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LETTER TO EDITOR

Antibacterial Effects Of Adiantum Capillus-Veneris Ethanolic Extract On Three Pathogenic Bacteria In Vitro"

BESHARAT M *, RAHIMIAN M **, BESHARAT S ***, GHAEMI E ****

*, **Medical student, ***General physician, Researcher, Golestan Research Center of Gastroenterology and Hepatology, **** Asso. Prof., PhD Microbiology, Golestan University of medical sciences.

Corresponding Author

Besharat S, 4th Dara & Sara blind alley, 21st Edalat Avenue, Vali-e-asr street, Gorgan city : 49177-44563, (Iran).
Tel: 0098-171-2240835
Fax: 0098-171-2269210
e-mail: S_besharat_gp@yahoo.com

Sir,

Medicinal plants are increasingly substituting chemical and synthetic medicines [1]. *Adiantum capillus-veneris* is a wooden herb with a height of about 35 centimeters, with crowning rhizome. Its dried root is indicated as a medicine. It grows in south Europe, on the Alps mountains, on the Atlantic sea shore and also in Iran [2].

The herb's components include flavonoids, parontocyanidonis, hydroxyl cynamic acid ester, bitter material, mucilage, galic acid, tannin, hydrocarbons and ester [2].

This herb has mucolytic effects, and is used as a diuretic, an antipyretic, and in liver and spleen disorders. It has been used in tea for respiratory diseases and as syrup for severe cough. Also, it promotes hair growth and makes the color of hair black. No side effects of this herb are reported, but it is contraindicated in pregnancy [2].

Staphilococcus aureus, *E.coli* and *Pseudomonas aueruginosa*, are important pathogens in humans, and cause different infections like toxic shock syndrome, respiratory tract infections and nosocomial infections [3].

Antibiotic resistance to these bacteria is one of the largest challenges for physicians, and new medicines are needed for solving this problem.

According to a study by Singh M et al, a methanolic extract of *Adiantum capillus-veneris* had a very low MIC value (0.48µg/ml) against *Escherichia coli*. The maximum activity was exhibited by the methanolic extract of *Adiantum venustum*, followed by *Adiantum capillus-veneris*, *Adiantum peruvianum* and *Adiantum caudatum*. The extracts of these herbs were tested for their antimicrobial activity against five gram positive and six gram negative (including multi-resistant *Staphylococcus aureus*) bacteria and against eight fungal strains using the standard micro-dilution assay [4].

We tested various concentrations of the ethanolic extract of *Adiantum capillus-veneris*, (1/2,1/4,1/8) with the disc diffusion method on three bacteria, which are mentioned above. Gentamicin disc was used as the positive control. After incubation in 37°C for 24 hours, the ethanolic extract of *Adiantum capillus-veneris* showed no antibacterial effect when various concentrations were tested.

According to the ancient papers about medicinal herbs, this herb has antibacterial effects. Our results did not show this effect in the ethanolic extract.

Complementary investigations are suggested.

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