



**ORIGINAL RESEARCH PAPER**

**Ayurveda**

**BIOCHEMICAL ANALYSIS OF SIDDHA HERBAL DRUG ECHCHURAMULI CHOORNAM**

**KEY WORDS:** Lumbar spondylosis, Biochemical Analysis, Siddha Medicine, Echchuramuli Choornam.

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**ABSTRACT** Health is wealth. Healthy living is the most essential thing in s life. Disease is the barrier for this acheivement . Every medical system has ist own way to treat diseases. Siddha system of medicine not only cures the disease but also postulated ways to attain eternity. Siddha system deals the different type of vadha diseases with a wide range of drugs. Among vadha diseases “ THANDAGA VATHAM” is most common type of vadha diseases. The aim of the study was qualitative analysis of Echchuramuli Choornam a Siddha drug taken from a Siddha Literature. The Biochemical analysis of the trial drug indicates the presence of Sulphate, ferrous iron, unsaturation compound, amino acid revealed the enhancement of therapeutic action in vadhadiseases.

**INTRODUCTION:**

Siddha system of medicine differs from other systems in many ways. The etiology of diseases likes in the change in equilibrium of the three humours namely vatham , Pitham, Kabam. The mode of treat is based upon balancing the three humours.

Spondylosis of Lumbar spine, is a term with many definitions. In the literature it has been utilizes in many different contexts, employed synonymously with arthrosis, spondy litis, hyper tropic arthritis and osteoarthritis in other instances spond ylosis is considered mechanically, as the hypertrophic respon se of adjacent cerebral bone to disc degeneration. Osteo phytes may infrequently form in the absence of disease discs. Finally spondylosis may be applied non specifically to any and all degerative conditions affective the discs, vertebral bodies and/or associated joints of the lumbar spine.

The degeration of the spinal veterbra is also called wear and tear of the vertebra which is commonly due to aging people above the age of 40 or more at the risk for developing lumbar spondylosis. Degerenerative disc disease is natural and almost all of us have the disease to a certain degree in our old age.

Lumbar spondylosis is most common at L5, accounting for 85 percentage of all cases and may be observed as high as L2. Therefore a slip is most common at the level od L5 slipping forward on S1. Lumbar spondylosis is the cause of most common type of spondylosisthesis.

Siddha system is one of the India's ancient traditional Medicine which help for long life and better health. Siddha system is differ from the other system of medicine by giving physical mental and social well being of an individual by its various tools like medicine, meditation, yoga, varma and manage. Commonly herbs, minerals, metals and animal products were used to prepare medicines in treating lot of medical ailments. Nowadays scientific evaluation is needed to validate the preciousness of Siddha drugs.

It help to ensure safety to the public and effective traditional treatment for diseases. On the basis of our Siddha text lumbar Spondylosis is inter correlated with thandaga vatham and more often thandaga vatham comes under 80 types of vadha diseases. From siddha literature(gunapadam maligai) Echchuramuli Choornam is analysed for the biochemical composition.

**MATERIALS AND METHOD: Echchuramuli Choornam.**

**INGREDIENTS**

**Table:1**

| S. No | DRUG NAME    | BOTANICAL NAME      |
|-------|--------------|---------------------|
| 1     | Echchuramuli | Aristolochia indica |

**collection, Identification and Authentication of the Drug:** The required raw drugs were purchased from a well reputed country shop. They were Government Siddha 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 produce methods described in Siddha Classical Literature.

**Preparation of the drug:** The ingredients were fried, powdered and filtered in a cloth (Vastrhakayam).

**Biochemical analysis:** Screening the drug Echchuramuli Chooranam to identify the Biochemical properties present in the ingredient.

**Chemicals and drugs:** An the chemicals used in this study were of analytical grade obtain from Department of Biochemistry, Government Siddha Medical College, Palayamkottai.

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

**QUALITATIVE ANALYSIS**

| S. No. | EXPERIMENT   | OBSERVATI ON                   | INFERENCE                         |
|--------|--|--------------------------------|-----------------------------------|
| 1      | <b>TEST FOR CALCIUM</b><br>2ml of the above prepared extract is taken in a clean test tube. To this add 2ml of 4% Ammonium oxalate solution. | No white precipitate is formed | Indicates the absence of calcium. |

|    |  |                                     |  |
|----|--|-------------------------------------|--|
| 2  | <b>TEST FOR SULPHATE</b><br>2ml of the extract is added to 5% Barium Chloride solution   | A white precipitate is formed       | Indicates the presence of sulphate             |
| 3  | <b>TEST FOR CHLORIDE</b><br>The extract is treated with silver nitrate solution.   | No white precipitate is formed      | Indicates the absence of chloride.             |
| 4  | <b>TEST FOR CARBONATE</b><br>The substance is treated with concentrated Hcl.   | No brisk effervescence is formed    | Absence of Carbonate                           |
| 5  | <b>TEST FOR STARCH</b><br>The extract is added with weak iodine solution   | No blue colour is formed.           | Indicates the absence of Starch                |
| 6  | <b>TEST FOR FERRIC IRON</b><br>The extract is acidified with Glacial acetic acid and potassium ferro cyanide.  | No blue red color is formed.        | Absence of ferric iron                         |
| 7  | <b>TEST FOR FERROUS IRON</b><br>The extract is treated with concentrated Nitric acid and Ammonium thiocyanate solution.  | Blood red colour is formed.         | Indicates the presence of ferrous Iron.        |
| 8  | <b>TEST FOR PHOSPHATE</b><br>The extract is treated with Ammonium Molybdate and concentrated nitric acid   | No yellow precipitate is formed     | Absence of Phosphate                           |
| 9  | <b>TEST FOR ALBUMIN</b><br>The extract is treated with Esbach's reagent  | No yellow precipitate is formed.    | Absence of Albumin.                            |
| 10 | <b>TEST FOR TANNIC ACID</b><br>This extract is treated with ferric chloride.   | No blue black precipitate is formed | Absence of Tannic acid.                        |
| 11 | <b>TEST FOR UNSATURATION</b><br>Potassium permanganate solution is added to the extract.   | It gets decolorized                 | Indicates the presence of unsaturated compound |
| 12 | <b>TEST FOR THE REDUCING SUGAR</b><br>5ml of Benedict's qualitative solution is taken in a test tube and allowed to boil for 2 minutes and add 8-10 drops of the extract and again boil it for 2 minutes | No Colour change occurs             | Indicates the absence of reducing sugar        |
| 13 | <b>TEST FOR AMINO ACID</b><br>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.                          | violet colour is formed.            | Indicates the presence of Amino Acid.          |
| 14 | <b>TEST FOR ZINC</b><br>The extract is treated with Potassium Ferro cyanide.   | No white precipitate is formed.     | Absence of Zinc.                               |

**RESULTS AND DISCUSSION:**

The Bio chemical analysis of the trial drug Echchuramuli was tabulated above in table 2.

The trial drug Echchuramul it contains.

1. Sulphate
2. Ferrous ion
3. Unsaturated compound
4. Amino acid

mode of action of the trial drug Echchuramuli which brings about the Bone Mineralisation osteoblastic and osteoclastic activity in body. May be due to the presence of Sulphate, Amino acid, Ferrous Iron in it.

**CONCLUSION:**

Echchuramuli is a Siddha Drug taken from a Siddha literature used in the treatment of spondylosis. The drug is screened for its bio chemical properties. Further, comprehensive pharmacological analysis are needed to evaluate its potency and the drug has its own potency to undergo further research.

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