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Studies on Antioxidative Activity of Green Tea Extracts in Medilite-Extraction Water

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The chemical compositions and antioxidant activity of green tea extracts in medilite-extration water were compared to that of distilled water(DW). Antioxidant activity was determined by the formation of thiobarbituric acid reactive substances(TBARS) in rat liver homogenates and microsomes and the scavenging activity of free radicals by DPPH(α,α'-diphenyl-βpicrylhydrazyl). The order of total polyphenolic compounds and extracted yield by extracts was medilite 325 mesh-extraction water, medilite 600 mesh-extraction water and distilled water(DW). The ranges of scavenging activity of green tea extracts in DPPH method were 60.95%~64.51%. The inhibition ratios of TBARS formation in the rat liver homogenates and microsomal fractions were significantly lower with green tea extracts by DW-extraction than with both medilite 325 mesh and 600 mesh-extraction water. The concentration of iron ion of water containing medilites 325 mesh and green tea extracts and of water containing medilite 600 mesh and green tea extracts were significantly higher compared to DW. Therefore, this result suggested that enhanced concentration of iron ion in green tea extracts by medilite-extraction water containing high iron ion content was associated with enhanced peroxidation of the rat liver microsomal fractions. These results showed that total polyphenolic compounds, the % of yield and mineral compounds of green tea extracts were increased using medilite 325 mesh and 600 mesh-extraction water.