

P285 **Chemical constituents of *Cymbocarpum erythraeum* (DC.) Boiss. and evaluation of its anti-*Helicobacter pylori* activity**

Azadeh Manayi<sup>1</sup>, Samaneh Heidari<sup>2</sup>, Ahmad Reza Goahri<sup>1</sup>, Soodabeh Saeidnia<sup>1</sup>, Hossein Mighani<sup>2</sup>, Hamid Reza Monsef Esfahani<sup>3</sup>

<sup>1</sup> Medicinal Plants Research Center, Faculty of Pharmacy, Tehran University of Medical Sciences, Tehran, Iran

<sup>2</sup> Division of Chemistry, Faculty of Science, Golestan University, Golestan, Iran

<sup>3</sup> Department of Pharmacognosy, Faculty of Pharmacy, Tehran University of Medical Sciences, Tehran, Iran

*Cymbocarpum erythraeum* (Apiaceae) is well represented in the Flora Iranica as an endemic species of Iran [1]. Due to the importance of Apiaceae plants for their several bioactive compounds and regarding to the point that there is no phytochemical and biological investigation on *C. erythraeum*, isolation of the main secondary metabolites as well as anti-*Helicobacter pylori* evaluation of the plant have been considered in this evaluation. The shade dried parts of the plant were extracted with hexane, methanol and methanol-water (1:1) using percolator apparatus, respectively. Methanol extract was subsequently fractionated by petroleum ether, butanol and water solvents. The butanol fraction was purified using different column chromatography (CC) methods yielding compounds 1, 2 and 3. The hexane fraction was also purified using CC to provide compound 4. The compounds were identified by <sup>1</sup>H-NMR and <sup>13</sup>C-NMR methods as isoquercetin (1), rutin (2),  $\beta$ -sitosterol (3) and 2-decenol (4) [2-4]. The anti-*H. pylori* evaluation of the plant extracts and its flavonoids were performed employing disk diffusion method against three clinical isolates of *H. pylori* revealed that hexane extract of the plant inhibited all clinical isolates of *H. pylori*. However, methanol (464 mg/mL) and petroleum ether (226 mg/mL) extracts were effective just against one *H. pylori* strain with inhibition zone diameter values of  $14 \pm 0.04$  and  $15 \pm 0.02$  mm, respectively. However, other fractions and flavonoids did not exhibited antibacterial activity against pathogen bacteria. Due to the best of our knowledge, this is the first report of phytochemical contents and anti-*H. pylori* activity of the plant.

**Keywords:** *Cymbocarpum erythraeum*, Apiaceae, isoquercetin, rutin, *Helicobacter pylori*

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## P2B60 Chemical composition and antibacterial activity of essential oil of *Trachyspermum ammi*

Azadeh Manayi<sup>1</sup>, Mahdi Vazirian<sup>2</sup>, Sahar Omidpanah<sup>3</sup>, Faride Hosseinkhani<sup>4</sup>, Abolfazl Hasseli<sup>5</sup>

<sup>1</sup> Medicinal Plants Research Center, Faculty of Pharmacy, Tehran University of Medical Sciences, Tehran, Iran

<sup>2</sup> Department of Pharmacognosy, Faculty of Pharmacy, Tehran University of Medical Sciences, Tehran, Iran

<sup>3</sup> Biology Department, Agriculture Office, Abarkooh Branch, Yazd, Iran

<sup>4</sup> Department of Microbiology, Faculty of Medical Sciences, Tehran University of Medical Sciences, Tehran, Iran

<sup>5</sup> Head of Dr. Hasseli Veterinary Hospital, Abarkooh, Yazd, Iran

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*Trachyspermum ammi* (L.) Sprague ex Turin (Apiaceae) is an annual herbaceous plant growing in Middle East, Near East and India. The fruit of the plant has been well known for many centuries for its diuretic, carminative, and anthelmintic properties [1]. The aim of this study was to demonstrate chemical composition and antibacterial activity of essential oil of the plant fruit against two pathologic strains of bacteria in poultry along with four standard strains. The essential oil was obtained using hydro-distillation method and chemical composition of the oil was characterized by GC and GC-MS. *Salmonella typhimurium* and *Escherichia coli*, isolated from diseased poultry, and standard strains namely *Staphylococcus aureus*, *E. coli*, *Pseudomonas aeruginosa*, and *Enterococcus faecalis* were applied for evaluation of antibacterial activity using both disk diffusion and microdilution methods. Since antibacterial activity of thymol has been well established in the previous literatures and it comprises the main part of the oil, it was used as a positive control [2, 3]. Twenty three compounds were identified in the oil, which comprise 96.3% of all. Thymol (39.9%), o-cymene (19.7%),  $\gamma$ -terpinene (18%), and myrcene (6.8%) were the major components of the oil of *T. ammi*. The growth of all the examined bacteria were effectively suppressed with the essential oil, while thymol has not showed inhibition activity toward the tested bacteria. Standard strains were more sensitive to the essential oil in comparison with those pathogen strains with inhibition zone diameter ranging between 30-50 and 28-30 mm, respectively. Minimum inhibition concentration for all microorganisms was successfully assessed as  $<0.001 \mu\text{g/mL}$ , as well.

**Keywords:** *Trachyspermum ammi*, Apiaceae, antibacterial, thymol

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