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BIOCHEMICAL ANALYSIS OF SIDDHA HERBAL DRUG FORMULATION KALVAAZHAI KATTU CHOORANAM

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ABSTRACT
Siddha system of medicine is one of the oldest medicinal system that originated in South India. According to Theraiyar tharu. There are 32 types of external therapies practiced in siddha system of medicine. Of which, *Puramaruthuvam Kattu* is the best procedure for treating trauma, open wound, muscle spasm, sprain, abscess and dislocation of joints and fracture. It is placed in first place at 32 external therapies series. This procedure involves the disinfection, local healing, analgesic and anti-inflammatory action of the topical application applied in the form of compressive bandage on the affected area. It is given to the patient in the form of compressive bandage using grinded or boiled wet plant parts, birds, natural vineager or inorganic salts. Osteoarthritis is a joint disease, more common in old aged people. In this case study, an osteoarthritis patient was included, and biochemical analysis of Kalvaazhai kattu chooranam, a siddha medication, eas performed for future research on osteoarthritis.

KEYWORDS: Osteoarthritis, Biochemical analysis, Siddha medicine, Kalvaazhai kattu chooranam.

INTRODUCTION
Osteoarthritis (OA) also called osteoarthrosis or degenerative joint disease, common form of chronic disorder of synovial joints. It is characterized by progressive degenerative changes in the articular cartilages over the years, particularly in weight bearing joints.

Primary osteoarthritis occurs in the elderly, more commonly in women than in men. The process begins by the end of 4th decade and then progressively and steadily increases producing clinical symptoms. Probably, wear and tear with hereditary, obesity, aging, all contribute to focal degenerative changes in the articular cartilage of the joints

Secondary osteoarthritis is usually followed by another disease. It may appear at any age and is the result of any previous wear and tear phenomenon involving the joint such as previous injury, inflammation, loose bodies.

The symptoms of osteoarthritis are similar to those of Azhal keel vayu, as reported by Yakobu vaithiyam 300. Siddha pharmacobia literature recommends kalvaazhai kattu chooranam for vatha illnesses. Kalvaazhai kattu chooranam is being studied for research purposes.

MATERIALS AND METHODS
Source of drug ingrediants

Drug Description

S.NO	DRUGS	BOTANICAL NAME	FAMILY	PART USED	QUANTITY
1	Notchi	Vitex negundo	Lamiaceae	Leaves	Required quantity
2	Kalvaahzai	Canna indica	Cannaceae	Leaves	Required quantity
3	Vadhamadakki	Clerodendrum phlomidis	Lamiaceae	Leaves	Required quantity
4	Veliparuthi	Daemia extensa	Apocynaceae	Leaves	Required quantity

The required raw drugs for preparations of are purchased from a field. The purchased drugs are authenticated by The Faculty / Expert members of Medicinal Botany and Gunapadam department at GSMCH-Palayamkottai.

Methods of Purification And Preprations
All the ingredients have been completely purified as per the siddha literature in the presence knowledge of Guide / Faculty members. Then the trail drug is prepared from the ingredients.

Biochemical analysis
Screening the drug kalvaazhai kattu chooranam to identify the Biochemical properties present in the ingredient.

Chemicals and drugs
The chemicals used in this study were of analytical grade obtain from Department of Biochemistry, Government Siddha Medical College& Hospital, Palayamkottai.

BIO-CHEMICAL ANALYSIS OF " KALVAAZHAI KATTU CHOORANAM"

PREPARATION OF THE EXTRACT
5 gms of the drug was weighed accurately and placed in a 250 ml 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 a100 ml volumetric flask and then it is made to 100 ml with distilled water. This fluid is taken for analysis.

QUALITATIVE ANALYSIS
Inference from Qualitative Analysis of the dryg "Kalvaazhai kattu chooranam".

S.No.	EXPERIMENT	OBSERVATION	INFERENCE
01	**TEST FOR CALCIUM** 2 ml of the above prepared extract is taken in a clean test tube. To this add 2 ml of 4% Ammonium oxalate solution.	A white precipitated is formed.	Indicates the presence of calcium.
02	**TEST FOR SULPHATE** 2ml of the extract is added to 5% Barium chloride solution.	A white precipitated is formed.	Indicates the presence of sulphate.
03	**TEST FOR CHLORIDE** The extract is treated with silver nitrate solution.	A white precipitated is formed.	Indicates the presence of chloride.
04	**TEST FOR CARBONATE** The substance is treated with concentrated HCl.	No brisk effervessence is formed.	Absence of carbonate.
05	**TEST FOR STARCH** The extract is added with weak iodine solution.	A blue colour is formed.	Absence of starch.
06	**TEST FOR FERRICIRON** The extract is acidified with Glacial acetic acid and potassium ferro cyanide.	A blue colour is formed.	Absence of ferric iron.
07	**TEST FOR FERROUS IRON** The extract is treated with concentrated Nitric acid and Ammonium thiocyanate solution.	No blood red colour is formed.	Absence of ferrous iron.
08	**TEST FOR PHOSPHATE** The extract is treated with Ammonium Molybdate and concentrated nitric acid.	No yellow precipitate is formed.	Absence of phosphate.
09	**TEST FOR ALBUMIN** The extract is treated with Esbach's reagent.	No yellow precipitate is formed.	Absence of albumin.
10	**TEST FOR TANNIC ACID** The extract is treated with ferric chloride.	No blue black precipitate is formed.	Absence of tannic acid.
11	**TEST FOR UNSATURATION** Potassium permanganate solution is added to the extract.	It does not get decolourised.	Absence of unsaturated compound.
12	**TEST FOR THE REDUCING SUGAR** 5ml of Benedict's qualitative solution is taken in a test tube and allowed to boil for 2 minutes and add 8-10drops of the extract and again boil it for 2 minutes.	No colour change occurs.	Absence of reducing sugar.
13	**TEST FOR AMINOACID** One or two drops of the extract is placed	Violet colour is	Indicates the presence

	on a filter paper and dried well. After drying, 1% Ninhydrin is sprayed over the same and dried it well.	formed.	of amino acid.
14	**TEST FOR ZINC** The extract is treated with Potassium Ferro cyanide.	No white precipitate is formed.	Absence of zinc.

Source: Report of biochemical lab.

RESULTS AND DISCUSSION

The bio chemical analysis of the trial drug Kalvaazhai kattu chooranam was tabulated above in table. The trial drug, Kalvaazhai kattu chooranam contains,

1. Calcium
2. Sulphate
3. Chloride
4. Amino acid

CONCLUSION

Mode of action of the trial drug Kalvaazhai kattu chooranam which brings about the bone mineralisation osteoblastic and osteoclastic activity in body. May be due to the presence of Calcium, sulphate, chloride, amino acid in it. It is a siddha drug taken from a siddha literature used in the treatment of vatha diseases. The drug is screened for its bio chemical properties.

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