for about 4 samam (12 hours) and then with nervalam. Now this is made into a ulunthalavu (65mg) tablet and is dried in the shade and collected.[18]

Bio-chemical analysis of Pacchai Karpoora Mathirai[19]

The bio-chemical analysis of Pacchai Karpoora Mathirai was done in Biochemistry lab, National Institute of Siddha, Chennai-47. Preliminary qualitative phytochemical screening was done by Kolkate (1) method.

Preparation of extract:

5gm of of Pacchai Karpoora Mathirai was weighed accurately and placed in a 250ml clean beaker and 50ml of distilled water was added with it. Then it was boiled well for about 10 minutes. Then it was allowed to cool and filtered in a 100ml volumetric flask and made up to 100ml with distilled water.

- **Test for Calcium :**
 - 2 ml of extract was taken in a clean test tube. To this add 2 ml of 4% ammonium oxide solution.
- **Test for Sulphate :**
 - 2 ml of the extract was added to 5 % barium chloride solution.
- **Test for Chloride :**
 - The extract was treated with Silver nitrate solution
- **Test for carbonate :**
 - The substance was treated with Conc. HCl.
- **Test for Starch :**
 - The extract was added with weak iodine solution.
- **Test for Aluminium:**
 - To the 2 ml of the extract sodium hydroxide is added in drops to excess.
- **Test for Iron (Ferric) :**
 - The extract was treated with glacial acetic acid and potassium ferrocyanide

- **Test for Iron (Ferrous) :**
 - The extract was treated with Conc. HNO₃ and ammonium thiocyanate.
- **Test for Zinc:**
 - To 20 ml of the extract sodium hydroxide solution is added in drops to excess.
- **Test for phosphate :**
 - The extract was treated with ammonium molybdate and conc. HNO₃.
- **Test for Tannic acid :**
 - The extract was treated with Ferric chloride
- **Test for Unsaturation :**
 - 1 ml of Potassium permanganate solution was added to the extract.
- **Test for Magnesium:**
 - To 20 ml of the extract sodium hydroxide solution is added in drops to excess.
- **Test for saponins:**
 - Dilute extract+ 1ml of distilled water shake well.
- **Test for sugars :**
 - **Benedict method ;** 5ml of Benedict solution heated gently then add 8 drops of diluted extract then heated in a boiling water bath.
 - **Molisch test;** Dilute extract+2 drops of Molisch+3ml conc.H₂SO₄.
- **Test for amino acids:**
 - Dilute extract +2ml of Ninhydrin's soln .
- **Test for proteins:**
 - Biuret method ; 1ml of dilute extract+1ml of 5% CuSO₄+1% NaOH.
- **Test for Flavanoids:**
 - Dilute extract+ mg bits+2drops of conc.HCl and gently heated.
- **Test for phenol:**
 - Dilute extract+2drops of FeCl₃ soln.
- **Test for Tannins :**
 - Dilute extract +2ml of 10% lead acetate added.
- **Test for alkaloids;**
 - Mayer's method; 1ml of dilute extract + 1ml reagent. Dragendroff's method; 1ml of dilute extract+ 1ml of reagent.

Result Bio chemical analysis :

The bio-chemical analysis of Pacchai Karpoora Mathirai shows the presence of Carbonate, Aluminium, Zinc, Magnesium.

Conclusion

Pacchai Karpoora Mathirai is siddha drug taken from siddha literature used in the treatment of all type of suram (fever). The drug is screened for its biochemical properties for the potency of the drug shows the presence of Carbonate, Aluminium, Zinc, Magnesium. Biochemical constituents of Pacchai Karpoora Mathirai Carbonate, Aluminium, Zinc, Magnesium are effectively used in the treatment of fever. [1][2][3][4].

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