Exploring Marsdenia Cundurango: Its History, Phytochemistry and Anti-cancerous Potential

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Abstract

Background & Objectives

Marsdenia cundurango, a vine native to South America, is a traditionally used therapeutic plant to treat various ailments, particularly in treating gastric disorders and cancer. The objective of this study is to summarize the origin, history, phytochemistry and ethnopharmacology along with significant emphasis given on the anti-cancer properties of Marsdenia cundurango.

Methods

A comprehensive literature search was conducted to inquire into the historical use, phytochemistry, and pharmacological properties of Marsdenia cundurango. The major phytoconstituents, particularly condurangogenins and cundurango glycosides, were surveyed for their therapeutic potential.

Results

Various studies have highlighted the anti-cancerous potential of Marsdenia cundurango. In-vitro studies using various cancer cell lines showed that cundurango glycosides (CGA) and condurangogenins (ConA) induce DNA damage, apoptosis, and cell cycle arrest. Various homeopathic potencies of the plant also demonstrated epigenetic modulation, apoptotic and cytotoxic effects in cancer cells. In addition to this, some in-vivo experiments also indicated the anti-cancerous activity of condurango extracts and potencies in animal models.

Conclusions

Pre-clinical researches support significant anti-cancerous potential of Marsdenia cundurango. It has been scrutinized that there is more scope to explore the therapeutic potential of Marsdenia cundurango. Therefore, more studies should be carried out to validate the given literature and to expand its therapeutic usage. Future research should focus on optimizing treatment dosages and exploring the plant's full therapeutic potential in oncology.

Keywords - cancer, condurango, condurangogenin, cundurango, glycoside, in-vitro, in-vivo