Clinical Use and Molecular Mechanisms of Action of Extract of *Ginkgo biloba* Leaves in Cardiovascular Diseases

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**ABSTRACT**

*Ginkgo biloba* is one of the oldest living tree species that has been referred to as a living fossil. Extract from *Ginkgo biloba* leaves (GBE) is among the most commonly used herbal drugs and is popularized for its alleged tonic effect and possible curative and restorative properties. There is an increasing evidence of the potential role of GBE in treating cardiovascular diseases. We examined the history of GBE usage and reviewed the literature on its effects on the cardiovascular system. In the extensive studies involving cell cultures and animal models, GBE has been shown to exert its action through diverse mechanisms. GBE has been reported to have antioxidatant properties, to modify vasomotor function, to reduce adhesion of blood cells to endothelium, to inhibit activation of platelets and smooth muscle cells, to affect ion channels, and to alter signal transduction. In addition, relevant clinical trials with CBE are being carried out, particularly in the treatment of arterial and venous insufficiency and in the prevention of thrombosis. Finally, the controversial clinical findings and the possible adverse interactions between GBE and other drugs are discussed. This review underscores the potential benefits of *Ginkgo biloba* in cardiovascular diseases, highlights the gaps in our current research, and suggests the necessity for more rigorous systematic investigation of cardiovascular properties of CBE.

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