INVESTIGATIONS INTO THE ANTIMICROBIAL POTENTIAL OF SOME BEE AND HERBAL PRODUCTS AGAINST MULTIRESISTANT BACTERIA

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SUMMARY

Nowadays; there is a growing interest concerning research on natural products; due to their complex biological potential; bioavailability; and above all; the lack of side effects. A number of researchers reported the therapeutic benefits of honey as well as of medicinal plants; pointing out their antimicrobial; antioxidant and anti-inflammatory potential (Bogdanov; 1997; Cowen; 1999).

In order to evaluate the therapeutic potential of some natural products obtained from different areas of Northern Romania; twenty samples of honeydew honey; as well as ten vegetal extracts were studied for their antimicrobial activities on antibiotic resistant strains of bacteria isolated from animal pathology. The efficacy of honeydew honey samples and herbal extracts (alcoholic extracts and essential oils) were assessed by disk diffusion technique on various strains of Escherichia coli; Staphylococcus aureus; Salmonella typhimurium and Pseudomonas aeruginosa.

Antimicrobial activity was observed for both the honeydew honey samples and the herbal extractions; but the antimicrobial potential of some honey samples was considerably stronger when compared to the herbal extracts. Thus; only the honeydew honey was active against Pseudomonas aeruginosa strains used for the testing.

These results showed that natural products such as honeydew honey and herbal extracts could be considered for an alternative therapy in animal pathology and further studies are required to determine the bases and the mechanisms of action for the antibacterial activity.

BIBLIOGRAPHY

Bogdanov S.; 1997; Nature and origin of the antibacterial substances in honey; Food Science; 30(7):748-753
Cowan Marjorie Murphy;1999; Plant Products as Antimicrobial Agents; Clinical Microbiology Reviews Vol. 12; No. 4 p. 564–582