



Standardization and Evaluation of Ptrangasava Marketed Formulation

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ABSTRACT

Ayurveda has many types of medicines, including fermented forms. Asavas (fermented infusions) are considered useful medicines due to their beneficial properties. Other desirable benefits like the nutrients it provides to the body. It is used to treat weight gain, improve taste, treat anorexia, relieve stomach pain caused by gastritis and digestive system, insomnia, relieve female cramps, improve memory, improve semen and semen quality, cure urinary tract stones, intestinal infection and bleeding. Standardization of herbal formulas is important to evaluate the quality, purity, safety and effectiveness of the drug. Methods: This study developed this model using properties such as physical properties, physical properties, and various physicochemical properties (such as total solids, reducing sugar, reducing sugar, surface tension, viscosity, boiling point). Solubility testing, acid value, pH determination and Rf value research to determine the quality, purity and safety of herbal preparations. Conclusion: The Ptrangasava has all the good features of the ideal Asava and has been found to be trouble-free, efficient and economical. The product has a design and is measured with good results according to the above parameters, but the effectiveness of the product can only be determined through the use of the proposed drug and treatment as future research and development.

Keywords: Asava, Standardization, Ptrangasava, evaluation.

INTRODUCTION

Asava is a liquid medicine that contains self-produced alcohol and therefore contains water-soluble and alcohol-soluble drugs. Due to its

medicinal properties, sweet taste and easy availability, people prefer to take these drugs for a long time. According to Samhita Asava, Madya was prepared with apakwa Aushada. The compound prepared by "Asutaprakriya" is called Asava.^{1,2}

Table 1: Composition of the commercial preparation Ptrangasava

S.No.	Ingredients	Quantity (mg)	Part used	Family	Chemical Category	Chemical Constituents
1.	<i>Caesipinia sappan</i> ⁷	22	Barks	Fabaceae	Flavanoid	Sappanol, Episappanol, 3-deoxysappanol
2.	Vasaka ⁷ (<i>Adhatoda vasica</i>)	22	Root	Acanthaceae	Quinazoline Alkaloid	Vasicine, Adhatodine
3.	Salmali (<i>Bombox maabalricum</i>)	22	Flower	Bombaceae	Fibre	Glycine, Alaninie
4.	Japapushpa (<i>Hibiscus rosa sinensis</i>)	22	Flower	Malvaceae	Flavanol	Thimin, Riboflavin, Ascorbic acid
5.	Anti-bola (<i>Abuticum indicum</i>)	22	Whole plant	Malvaceaea	Steroids, Carbohydrate & Glycoside	Beta Sitosterol
6.	Yava pushpa (<i>Jasimum sambac</i>)	22	Flower	Oleaceae	Flavonoids	Hisperidine, Isoquercetin
7.	Bhallataka Sudha (<i>Semecarpus anacardium</i>)	22	Seed	Anacardiaceae	Flavonoids	Anacardic acid, catechol
8.	Krishna sariva (<i>Cryptolepsis buchanani</i>)	22	Root	Apocynaceae	Glycoside	Cryptanoside C, B,A, caedenolide
9.	Aamgiri (<i>Menegifera indica</i>)	22	Seed	Anacardiaceae	Tannin	Tannic acid, Gallic acid
10.	Daru harida (<i>Berberis asiatica</i>)	22	Root	Berberidaceae	Alkaloid	Berberine, Oxyberberine
11.	Bilva (<i>Aegle mameelos</i>)	22	Root	Rutaceaea	Flavonoids	Rutin, Marmesin



12.	Bhringraj (<i>Eclipta alba</i>)	22	Whole plant	Asteraceae	Alkaloids	Wedelolactone
13.	Khadir (<i>Acacia catech</i>)	22	Hard wood	Leguminosae	Tannin	Acacatechin, Catechutanic acid
14.	Loha Churna (<i>Iron dust</i>)	22	Bhasm	-	-	Iron
15.	Safed jeera (<i>Cuminum cyminum</i>)	22	Seed	Apiaceae	Volatile oil	8-Cineole, Limonene, Linolool, Cinnamaldehyde
16.	Clove ⁷ (<i>Crylopyllus aromaticum</i>)	22	Flower wood	Myrtaceae	Phenol volatile	Eugenol
17.	Kesar (<i>Crocus sativa</i>)	22	Flower	Iridaceae	Aldehyde volatile	Crocine, Carotenooide, Saffaranal
18.	Sveta sariva (<i>Hemeclimus indicus</i>)	22	Root	Apocynaceae	Glycoside	Meddesminee, Cal-ogenin
19.	Honey ⁷ (<i>Apis indica</i>)	600	-	Apidaceae	Polysaccharides	Maltose, Dextrin
20.	Dhraksha (<i>Vitis venifera</i>)	220	Flower	Vitaceae	Flavanol	Protein, Fibre
21.	Dhaiphool (<i>Woodfordia fruticosa</i>)	180	-	Lythraceae	Volatile oil	Beta-sitosterol, betulinic acid, Lupeol
22.	Sakkar	1200	-	-	-	Sucrose

MATERIALS AND METHODS

Materials: Ptrangasava marketed product was purchased from Jhansi district (Uttar Pradesh). All chemicals used were of analytical purity.

Ptrangasava Standardization:

Ptrangasava Asava Preliminary assessment of the formulation:

Determined the properties, odor, taste, color and clarity of the formulation.

pH Determination: A digital pH meter is used to check the pH of the preparation. Before the experiment, the machine was calibrated with undissolved samples at pH 4.0, 7.0, and 9.2.

