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Rubus idaeus as natural iron chelator

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Theoretical: To prevent iron overload, especially for those patient with hemochromatosis or those having chronic blood transfusion, iron must be chelated and excreted, *Rubus idaeus* containing high quantity of tannic acid which is a plant polyphenol, chelate iron and excreted from the body.

Aim of the Study: This study aimed to investigate the presence and quantity of tannic acid in *R. idaeus* fruit (qualitative and quantitative detection in aqueous, alcoholic extract, and dry powder of plant fruit using high performance liquid chromatography (HPLC) and other molecular spectra instruments to make sure the extent of possibility to use it in pharmaceutical practice as a natural iron chelator production in industrial scale; in order to use it in the medical, pharmaceutical and alternative medicinal (Herbs) fields.

Methodology: Shimadzu HPLC with UV detector Spectrophotometer was used for qualitative and quantitative estimation of tannic acid in aqueous extracted of *Rubus idaeus* fruit using pure standard tannic acid measured at reference conditions to set and fix the real retention time (RT). Dry powder of *Rubus idaeus* fruit used for direct analysis using attenuated total reflection-Fourier transform infrared spectroscopy (ATR-FTIR). After that 60 albino mice subjected to iron overload and then treated by 3 different doses of plant fruit and other group treated by Desferal drug for comparison of the effect.

Conclusion: This study concluded that quantitative results of HPLC shows that *Rubus idaeus* contain good acceptable concentration of tannic acid in drying weight of plant up to 853 µg/gm. Qualitative results obtained from HPLC, IR, ATR-FTIR shows match the effective groups of pure standard tannic acid and alcoholic extract, dry powder of *R. idaeus* fruit. The dose 200 mg/kg/day in mouse (16.2 mg/kg/day in human) are the effective dose for iron chelation.

Biography

Hazim Ali Hussein has done his graduation from University of Baghdad, College of Pharmacy in 2000-2001. He has worked as a Pharmacist in the Ministry of Health, AL-Qadesseia Hospital in Baghdad during 2002. He is responsible for advising the patients regarding the dosage of medicines. Currently he is working at the Al-Sadr Hospital.

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