

# In-Vitro Anti-Histaminic Activity and Qualitative Biochemical Analysis of Seenthil Chooranam - A Siddha Herbo Animal Formulation

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**Abstract:** ***Background:** Allergic diseases (Eg: Asthma, Allergic rhinitis, etc) are now classified as the fourth common global disease burden by the World Health Organization. The prevalence of allergic disease like Asthma has risen in the recent years. In recent years safe and effective management of diseases through plant resources has received much attention. Many plant medicines are used for their Anti histaminic and anti inflammatory properties. Histaminic plays a major role in the pathogenesis of asthma. Seenthil chooranam is a herbo animal drug used for the treatment of Eraippu (Bronchial asthma), Eelai (Tuberculosis), Kasam (Cough). **Objective:** The main objective of this study is to evaluate the anti-histaminic activity and the bio chemical activity of seenthil Chooranam. **Methodology:** Seenthil chooranam and its usage has mentioned in Agathiyar Paripooranam 400. The present study was undertaken to evaluate anti-histaminic activity of Seenthil chooranam (SC) by using isolated chick ileum preparation. In isolated chick ileum preparation, concentration response curve of histaminic in absence and in presence of SC was plotted. SC showed significant decrease in contraction induced by histaminic in isolated chick ileum preparation. These results show the anti-histaminic activity of seenthil chooranam. **Result:** The study result was concluded that the drug seenthil chooranam has got significant Anthi-histaminic activity. **Conclusion:** Seenthil chooranam has significant role against the Bronchial asthma.*

**Keywords:** Bronchial asthma, Eraippu, Seenthil chooranam, Anti-histaminic activity

## 1. Introduction

Asthma is a chronic obstructive disorder of the bronchial tree, characterized by complete or partial reversible airway obstruction, which may improve spontaneously or may subside only after specific medicated intervention therapy. It is a major non communicable disease affecting both children and adults. According to the WHO, it was estimated that more than 262 million people had asthma globally and there were 4, 61, 000 deaths due to asthma in 2019. Many medicinal plants and herbo animal preparations in siddha system of medicine used for the treatment of Bronchial asthma. Herbal medicines are being increasingly utilized to treat a wide variety of diseases through the knowledge about their mode of action is relatively insufficient. Histaminic is an important mediator in airway inflammation. Antihistaminic have been shown to have bronchodilatory effects, effects on allergen, etc and have beneficial effects in the management of asthma. Hence this current study was carried out to prove the Anti-histaminic activity of SEENTHIL CHOORANAM by in vitro assays and bio chemical analysis.

## 2. Materials and Methods

### 2.1 Drug Selection:

The siddha herbo animal formulation Seenthil chooranam has taken from the classical siddha literature Agathiyar paripooranam 400 and it is indicated for Bronchial asthma treatment. The herbal ingredients were authenticated by the faculty of department of gunapadam, Government siddha medical college, Palayamakottai.

### 2.2 Ingredients of Seenthil Chooranam:

- 1) Seenthil (*Tinospora cardifolia*)---10 Palam (350 grams)
- 2) Karisalai (*Eclipta alba*) ---10 Palam (350 grams)
- 3) Poonagam (Earth worm) ---3 Palam (105 mg)

### 2.3 Method of Purification

#### 1) SEENTHIL:

Peel off the outer skin of the stem and powdered, then washed it for 21 times in pure water and dried then sprinkled the cow's milk and allow drying it.

#### 2) KARISALAI:

Wash the whole plant and dry it in sunshade and powered.

#### 3) POONAGAM:

Soak the earth worm in butter milk for a while and allow to spit out mud by the earthworm then sprinkled lime water over it to kill, then dried and powered.

### 2.4 Method of Preparation

The above purified three ingredients were powdered individually and mixed together and stored in air tight container.

### 2.5 Anti-Histaminic activity evaluation using Isolated chick ileum

Chick ileum was purchased from local slaughter house from which the caecum part of the gut was lifted to identify the ileocaecal junction. About 2-3cm of the ileum portion was cut and removed and immediately placed it in the watch

glass containing physiological salt solution. Sufficient care was taken to avoid the damage to the gut muscle. Bath volume of about 25 ml was maintained, and the tissue was allowed to equilibrate for 30 min before adding test drug. Initial response on histaminic induces the contraction in the ileal smooth muscles which were recorded on Kymograph by using frontal writing lever. Contact time of 30 sec, and 5 min time cycle was kept for proper recording of the responses. After measuring normal response, the ileal preparation were incubated with test drug (2ml) for brief period of time and the concentration response curved of histaminic was then proceeded the height of response before and after incubation of test drug was measured for calculating the antagonist effect of the test drug.

