

X-rays radiation directly produced favorable and harmful effects on the constituents of different medicinal plants

S.M. Al-Nimer Marwan, Wahbee Abdul Lateef Zainab

Department of Pharmacology, College of Medicine, Al-Mustansiriya University, P.O. Box 14132, Baghdad, Iraq

ABSTRACT

The effect of ionizing radiation on the constituents of solid materials of medicinal plants was studied in few reports. The present study was performed to investigate the direct effect of 1.9Gy/min X-rays radiation on the dry leaves of *Camellia sinensis* (green tea), *Salvia officinalis* (sage), barks of *Cinnamomum verum* (cinnamon) and tuberos of *Zingiber officinale* Rosc. (ginger). Three extracts (1%) were prepared for each medicinal plant; aqueous, ethanol and methanol. The UV-Visible spectra, and biochemical constituents of each non irradiated and irradiated extract were determined. The results showed that X-rays radiation induced remarkable changes in UV-Visible spectra of irradiated compared with non irradiated medicinal plants. This effect was well observed with irradiated green tea leaves. Irradiated medicinal plants lost considerable percents of allantoin and higher percents of flavonoids as well as total polyphenols were lost from irradiated ginger and cinnamon. Irradiated medicinal plants were superior than non irradiated in releasing nitric oxide. It concludes that irradiated medicinal plants carried favorable and harmful effects on their constituents and their favorable effects can be clinically as well as experimentally applied.

KEYWORDS

Medicinal plants . X-ray radiation

REFERENCES

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