

# BIOCHEMICAL ANALYSIS OF SINGLE SIDDHA DRUG NILAVARAI CHOORANAM – Cassia obovate

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## ABSTRACT:

*Cassia obovata* (Fabaceae) is a legume tree and its known as Italian senna (Neutral henna). Port Royal senna is delicious, perennial herbs, or shrub up to 60 cm tall. They are 400 species of cassia obovata around the world. It is used in folk medicine, as anti-fungal, anti-bacterial and laxative as well as treatment of acute and chronic toxic bite, eczema, miles and psoriasis and was recorded in ancient Indian medicine. In India, it is produce a powder for treating hair-related disease which is known as “neutral henna”. It appears to have a yellowish impact on hair rather than the reddish one produced by henna. The aim of the study was to evaluate the Biochemical analysis of the trial drug NILAVARAI CHOORANAM (*Cassia obovata*) and it indicates the presence of Sulphate, , unsaturation compound, aminoacid . thus, I conclude, the presence of these chemicals are treatment of acute and chronic toxic bite.

**KEYPOINTS:** Nilavarai chooranam, cassia obovata, toxic bite.

## INTRODUCTION:

*Cassia obovata* (Fabaceae) is a legume tree and its known as Italian senna (Neutral henna). Port Royal senna is delicious, perennial herbs, or shrub up to 60 cm tall. It is used in folk medicine, as anti-fungal, anti-bacterial and laxative as well as treatment of acute and chronic toxic bite, eczema, miles and psoriasis and was recorded in ancient Indian medicine. They are 400 species of cassia obovata around the world. In India, it is produce a powder for treating hair-related disease which is known as “neutral henna”. It appears to have a yellowish impact on hair rather than the reddish one produced by henna. There are 3 sub species of this plant based on the size of the inflorescence and the length of the petiole. The sub species are *italic*, *micrantha* and *arachoides*. The leaves, pods and seeds of senna italic are mostly used in traditional medicine.

## Taxonomical Classification:

Kingdom : Plantae

Order : Fabales

Family : Fabaceae

Sub family : Caesalpinoideae

Tribes : Cassieae

Genus : Senna

Species : *S. italica*

### **Traditional Uses :**

Leaves, pods and unmaturred seeds are used as purgative, decoction and maceration are used to cure stomach complaints, fever, jaundice, veneral diseases and biliuousness. This plant is also used as abortifacient and against intestinal worms. Leaves fresh or dried or pulverized used to dress skin problems, burns and ulcers. Flowers are made into tea and used as purgative and to induce labour. Maceration of root is used to cure colic and influenza and boiled roots are used to dress wounds. Root infusion is used as eye drops for sore eyes and for the treatment of indigestion, liver complaints, gall bladder, nausea, vomiting and dysmenorrhoea. Young seeds are eaten as snacks or as vegetable. In Mauritania, seeds are smoked. Leaves are traded as neutral henna, hair conditioner which impart yellow colour.

### **MATERIALS AND METHODS:**

The siddha drug kukkil choornam was selected from a classical Siddha literature

#### **Collection, Identification and Authentication of the Drug:**

The required raw drugs were purchased from a well reputed country shop. They were identified and authenticated by Botanist of CCRS, 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 Medicine:**

Purified nilavarai whole plant are made into coarse powder, filtered by a white cloth (Vasthirakayam) and taken in an air tight container. It was labeled as NILAVARAI CHOORANAM (*Cassia obovata*)

#### **Biochemical analysis:**

Screening the single drug NILAVARAI CHOORANAM (*Cassia obovata*) 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, 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.

## BIO-CHEMICAL ANALYSIS

S.NO	EXPERIMENT	OBSERVATION	INFERENCE
1.	<b>TEST FOR CALCIUM</b> 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	Absence of Calcium
2.	<b>TEST FOR SULPHATE</b> 2ml of the extract is added to 5% Barium chloride solution.	<b>A white precipitate is formed</b>	<b>Indicates the presence of sulphate</b>
3.	<b>TEST FOR CHLORIDE</b> The extract is treated with silver nitrate solution	No white precipitate is formed	Absence of Chloride
4.	<b>TEST FOR CARBONATE</b> The substance is treated with concentrated Hcl.	No Brisk effervescence is formed	Absence of carbonate
5.	<b>TEST FOR STARCH</b> The extract is added with weak iodine solution	No Blue colour is formed	Absence of starch
6.	<b>TEST FOR FERRIC IRON</b> The extract is acidified with Glacial acetic acid and potassium ferro cyanide.	No blue colour is formed	Absence of ferric iron

7.	<b>TEST OF FERROUS IRON</b> The extract is treated with concentrated Nitric acid and Ammonium thio cyanate solution	No Blood red colour is formed	Absence of ferrous iron
8.	<b>TEST FOR PHOSPHATE</b> 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> The extract is treated with Esbach's reagent	No Yellow precipitate is formed	Absence of Albumin
10.	<b>TEST FOR TANNIC ACID</b> The extract is treated with ferric chloride.	No Blue black precipitate is formed	Absence tannic acid
11.	<b>TEST FOR UNSATURATION</b> Potassium permanganate solution is	<b>It gets decolorized.</b>	<b>Indicates the Presence of</b>

	added to the extract		<b>unsaturated compound</b>
12.	<b>TEST FOR THE REDUCING SUGAR</b> 5ml of Benedict's qualitative solution is taken in a test tube and allowed to boil for 2 mts and add 8-10 drops of the extract and again boil it for 2 mts.	No colour change occurs.	Absence of Reducing sugar
13.	<b>TEST FOR AMINO ACID</b> 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.	<b>Violet colour is formed</b>	<b>Indicates the Presence of Amino acid</b>
14.	<b>TEST FOR ZINC</b> The extract is treated with Potassium Ferrocyanide.	No white precipitate is formed	Absence of Zinc.

### RESULTS AND DISCUSSION:

The Bio chemical analysis of the trial drug NILAVARAI CHOORANAM (*Cassia obovata*) was tabulated above in table.

The trial drug NILAVARAI CHOORANAM (*Cassia obovata*) contains

1. Sulphate
2. Unsaturated compound
3. Amino acid

Analysis reveals the presence of Sulphate, Unsaturated compound, Amino acid in NILAVARAI CHOORANAM (*Cassia obovata*).

### Conclusion:

NILAVARAI CHOORANAM (*Cassia obovata*) is a Siddha drug taken from a Siddha literature and used in the treatment of acute and chronic toxic bite. The drug is screened for its biochemical property. 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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