



Cardiovascular-protective, Antioxidative, and Antimicrobial Properties of Natural Thallus of Lichen *Usnea complanata*

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SUMMARY. In this study the cardiovascular protective antioxidative and antimicrobial properties of natural thallus of lichen *Usnea complanata* has been reported. Ethyl acetate extract showed maximum HMG-CoA reductase inhibitory activity up to 52.87 % at 200 µg/ml. Ethanol extract at same concentration showed 46.37 % inhibition of angiotensin converting enzyme. Maximum fibrinolytic activity was obtained in ethanol extract followed by hexane extract. Ethanol extract of *U. complanata* showed antioxidative activity as scavenging of nitric oxide radical, free radical scavenging and lipid peroxidation inhibition with an IC₅₀ value ranging from 0.062 to 0.27 µg/ml, which was lower than the other solvent extracts. All extract with the exception of DMSO and hexane showed inhibitory activity against bacteria and fungi. Ethyl acetate extract was found to be most efficient as MIC₉₀ was found in the range 4.61 – 21.55 µg/ml. Acetone and ethyl acetate extract inhibited all the tested fungi with MIC values ranged from 6.25 to 100 µg/ml and 12.5 to 100 µg/ml, respectively. Cardiovascular protective and antioxidative properties were shown strong correlation with the total polyphenol content present in the extract with R² value ranging from 0.585 to 0.927.

KEY WORDS: Antioxidant, Antimicrobial, Cardiovascular protective, Lichen, *Usnea complanata*.

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