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TLC - Spectrophotometric Determination of Total Sennoside from Marketed Galenical Preparation

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GALENİK PREPARATLARDAKİ TOTAL SENNOZİD DÜZEYLERİNİN İNCE TABAKA KROMATOGRAFİSİ VE SPEKTROFOTOMETRİ İLE BELİRTİMİ

Özet

Piyasada satılan galenik preparatlardaki terapötik etkiye sahip aktif madde içeriğinin miktarı belirtilmemektedir. Sonamukhi *(Cassia angustifolia)* ekstraktı içeren böyle bir preparatın içerdiği total sennosid miktarı açısından incelendi. Bu araştırma, böyle bir preparat içesindeki etken madde miktarının İTK-spektrofotometrik yöntemle tesbit edilebileceğini göstermektedir.

Yapılan literatür araştırmasında benzer bir çalışmaya rastlamadık.

Summary

Galenical preparation sold in the market do not mention the amount of active ingredient having therapeutic effect. Such one preparation containing extract of Sonamukhi *(Cassia angustifolia)* was analysed for total sennoside content. The present work deals with finding out the actual amount of the active ingredient present there in, by TLC-spectrophotometric method.

Literature survey does not reveal any work on such a product.

Keywords: *Galenical preparations - Active ingredient - Sennoside - TLC-Spectrophotometric method*

Literature Survey

Lane (1) determined sennoside A and its derivaties in biological tissues by fluorometry. The fluorescence intensity was measured at 510 nm.

Method Brendel and *Schneider* (2) determined sennosides in senno pods and leaves spectrophotometrically. *Wahbi* et *al* (3) determined sennosides from senna powder by a colorimetric method. The yellow colour was measured at 390 nm.

Hayashi et *al* (4) determined sennosides in senna powder by HPLC.

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Experimental

The label claimed on the galenical preparation, each 30 mL contains : extract of Sonamukhi - 1.15 gm.

Preparation of Test Solution

20 mL of galenical solution was diluted with hot distilled water and volume was made upto 100 mL.

Standard Solution

100 mg of the powder of calcium sennoside (20 %) was digested with 70 mL of hot water, filtered and the volume was made up to 100 mL.

Separation and Quantitation of Sennoside

Chromoplates of 20 x 20 cm size were prepared with silica gel G of thickness 500 µm and then activated at 105°C - 110°C for one hour. Each three activated chromoplates were taken and streaked using 0.25, 0.50 and 0.75 mL of test and standard solution. The plates were developed in a saturated developing chamber using benzene: acetic acid (70:30) as a mobile phase. The plates were run to a 10 cm which took 30 minutes. Visualization was done by spraying with strong ammonia solution. For the purpose of scrapping a reference plate under the same conditions was prepared and then knowing the Rf value scrapping was done. The Rf value for sennoside was 0.9. The corresponding band was scraped out and analysed by *Shimadzu* UV 240 /visible spectrophotometer at 270 nm in 5% sodium bicarbonate solution (5).

Recovery Experiment

To 20 mL of the galenical solution 50 mg of powder of calcium sennoside (equivalent to 10 mg) was added. From this admixture the quantity of galenical 13.18 mL (equivalent to 19.32 mg of sennoside) was removed as per the results of preanalysed sample. The solution was then diluted with hot water and analysed by the proposed method. The percentage recovery was computed from the results obtained. Further, statistical evaluation indicated the precision of the proposed method.

Drug	Sennoside obtained 20 mL	Amt. of drug added in mgs.	Amt. of drug recovered in percentage	Standard deviation (S)	Co-efficient of variation (%)
Sennoside	29.119 mg	10	98 %	± 0.0099	1.02258

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REFERENCES

1- Lane, A.C. (1973) *Anal.Chem.*, **11**, 1911 - 1914.

2- Method Brendel, W.D., Schneider, D. (1974) *Planta Med*, **25**, 63 - 67.

3- Wahbi, A.M., Abu-Shady, M., Soliman, A. (1976) *Planta Med*, **30**, 269 - 272.

4- Hayashi, S.,Yoshida, A., Tohaka, H., Yoka, Y.K. (1980) *Chem.Pharm.Bull.*, **28**, 406 - 412.

5- The Merck Index (1983) 10 th edition, p 1215, (M. Windholz, S. Budavari, R.F. Blumetti, E.S. Otterbein eds) Merck and Co.,Inc., Rahway,N.J.,U.S.A.

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