**2.6 Biochemical Analysis of Seenthil Chooranam:**

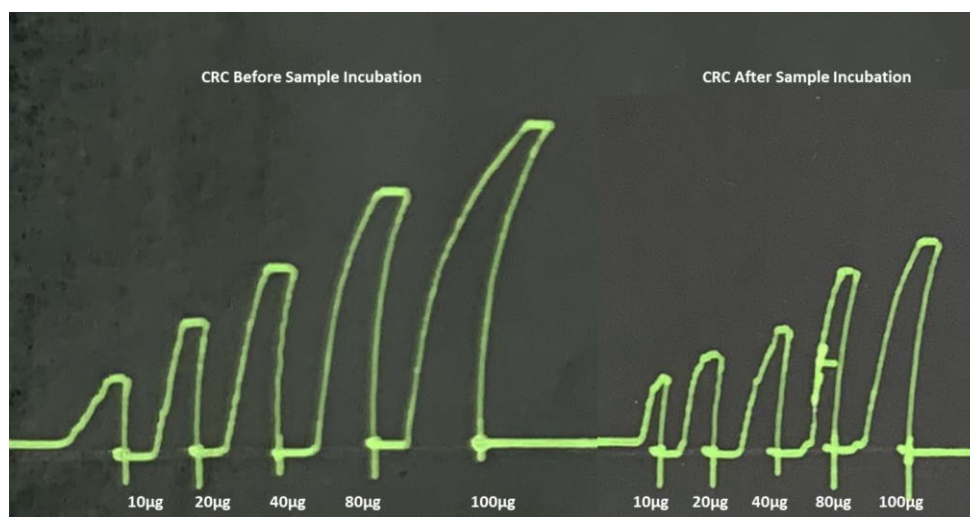
**Preparation of the extract:**

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

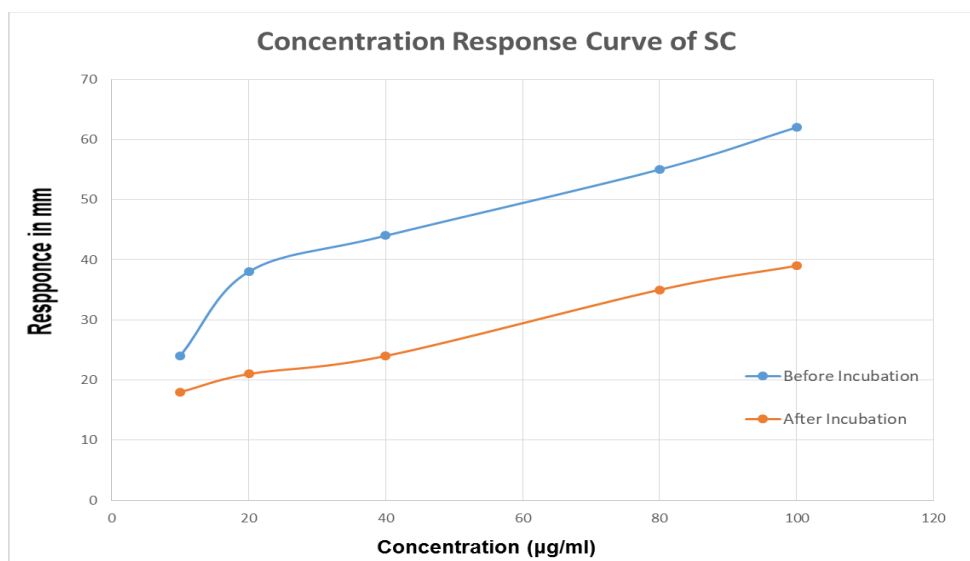
**3. Results**

**Table 1:** Effect of SC on response of isolated chick ileum preparation

Dose in $\mu\text{g}$	Initial Response in mm (Before Incubation)	Final response in mm (After incubation with Test drug SC)
10	24	18
20	38	21
40	44	24
80	55	35
100	62	39



**Figure 1:** Concentration response curve of histaminic in absence and presence of the sample SC on Isolated chick ileum in optimized condition



**Figure 2:** Concentration response curve of histaminic in before and after incubation with the sample SC on Isolated chick ileum in optimized condition

## Biochemical Analysis

S. No	Procedure	Observation	Inference
1.	<b>Test for calcium:</b> 2 ml of the above prepared extract taken in a clean test tube. To this add 2 ml 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.	A White precipitate is formed	<b>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.	Blue colour is formed	<b>Presence of starch</b>
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 for ferrous iron:</b> The extract is treated with concentrated nitric acid ammonium thiocyanate solution.	Blue colour is formed	<b>Presence of ferrous iron</b>
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 blueblack precipitate is formed	Absence of tannic acid
11.	<b>Test for unsaturation:</b> Potassium permanganate solution is added to the extract.	It gets decolourised	<b>Presence of unsaturated compound</b>
12.	<b>Test for the reducing sugar:</b> 5 ml of benedict's qualitative solution is taken in a test tube and allowed to boil for 2 minutes and add 8 to 10 drops of the extract and again boil it for 2 minutes.	No Colour changes 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.	Violet colour is formed	<b>Presence of amino acid</b>
14.	<b>Test for zinc:</b> The extract is treated with Potassium Ferro cyanide.	No white precipitate is formed	Absence of zinc

## 4. Discussion

## Effect of SC on response of isolated chick ileum preparation

- It was observed from the data's obtained from the present study that the height of response of concentration response curve of histaminic before incubation with test drug ranges from 24 mm to 62 mm. There was a promising decrease in the height of the response curve after incubation with test drug SC ranges from 18 mm to 39 mm. As show in table 1, figure 1-2.
- The qualitative phtochemical test revealed that SC contains sulphate, Starch, Ferrous iron, unsaturated compound and amino acid.

## 5. Conclusion

From this invitro study it was concluded that SEENTHIL CHOORANAM possess promising anti histaminic activity. This result can be further analysed invivo and more promising results may be expected.

## References

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