

Anti-Inflammatory Effects of Polyphenol Fractions Purified from Argan Oils

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Argan oils are becoming widely used within the complex international oils market, due to their unique organoleptic properties together with their health-promoting characteristics and their expansive dermocosmetic uses.

Polyphenols are present in argan oils in noticeable amounts, and pioneer determinations of their composition have been recently released into the literature. Such components have been claimed as putatively responsible for pharmacological properties of virgin argan oil, mainly through their action preventing the damaging effects of reactive oxygen species (ROS), involved in the pathology of numerous diseases.

We have tested here the effects of the addition of polyphenols extracted from argan oils from different uses (edible oil, cosmetic oil and beauty oil), to whole blood cultures where an inflammatory response was triggered by means of chemical inductors. Two types of patients were assayed: healthy patients and diabetics, as the later group has been described to develop subclinical inflammatory reactions. Three key markers were analysed in plasma samples after culture by using Western blotting approaches: presence of iNOS and IL-1 β , and finally the plasma SDS-PAGE profiles relatives to protein-bound 3-nitrotyrosine, as a marker of inflammation and NO production.

The three markers were enhanced in inflammation-induced samples in comparison with controls. Challenge with argan oil polyphenols together with the induction resulted in significantly lower enhancement for both diabetic and healthy patients. Finally, the argan oil polyphenols themselves did not have inflammatory effects.

The described effects are promising for the definition of health-promoting effects of argan oil, and the development of new therapeutically valuable tools. However, much progress is needed in order to dissect the precise causes of the described effects.

Keywords: argan; anti-inflammatory; cytokines; oil; polyphenols

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