عنوان مقاله:

The role of Cydonia oblonga, Portulaca oleracea, and Artemisia dracunculus on hypoxia

محل انتشار:

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خلاصه مقاله:

Background:Hypoxia exists in some malignancies and is a prognostic risk factor contributing to tumor growth and metastasis. Anti-hypoxic compounds may improve this situation and be considered anti-cancer agents. In previous reports, Cydonia oblonga, Portulaca oleracea, and Artemisia dracunculus showed anti-cancer activity. So, we investigated the anti-hypoxic activities of C. oblonga, P. oleracea, and A. dracunculus to evaluate the possible mechanism of the plant's effectiveness in treating cancer.Methods:Total phenolic and flavonoid contents and HPLC analysis were performed on C. oblonga leaves, P. oleracea, and A. dracunculus aerial parts extract. Anti-hypoxic activities were evaluated in asphyctic, haemic, and circulatory hypoxia models.Results:A. dracunculus extract (at ۲۵۰ mg/kg) significantly improved the survival time compared to the normal saline ($P < ۰.۰۰۰۱$) in asphyctic hypoxia, even its effect was significantly better than phenytoin in this dose ($P = ۰.۰۰۰۵$). Although the extracts increased the survival time in other doses, their effects were not significant ($P > ۰.۰۵$). In haemic hypoxia, the extracts were ineffective at any

dose (P > ۰.۰۵). At ۲۵۰ mg/kg, P. oleracea and A. dracunculus significantly increased the survival time (P < ۰.۰۰۱ and P < ۰.۰۵, respectively) in circulatory hypoxia. Their effects were similar to propranolol (P > ۰.۰۵).Conclusions:The anti-cancer effects of C. oblonga are not dependent on the anti-hypoxic effects. P. oleracea and A. dracunculus have anti-hypoxic effects only in high doses, indicating their extracts' weak anti-hypoxic ability or the presence of potent anti-hypoxic compounds with low concentrations in them.

کلمات کلیدی:
Neoplasms, Hypoxia, Quince, Purslane, Tarragon