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The Use of Honey and Propolis in The Management of Chronic Kidney Disease and Proteinuria; A Potential Approach That Warrants a Clinical Investigation

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Abstract

Chronic kidney disease and proteinuria are common in clinical practice and risk developing end-stage renal disease and cardiovascular disorder. Oxidative stress plays an important role in the pathogenesis of kidney diseases. Studies showed the renoprotective effects of antioxidant and anti-inflammatory agents. Others and we have shown that honey and propolis have antioxidant and anti-inflammatory properties. In collaboration with a scientific team at Sidi Mohamed Ben Abdellah University, Morocco (supervised by Prof Lyoussi), we found that propolis and honey contain polyphenols, including flavonoids, and propolis has higher antioxidant activities than honey. Interestingly, we found that propolis extract alleviates urinary protein excretion and ameliorates the deterioration of kidney function caused by ethylene glycol ingestion and paracetamol toxicity. Furthermore, propolis has the potential to treat and prevent urinary calculus, crystalluria and proteinuria. Also, we have found that propolis alone or in combination with honey has significant diuretic activity, and honey has a reno-protective effect in lead and CCl4 toxicity associated with a considerable diuretic activity. In earlier observation, our data showed that honey decreases urinary prostaglandins and increases nitric oxide and has diuretic activity in normal individuals. Chrysin and pinocembrin found in honey and propolis showed a considerable favorable effect in diabetic nephropathy. The possible mechanism of action is discussed. It might be concluded that honey and propolis are potential candidates to manage chronic kidney disease, proteinuria, and nephrotic syndrome. These results pave the way for controlled clinical studies, and their combination might potentiate their activities.