

Protective effects of curcumin against ischemia-reperfusion injury in the liver

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Liver ischemia/reperfusion (I/R) injury is a major complication of hepatic surgery and transplantation. It is one of the leading causes of morbidity and mortality because of post-surgery hepatic dysfunction. Several studies have suggested different mechanisms are involved in the pathogenesis of I/R injury in the liver that includes oxidative stress, inflammation, mitochondria dysfunction, liver Kupffer cells (KCs) activation, vascular cell adhesion molecule overexpression, and facilitation of polymorphonuclear neutrophil injury. Curcumin is a natural product extracted from *Curcuma longa* that is known to suppress these pathways and as a result reduces liver ischemia-reperfusion injury. This paper gives an overview of the protective effects of curcumin against I/R injury in the liver and discusses the studies that have linked biological functions of curcumin with liver I/R injury improvement. © 2018 Elsevier Ltd

Curcumin

Ischemia-reperfusion injury

Liver

Transplantation

curcumin

heat shock protein 70

immunoglobulin enhancer binding protein

curcumin

protective agent

biological activity

clinical feature

drug delivery system

drug effect

drug efficacy

drug response

human

liver injury

liver protection

liver transplantation

nitrosative stress

nonhuman

oxidative stress

priority journal

protein expression

reperfusion injury

Review

signal transduction

treatment outcome

animal

disease model

liver disease

reperfusion injury

Animals

Curcumin

Disease Models, Animal

Humans

Liver Diseases

Liver Transplantation

Protective Agents

Reperfusion Injury