Determination of viscosity: Determine viscosity with Ostwald viscometer. Viscosity is determined by the standard.⁵

$$n_2 = (\rho_2 t_2 / \rho_1 t_1) \times n_1$$

Where ρ_2 = Density of water

ρ_1 = Density of sample

t_1 = Time required for water

t_2 = Time required for sample

n_1 = Viscosity of water.

n_2 = Viscosity of sample.

Total solid content determination: 20 ml of Ptrangasava preparation taken into the evaporation container, evaporated to dryness in a water bath and then dry at 105 ° C for 3 hours. The resulting sediment was placed in a

desiccator for 30 min and weighed. The total content was calculated according to the following formula:

Total solid content = Weight of dish after drying - weight of empty dish

Determination of surface tension:

The pycnometer was washed and measuring column thoroughly with chromic acid and clean water. A burette holder was used to mount the stone pillar on a vertical surface. Poured pure water onto the scale and counted the number of drops that fall between two points on the scale. Repeated 3 times and then rinsed the test line with the same liquid. A pycnometer is used to determine the density of the liquid.⁶

Chemical Tests:

Carbohydrate Test

Molish Test: A few drops of alpha-naphthol liquid were added in alcohol to 2 ml of Ptrangasava. Shaked well and conc. H₂SO₄ was added from the side of the tube. A ring of violet colored formed where the two fluids met.³

Glycoside Test

Legal's Test: In 2ml Ptrangasava, 1ml. pyridine and 1 ml. sodium nitropurine were added. Red color appears.³

Keller-killani test: To the 2 ml of Ptrangasava, added glacial acetic acid, 1 drop of 5% FeCl₃ and conc. H₂SO₄. The interface between the two liquid layers was red-brown and the upper layer was blue-green.³



Saponin Test

2ml Ptrangasava was shaken vigorously with 2ml water and a long foam was observed.³

Flavonoid Test

Shinoda Test: A 0.5 of each proportion was dissolved in ethanol warmed and then filtered. Some pieces of magnesium turning was then added to the filtrate followed by few drops of conc HCl. A pink colour indicated the presence of flavonoids.⁴

Alkaloids Test

Picric Acid Test: A few drops of picric acid was added in a 5 ml Ptrangasava and mixed well. The formation of a yellow crystalline precipitate indicated the presence of alkaloids.³

Wagner reagent test: A two drops of Wagner reagent added to 2 ml Ptrangasava and mixed well. The appearance of a reddish color indicated the presence of alkaloids.³

Essential Oil Test

A 2ml Ptrangasava, Sudan III was added, red color appeared.³

Reducing Sugar Test

Fehling test: A 1 ml each of Fehling A and Fehling B solutions was mixed and boiled for 1 minute. Then 2 ml of Ptrangasava was added. Heated in boiling water for 10 minutes. First yellow, then brick red ppt was appeared.³

Non-reducing sugar polysaccharides (starch) test

When 3 ml of Ptrangasava was mixed with a few drops of iodine solution, a blue color appeared which was disappeared after boiling and reappeared after cooling.³

Development of Thin Layer Chromatography

Although there are many methods, chromatography is the best analytical method to control the quality and purity of compounds. Chromatography is a separation process that depends on the difference between the components of the mixture between the cell and the thin film. Chromatographic examination of the Ayurvedic preparation Ptrangasava was performed using TLC.

Test solution: - Marketed Ptrangasava.

Solvent system: - Chloroform, acetone, formic acid (75:16.5:8.5)

Method:- A spot of test solution was marked on the silica G plate pre-coated with a thick layer. The plates were developed in the solvent system.

Visualization: - Visualization reagent ferric chloride.

Evaluation: - Rf value calculated.⁹

RESULTS

A Ptrangasava was light brown in colour, characteristic odour and acidic-sweet taste.

Table 2: Organoleptic Evaluation of Ptrangasava

S.No.	Parameters	Observation
1.	pH	4.0±0.02
2.	Viscosity	2.0473±0.23 gm/ml
3.	Total solid content	3.04±0.259% w/v
4.	Boiling point	103±1.23 °C
5.	Surface tension	23.36±0.34 N/m
6.	Rf Value	0.51

Table 3: Phytochemical Screening of Ptrangasava

S.No	Chemical test	Observation
1.	Carbohydrates a. Molish's Test	+++
2.	Glycosides a. Legal's Test b. Keller-killani Test	++- +++
3.	Saponins	+++
4.	Flavonoids Shinoda Test	+++
5.	Alkaloids a. Picric acid test b. Wagner reagent test	+++ -++
6.	Volatile Oil	+++
7.	Reducing Sugar	+++
8.	Non reducing sugar	---



Figure 1: TLC analysis of Ptrangaasava

OBSERVATIONS AND CONCLUSION

Current research on the evaluation of asava by physicochemical methods is a new method and an attempt to increase the number of analytical methods. In this way, proper application of Ayurvedic preparations such as asava is easily achieved. Analysis of the product can verify the consistency of the formulations. The research results may provide information for setting parameters for quality control and quality assurance of this preparation. Ptrangasava (commercial product) has an Rf value of 0.51. A mobile phase used in TLC was Chloroform, Acetone, Formic acid (75:16.5:8.5) is mainly used for the analysis of flavonoids and flavonoids may be used for anti-asthmatic activity. A presence of carbohydrates, glycosides, saponins, alkaloids, flavonoids, volatile oils and reducing sugar was found and in further studies this analysis can be used for research studies in anti-asthmatic, anti-malarial, anti-inflammatory and antioxidant activity. Hence, we concluded that this study would serve as a tool to test various analytical methods for modeling Ayurvedic formulations, especially Asava, and could be a good control for future studies.

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