Botanical and Physico-chemical Standardization of Habb-e-Harsinghar – A Unani Formulation

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Abstract

In the past few decades there is growing sense of awareness among the developing world about the importance of traditional systems of medicine such as Unani, Ayurveda and Siddha for maintaining health without side effects. Following this emerged research activities like quality standardization of traditional medicines and development of scientific methods for the manufacture of quality medicine are on the rise. In view of this botanical and physico-chemical standardization of Habb-e-Harsinghar – A Unani formulation has been carried out. Present paper deals with the proper authentication, taxonomic identification, organoleptic characters, ingredient identification, physico-chemical values and chromatographic profile of the drug studied so as to set its standards for quality assurance for global marketing.

Keywords: Standardization, Quality assurance, Habb-e-Harsinghar

Introduction

Huboob (pills) are small, round and uniformly shaped medicinal preparations used in Unani system of medicine (Anonymous, 2006). Being mulaiyin (aperient) in action Habb-e-Harsinghar is frequently prescribed by Unani physicians in the treatment of bawaseerdamiya (bleeding piles) and bawaseeramya (blind piles). According to the formula composition, this drug contains two plant ingredients i.e. maghz-e-tukhm-e-Harsinghar and filfil siyah (Anonymous, 2007).

Maghz-e-Tukhm-e-Harsinghar are the seeds of *Nyctanthes arbor-tristis* Linn. of family Oleaceae. It is considered as cholagogue, anthelmintic and laxative in action. In Unani system of medicine it is useful in piles .Filfil siyah are the berries of *Piper nigrum* Linn. of family Piperaceae . It is acrid , pungent and hot. In unani system of medicine being hot 2<"and dry 2<" it is considered as carminative, aphrodisiac, purgative, alexipharmic, removes balgham. (Anonymous, 1966, 1969; Chopra *et al.*, 1969; Kirtikar and Basu, 1988; Nadkarni, 1986)

In order to lay down the standards for manufacturing the quality medicine, the drug was prepared in three different batches at laboratory scale. Present paper describes the salient features of preparation, micoscopical characters, physico-chemical and thin layer chromatography data of Habb-e-Harsinghar.

Material and Method

In order to develop the quality medicine with maximum therapeutic potential all the ingredients were procured from the local raw drug dealers, New Delhi. After

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proper identification of each ingredient (Anonymous, 2007; 2008), Habb-e-Harsinghar was prepared as per following formulation composition :-

1. Maghz-e-Tukhm-e-Harsinghar 1.5 kg
2. Filfil siyah 500g

Microscopic Observation

Few pills were broken into fine powder and examined microscopically after staining with different reagents like saffranine, iodine solution, ferric chloride solution etc. and mounted with glycerine. (Johansan, 1940; Iyengar, 1997; Trease and Evans, 1983; Wallis, 1969). The representative photographs were taken from the computer with microscopic attachment .

Chemical Analysis

All the prepared batch samples were subjected for chemical analysis. Physico-chemical studies like total ash, acid insoluble ash, solubility in alcohol and water, loss on drying at 105<"C were carried out(Anonymous, 1998) .

Thin Layer Chromatography

Preparation of extract for TLC

5g. powder drug was extracted in 60 ml. of absolute alcohol under reflux of water bath for 10 minutes and filtered. Further the filterate was concentrated upto 4ml.and used for thin layer chromatography (Wagner, 1984).

Preparation Method

Both the ingredients were taken of pharmacopoeial quality. Cleaned, dried, powdered separately and sieved through a mesh no. 100. Then both the ingredients were mixed together and kneaded with water to make the dough. The sticks of dough were made and rolled between the fingers to make the pills of approx. 250 mg. size. The yield was 520 pills. Packed in tightly closed containers to protect from light and moisture. The formulation was prepared in three batches separately by the same method.

Results and Discussion

Habb-e-Harsinghar is a dark brown coloured solid pill with bitter taste and unspecific odour. The drug did not show any change or fungal growth when kept in a petri dish.

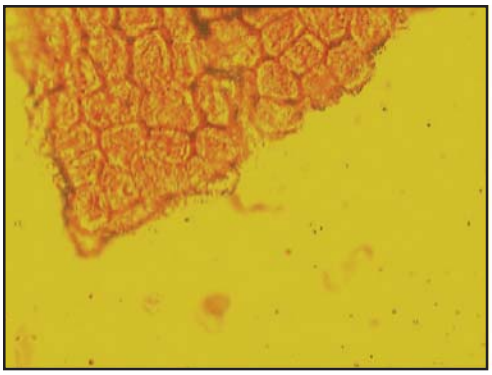

Fig. 1 X40 Sclereids in groups of *Piper nigrum* Linn.

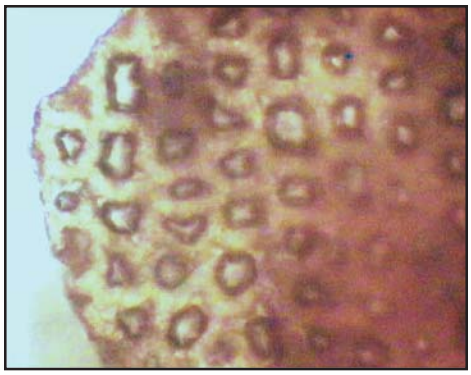

Fig. 2 x40 Sclereids in groups of *Piper nigrum* Linn.

