Title	Effects of Welsh onion on oxidation of low-density lipoprotein and nitric oxide production in macrophage cell line RAW 264.7
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Abstract

The effects of aqueous extracts of Welsh onion green leaves (WOE) on oxidation of low-density lipoproteins (LDL) and production of nitric oxide (NO) in macrophage were investigated. The results showed that WOE in the range of 0.1–1.0 mg/ml inhibited LDL oxidation and scavenged $ABTS^{\bullet+}$ radical in an acellular system. Moreover, the antioxidant activity of WOE correlated well with the total polyphenolic content ($r = 0.968$). In addition, WOE in the range of 0.1–1.0 mg/ml inhibited lipopolysaccharide (LPS)-induced NO production in a concentration-dependent manner. The induction of iNOS and COX-2 proteins in RAW 264.7 cells was markedly suppressed by WOE. WOE at 1 mg/ml significantly inhibited iNOS mRNA expression, as determined by reverse transcription-polymerase chain reaction (RT-PCR). Furthermore, LPS-induced nuclear factor-kappa B (NF-κB) activation, through IκB-α degradation, was reduced by WOE. These results suggest that WOE could attenuate excessive NO and prostaglandin generation in macrophages and lipoprotein oxidation in vitro.