Protective Effect of *Cynara Cardunculus* L. Leaf on High-Fat Diet-Induced Fatty Liver in Albino Rats

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ABSTRACT

Excessive lipid buildup in the liver is the hallmark of Non-Alcoholic Fatty Liver Disease (NAFLD), a rapidly expanding metabolic disorder. Oxidative stress, inflammation and dyslipidemia play significant roles in disease progression. *Cynara cardunculus,* also known as artichoke, is a medicinal plant that is high in antioxidants, flavonoids and polyphenols. Its hepatoprotective, hypolipidemic and antioxidant properties have been shown in recent experimental investigations. In high-fat diet-induced NAFLD models, administration of *Cynara cardunculus* extract has been linked to improved liver enzyme levels, decreased lipid accumulation, improved lipid profile, and restoration of normal liver architecture. According to these results *Cynara cardunculus* may be a useful natural remedy for managing and preventing fatty liver disease.

Keywords: Oxidative stress, artichokes, hepatoprotection, NAFLD, *Cynara cardunculus*, and high-fat diet

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Introduction

Non-Alcoholic Fatty Liver Disease (NAFLD) is one of the most common chronic liver disorders worldwide and is closely associated with obesity, insulin resistance, and metabolic syndrome. Long-term high-fat diet consumption causes oxidative stress, inflammation, and hepatic lipid accumulation, which ultimately results in metabolic dysfunction and liver damage [1].

Therapeutic Importance of Cynara cardunculus

The medicinal plant *Cynara cardunculus* is well-known for its abundant phytochemical content, which includes flavonoids and polyphenols. These bioactive substances have strong anti-inflammatory and antioxidant qualities that aid in shielding hepatocytes from lipotoxicity and oxidative damage. Additionally, the extract may enhance lipid metabolism and bile secretion, protecting the liver [2].

Function in the Management of NAFLD

Experimental findings have shown that *Cynara cardunculus* extract improves several biochemical parameters associated with NAFLD. Treatment improved liver function markers and decreased triglyceride and total cholesterol levels. Particularly at higher doses, histopathological analysis showed decreased hepatic steatosis, decreased inflammatory infiltration and restoration of normal liver architecture [3].

Prospects for the Future

Even though *Cynara cardunculus* has hepatoprotective potential, more molecular and clinical research is required to make sure its long-term safety, therapeutic efficacy and mechanisms of action in patients.

Conclusion

Cynara cardunculus has strong hepatoprotective, hypolipidemic, and antioxidant properties against NAFLD brought on by a high-fat diet. Available evidence suggests that the plant may effectively reduce liver injury, improve lipid metabolism and restore hepatic function. For the prevention and treatment of non-alcoholic fatty liver disease *Cynara cardunculus* may be think as a promising natural therapeutic option [4].

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