Poster

HPTLC estimation of charantin in some marketed polyherbal formulations used in diabetes mellitus.

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Introduction. Diabetes mellitus has recently been identified by Indian Council of Medical Research (ICMR) as one of the refractory diseases for which satisfactory treatment is not available in modern allopathic system of medicine and suitable herbal preparations are to be investigated. WHO has approved the use of traditional medicines as part of health programs. A herbal medicine is defined as a finished, labeled medicinal product that contains active ingredients as aerial or underground parts of plants or other plant material or combinations thereof.

Objectives. Charantin is one of the phytoconstituents present in *Momordica charantia* Linn. *M. charantia* is known for its hypoglycemic activity from ancient times. In the present study an attempt has been made to develop a HPTLC method for quantitative estimation of charantin in dried fruits used in formulations and different marketed antidiabetic polyherbal formulations (PHF).

Methods. Silica gel 60 F254 precoated plates (10 x 10 cm) were used with benzene: methanol (80:20) as solvent system. Sample was spotted on precoated TLC plates by using Linomat 5 spotter. Ascending mode was used for development of thin layer chromatography. TLC plates were developing up to 8 cms. The plates were sprayed with 10% sulfuric acid in alcohol and the reagent was prepared freshly, heated at 130º C for 2-3 min and brought to room temperature. Violet spot with Rf 0.32 was visible and scanned under 536 nm. The contents of charantin in the selected PHFs were determined by comparing area of the chromatogram of PHFs with calibration curve of the working standard of charantin.

Results. This HPTLC method was found to be reproducible, accurate and precise, and to detect charantin concentration at nanogram levels. The developed HPTLC method would be an important tool in the quality control method of polyherbal formulations.

Conclusion. The proposed HPTLC method was found to be rapid, simple and accurate for quantitative estimation of charantin in different marketed polyherbal formulations and small fruits or big fruits of *M. charantia*. The recovery values of charantin were found to be about 98.89%, which shows the reliability and suitability of the method. The lowest detectable limit of charantin in different formulations was found up to 20 ng/spot.

Keywords: HPTLC, polyherbal formulations, charantin, antidiabetic

Selected References

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