PHARMACOGNOSTICAL EVALUATION OF GUDUCHI SATVA WITH REFERENCE TO MARKET SAMPLES

Vasavdutta Kothari1*, Jignesh Kevalia2, Madhavi Patel3

1HOD of Dept. Rasa shastra and Bhaisajya Klapana, Indian Institute of Ayurvedic Pharmaceutical Sciences, Gujarat Ayurved University, Jamnagar.
2HOD of Dept. Pharmacognosy, Indian Institute of Ayurvedic Pharmaceutical Sciences, Gujarat Ayurved University, Jamnagar.
3Lecturer of Dept. Dravyaguna, Indian Institute of Ayurvedic Pharmaceutical Sciences, Gujarat Ayurved University, Jamnagar.

ABSTRACT
Guduchi is one of the essential and widely used drugs in Ayurvedic therapeutics. Its satva is an important preparation which can be made by simple procedure. However, the proportion of satva obtained from the fresh guduchi is very less so there are chances of adulteration in it. Considering this aspect, a study was planned to see its organoleptic characters like colour, odour, taste, texture and microscopical identification such as types of grains, its shape, hilum and its characteristics, presence and absence of striations observed from the samples prepared in the laboratory with comparison of two market samples collected from local market of Jamnagar to confirm its authenticity.

KEYWORDS: Guduchi Satva, Starch grains, Tinospora cordifolia.

INTRODUCTION
Starch is known as ‘Starke’, a German word meaning strength and used for laundry purpose, a carbohydrate, chemically contains amylose and amyllopectin. It is extracted from those members of plants which contain reserve food store in specific quantity.

Structurally it consists colourless highly fine granules which are microscopical observed, a definite morphological characters of grains are found when highlighted under microscope as like hilum – a minute lighter or darker point, if seen in centre called centric and away from it then eccentric. Because of its commercialization when they are gone for prolonged washing, the crystalline part of amylose removed and in a consequence it replaced by hollow or fissures which may be simple or stellate. Striation – concentric rings of fine lines surrounding the hilum.

The main use of starch like maize, rice, sweet potato etc. is for commercial purposes, but in Ayurved Guduchi is the only drug of which its satva is used as medicament.
Preparation of satva is a simple procedure but the yield is very less and there may chances of adulteration. So, the study was carried out to see the characteristics of satva prepared in laboratory along with two market samples to confirm their authenticity.

**Drug Review:**

Guduchi botanically known as *Tinospora cordifolia* is a dioecious plant, belonging to Family Menispermaceae\(^1\)\(^2\)\(^3\). It is a widely available drug and is used in Ayurveda in various forms like churna, vati etc. Its satva is also an important preparation used to cure Jvara, Prameha, Trusha (Fever, Diabetes, thirst) etc.

**Materials and Methods**

Guduci stem was collected in the month of March from the garden, IIAPS, GAU, Jamnagar.

The material was cleaned by washing with water. Then it was crushed by pounding. To this, four times of water was added and it was kept aside for three hours. Then the mixture was rubbed well with hands and thereafter filtered through a cloth. Again water was added and kept for one hour and the process was repeated. The collected water was allowed to settle. Then the supernatant water was decanted and the white coloured satva settled at the bottom was collected and dried in sunlight\(^4\).

Two samples of the satva were obtained from the market and comparative study was done macroscopically and microscopically.

**Observation:**

Organoleptic characters of satva and its microscopy is mentioned in Table No. 1

<table>
<thead>
<tr>
<th>Sample</th>
<th>Organoleptic Characteristics</th>
<th>Microscopy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory</td>
<td>Colour - white</td>
<td>Simple seldomly compound with aggregation of two grains, rounded, hemispherical, oval, few with pointed end and finely striated, occasionally found with heart, kettledrum, truncate and kidney shape; hilum not distinct rarely pointed or slit like; grains measuring 1 – 18 µm in length and 1 – 4 µm in width</td>
</tr>
<tr>
<td></td>
<td>Odour – odourless</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Taste – tasteless</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Texture - smooth</td>
<td></td>
</tr>
<tr>
<td>Market 1</td>
<td>Colour- white</td>
<td>Polygon, rarely spherical, some of them with evident reticulated luminescence; hilum distinct, centric, pointed to rounded, few slit like or with radiating clefts of various shapes; grains measuring 1.5 – 12 µm in length and 1 – 2 µm in width</td>
</tr>
<tr>
<td></td>
<td>Odour – odourless</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Taste – slightly like sweet potato</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Texture – smooth like talc</td>
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</tbody>
</table>
Conclusion

Guduchi satva prepared in the laboratory was tasteless and with smooth texture. Market sample 1 showed slightly sweet potato like taste and smooth talc like texture; whereas sample 2 found tasteless and with slightly grainy texture.

Microscopically all the three samples were different and showed diagnostic features; grains of laboratory sample were mostly simple, oval and hemispherical, while market sample 1 found with polygonal and evident reticulated luminescence; hilum was the characteristic feature and market sample 2 differs showing hilum majority with fissures.
Plate no. 3

Starch grains of Laboratory sample

Plate no. 4

Starch grains of Market sample 1

Plate no.5

Starch grains of Market sample 2
REFERENCES


For Correspondence
Madhavi Patel
Email: apmadhavipatel@gmail.com