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Medicinal Plant of Shikakai

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Abstract: Acacia concinna Linn. (Leguminosae) is a medicinal plant that grows in tropical rainforests of southern Asia and the fruits of this plant are used for washing hair an attempt has been carried out in respect to the authenticity and assay of Shikakai (Acacia Concinna Linn.) fruit. Present paper reports on pharmacognosy, physico-chemical parameters including the Thin Layer Chromatography of fruit. The result shows the presence of saponin cavity in mesocarp, stone cells in pericarp region, pitted vessels were observed. The phytochemical analysis ofthe prepared sample by implementing organoleptic, microscopic, physicochemical, preliminary phytochemical screening and quantitative estimation shows 8.04 % then after Chromatographic study to ensure suitable parameters for its quality control.

Keywords: Shikakai, Pharmacognosy, Phytochemistry, HPTLC

I. INTRODUCTION

Ayurveda the World'smost ancient yet uniquely futuristic system of Healing and Acacia concinna Linn. (Leguminosae) is a medicinal plant that grows in tropical rainforests of southern Asia and the fruits of this plant are used for washing hair, for promoting hair growth, as an expectorant, emetic, and purgative. (Gupta, G. L et. Al1971)

Although the pods of this plant are known to contain several saponins based on acacic acid,previous chemical examinations only resulted in the identification of flavonoids1 and monoterpenoids (Sekine, T et al. 1997). For Indian herbal industry, there is a huge export opportunity (L.K.Dwivedi et al 2008), however this opportunity is full of challenges, regulatory, quality, consumer protections,and market compositions Thee strength of tradition should be transformed into rich source of medical therapy instead commercialization. Nowadays due to the hectic sedules, it became mandatory for the clinician to depend on pharmacies for their medicinal requirement but in the name of Modernization it started lacking quality and efficacy up to the mark. Scientific Information Regarding pharmacognostical, Quantitativemicroscopy, Fingerprinting analysis of fruit drug not avalaible elsewhere. At present paper author tried to fulfill above precise informative work.

Method

Reetha and Shikakai fruits were purchased from an export company and verified by a botanist. The samples were cleaned and seeds were removed. The pericarp (flesh) was crushed into a fine powder and was used for extraction with methanol. The extraction was done by soaking the reethasoapnuts and shikakai pods in 1ml methanol for 24 hours each and filtered to be used as a sample for analysis with GC-MS instrument. The GC-MS analysis wasdone by GC-MS-QP-2010 plusUltra (Shimadzu company). Helium gas was used as a carrier gas at a constant flow of 16.3 mL/min with the injection volume of 1ml. The Column Oven Temp was at 60.0 °C and Injection Temp at 260.00 °C. The total GC-MS running time was 45 min. The interpretation of mass-spectrum was doneusing theNational InstituteStandard and Technology (NIST) and Wiley library database. The structure of the compounds along with name and molecular weight were established as well.

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RESULTS

Compounds found in Reetha (SapindusMukorossi) were as follows- The compound [3R- (3α,3aβ,6α,7β,8aα)]- octahydro- 3,6,8,8- tetramethyl- 1H- 3a,7- methanoazulene-known as Cedrane was found in reetha sample which is a triterpenoidsaponin fundamental parent; having a molecular formula of $C_{15}H_{26}$. Another triterpenoidsaponin compound was found (6E,10E,14E,18E)- 2,6,10,15,19,23- hexamethyltetracosa- 2,6,10,14,18,22- hexaene known as squalene with a molecular formula of $C_{30}H_{50}$. A third triterpenoidsaponin compound 1-oxo-3β-hydroxyolean-18-ene was detected which is a pentacyclictriterpenoidsaponin having a molecular formula of $C_{30}H_{48}O_2$. Oleic acid and steric acid were also detected which are among the main chemical constituents of saponins. Compounds found in Shikakai (Acacia Cocinna) were – squalene, a triterpene compound (6E, 10E, 14E, 18E)- 2,6,10,15,19,23 hexamethyltetracosa- 2,6,10,14,18,22- hexaene, was found in shikakai as well with molecular formula of $C_{30}H_{50}$. Naturally occurring betulin which is a pentacyclictriterpenoid was detected (3β)-lup-20(29)-ene-3, 28-diol. Its molecular formula is $C_{30}H_{50}O_2$.

II. CONCLUSION

A traditional remedy to all your hair woes, this potent herb is not only beneficial for your hair and skin but also holds high significance in treating a host of ailments including indigestion, gum infection, jaundice etc.

Side Effects:-

When applied on hair and skin regularly, Shikakai does not usually trigger any noticeable health repercussions. However, for individual prone to allergies and having sensitive skin on the scalp and face, it is recommended to seek the advice of a dermatologist prior to topical application of Shikakai powders and products.

Ingesting Shikakai powder in small doses as instructed by the doctor generally does not induce any harmful side effects. If consumed in very high doses, Shikakai powder prompts nausea, loose stools and ulcers, irritation in the walls of the stomach and intestines. It is hence advised to always consult with a certified ayurvedic practitioner before using Shikakai for internal consumption purposes.

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