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Biochemical Analysis of Siddha Polyherbal Drug Siddhadhi Kasayam

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***Abstract*: Cervical Spondylosis is a chronic degenerative condition of the cervical spine that affects the vertebral bodies, intervertebral discs of the neck as well as the content of the spinal canal. Cervical Spondylosis is commonly seen in patients who carry loads on their heads and in office workers involving long sitting hours. In Kumbamuni Vatha Nithanam-800 text, Siddhadhi kasayam are indicated for cervical pain/cervical related problems. The aim of the study is to record the biochemical analysis of the trial drug Siddhadhi kasayam. This study reveals the presence of biochemical substances present in Siddhadhi kasayam which will be effective in treating Cervical Spondylosis.**

***Keywords*: biochemical analysis, cervical spondylosis, siddhadhi kasayam.**

1. Introduction

Degenerative, or spondylotic cervical conditions comprise a spectrum of disorders including degenerative disc disease with axial neck pain, cervical radiculopathy from root compression, and cervical myelopathy from compression of the spinal cord. In most cases, the underlying pathoanatomy begins with degeneration of the cervical disc. Subsequently, the disc can herniate or bulge, causing spinal cord or nerve root compression.

In Kumbamuni Vatha Nithanam-800 text, Siddhadhi kasayam is indicated for Vatha disease. So, Siddhadhi kasayam is taken into study for the research in Cervical spondylosis.

A. Source of Drug Ingredients

The required raw drug for preparations of Siddhadhi kasayam are purchased from a well reputed country shop. The purchased drug is authenticated by Expert members of Gunapadam department at GSMCH-Palayamkottai.

2. Methods of Purification and Preparations

All the ingredients have been completely purified as per the Siddha literature in the presence and knowledge of Guide / Faculty members. Then the trail drug is prepared from the ingredient.

A. Biochemical analysis

Screening the drug Siddhadhi kasayam to identify the Biochemical properties present in the ingredient.

B. Chemicals and drugs

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

C. 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.

3. Results and Discussion

The Bio chemical analysis of the trial drug Siddhadhi kasayam was tabulated above in table.

The trial drug, Siddhadhi kasayam contains,

1) Sulphate
2) Ferrous iron
3) Starch
4) Amino acid
5) Chloride

Table 1
Drugs included in Siddadhi kasayam

S.No.	Drug	Botanical Name	Family	Part Used	Quantity
1.	Cittramutti	*Pavonia zeylanica*	Plumbaginaceae	Root	17.5gm
2.	Vembu	*Azadirachta indica*	Meliaceae	Bark	17.5gm
3.	Thazhuthalai	*Clerodendron phlomidis*	Verbenaceae	Root	17.5gm
4.	Chukku	*Zingiber officinalis*	Zingiberaceae	Tuber	17.5gm
5.	Poothavirutcham	*Sterculia foetida*	Sterculiaceae	Bark	17.5gm
6.	Vasambu	*Acorus calamus*	Araceae	Root	17.5gm
7.	Sittrarathai	*Alphinia officinarum*	Zingiberaceae	Root	17.5gm
8.	Devatharam	*Cedrus deodara*	Pinaceae	Bark	17.5gm

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Table 2
Qualitative analysis

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.	No white precipitate is formed	Indicates the absence of calcium
02	TEST FOR SULPHATE 2 ml of the extract is added to 5% Barium chloride solution.	A white precipitate is formed	Indicates the presence of sulphate
03	TEST FOR CHLORIDE The extract is treated with silver nitrate solution.	A white precipitate is formed	Indicates the presence of choride
04	TEST FOR CARBONATE The substance is treated with concentrated HCl.	No brisk effervessence is formed	Indicates the absence of carbonate
05	TEST FOR STARCH The extract is added with weak iodine solution.	Blue colour develops	Indicates the presence of Starch
06	TEST FOR FERRIC IRON The extract is acidified with Glacial acetic acid and potassium ferro cyanide.	No blue is formed	Indicates the absence of ferric iron
07	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
08	TEST FOR PHOSPHATE The extract is treated with Ammonium Molybdate and concentrated nitric acid.	No yellow precipitate is formed	Indicates the absence of Phosphate
09	TEST FOR ALBUMIN The extract is treated with Esbach's reagent.	No yellow precipitate is formed	Indicates the absence of albumin
10	TEST FOR TANNIC ACID The extract is treated with ferric chloride.	No blue-black precipitate is formed	Indicates the absence of tannic acid
11	TEST FOR UNSATURATION Potassium permanganate solution is added to the extract.	It does not get decolourised	Indicates the absence of unsaturated compound
12	TEST FOR THE REDUCING SUGAR 5 ml 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	Indicates the 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.	Violet is formed	Indicates the presence of Amino acid
14	TEST FOR ZINC The extract is treated with Potassium Ferro cyanide.	No white precipitate is formed	Indicates the absence of zinc

The mode of action of the trial drug Siddhadhi kasayam relieves the cervical pain due to the presence of Sulphate, Ferrous iron, Amino acid, Starch and Choride in it.

4. Conclusion

Siddhadhi kasayam, a Siddha drug taken from a Kumbamuni Vatha nithanam-800 is used in the treatment of Vatha disease. The drug is screened for its biochemical properties. This study throws light in the biochemical analysis of Siddhadhi kasayam and paves way for future research.

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