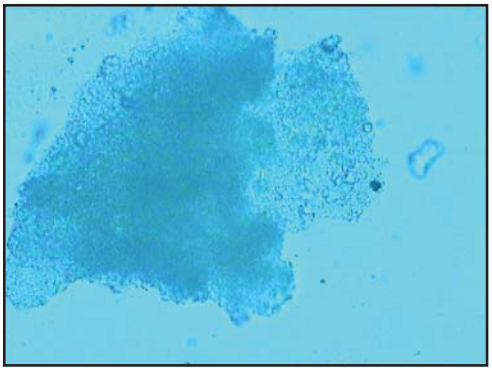

Fig. 3 X40 Parenchyma cells with starch grains of *P. nigrum* Linn.

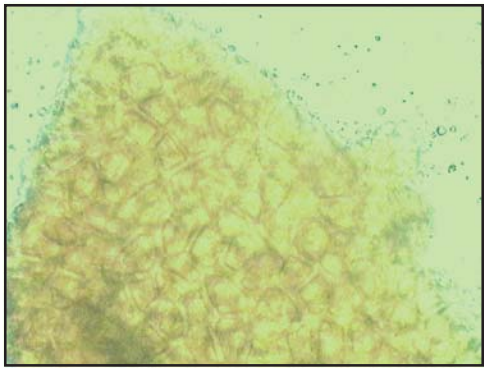

Fig. 4 x40 Epidermal cells in surface view of *Nyctanthes arbortristis* Linn.

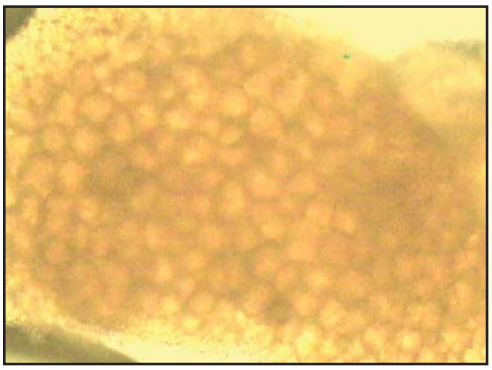

Fig. 5 X40 Palisade cells in surface view of *Nyctanthes arbor-tristis* Linn.

Fig. 6 x40 Palisade cells in sectional view of *Nyctanthes arbor-tristis* Linn.

Fig. 1-6: Microscopic Observations on Drug – Habb-e-Harsinghar

Microscopic Observation

On examination under the microscope Habb-e- Harsingharshows epidermal cells in surface view, palisade cells in surface and sectional view (Maghz–e-Tukhm-e-Harsinghar);groups of more or less iso-diametric or slightly elongated stone cells and parenchymatous cells filled with starch grains (Filfil siyah) (Fig. 1-6).

Chemical Analysis

Table 1: Physico- chemical data of the drug

S. No.	Parameters	Batch No.		Batch No.		Batch No.	
		I	Mean Value	II	Mean Value	III	Mean Value
Extractives							
1.	Alcohol soluble matter	18.00 19.20 20.80	19.30	16.80 16.80 17.40	17.00	15.20 17.60 18.40	17.07
2.	Water soluble matter	35.20 35.20 36.00	35.47	36.60 37.60 38.40	37.53	38.40 38.40 39.60	38.80
Ash Values							
1.	Total ash	3.75 4.00 4.00	3.92	4.05 4.10 4.25	4.13	3.25 3.50 3.55	3.43
2.	Acid insoluble ash	0.60 0.65 0.65	0.63	1.05 1.05 1.15	1.08	0.65 0.75 0.75	0.72
3.	Loss in wt. on drying	5.00 5.50 5.90	5.47	6.50 6.50 6.50	6.50	6.40 6.75 7.00	6.72
pH Values							
1.	1% aq. Sol.	4.23 4.60 4.61	4.48	4.46 4.54 4.60	4.53	4.46 4.51 4.53	4.50
2.	10% aq. Sol.	4.05 4.12 4.13	4.10	4.07 4.11 4.12	4.09	4.07 4.12 4.16	4.12

Thin Layer Chromatography Analysis

5 g. of powdereddrug was extracted with 60 ml. of ethanol under refluxing conditions on water bath for 10 minutes and filtered. The filtrate was concentrated up to 4 ml. The extract so obtained was applied on a pre-coated silica gel plate and the solvent system Toluene: Ethyl Acetate (90: 10) was used in developing chamber to develop it. The plate was dried and sprayed with Vanilin-Suplhuric acid reagent. The plate was again dried and kept in an oven for heating at 105p C for 10 minutes. Rf values of the spots are: 0.22; 0.31; 0.38; 0.45; 0.49; 0.53; 0.58; 0.63; 0.71; 0.84; 0.96.

Conclusion

Microscopic examination of the drug Habb-e-Harsinghar provides a key diagnostic histological characters that are helpful in establishing the identity of the genuine drug material. Physico-chemical parameters viz. ash values, extractive values and pH etc. of the studied drug serves as an important tool in maintaining the batch to batch consistency so as to bring a safe, efficacious and quality product for the global market.

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