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### An overview on the natural compounds from plants used in Turkish traditional medicine for the inflammatory diseases

Inflammation is a part of the complex biological responses of vascular tissues to harmful stimuli, such as pathogens, damaged cells or irritants. The inflammatory response has long been compartmentalized into several aspects commonly termed blush, heat, pain, edema and loss of joint function. Acute and chronic inflammations are complicated processes induced by prostaglandins, leukotrienes and platelet-activating factor. On the other hand, persistent inflammatory stimuli or dysregulation of mechanisms of the resolution phase can lead to chronic inflammation. The non-steroidal anti-inflammatory drugs (NSAIDs) are one of the categories of drugs which most frequently used by population. Even though they provide symptomatic relief for the patients, they don't modify the pathogenesis of inflammation and don't reduce the disabling bone and cartilage damage. Therefore, new initiatives are needed in the treatment of chronic inflammation. Medicinal plants have been the main remedy to treat various ailments for a long time and nowadays, many drugs have been developed from traditional medicines. During the last decade, studies on *in vitro* and *in vivo* models of inflammation have led to the identification of a variety of natural extracts with proven anti-inflammatory activities. Although the anti-inflammatory functions of these natural extracts were initially described, the key role of this activity was showed with follow-up phytochemical and pharmacological studies that led to the identification and characterization of a variety of natural active compounds. Moreover, the molecular mechanisms described in animal models have also provided a basis for their potential clinical translation. This presentation focuses on our current knowledge of plants which have anti-inflammatory activity and discusses their potential therapeutic usage in patients with inflammatory diseases. This lecture will provide an overview about the chemistry and bioactivity studies performed on Turkish medicinal plants.

#### Biography

Esra Kupeli Akkol has received her Bachelor of Science degree in Faculty of Pharmacy, Gazi University, Turkey and her PhD degree in Pharmacognosy Department from the University of Gazi. She is currently a Professor in the Gazi University, Faculty of Pharmacy, Department of Pharmacognosy. She has served in many capacities in her field including service on several Editorial Boards and numerous Review Committees for journals such as Journal of Ethnopharmacology, Journal of Pharmacy Sciences, The Internet Journal of Herbal and Plant Medicine, International Journal of Genuine Traditional Medicine, Advances in Pharmacological Sciences, Evidence Based Complementary Alternative Medicine and The Open Pain Journal. She has 149 published articles in SCI international journals, 13 articles in national journals and 9 chapters in international books.

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