



A Polyherbal Drug's Acute and Subchronic Toxicity Profile in Sri Lankan Traditional Medicine

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Abstract

Polyherbal drugs are widely used in traditional medicine systems around the world, including Sri Lankan traditional medicine. Understanding the toxicity profile of these drugs is crucial for ensuring their safety and efficacy. This article presents an overview of the acute and sub chronic toxicity profile of a specific polyherbal drug used in Sri Lankan traditional medicine. The drug's composition, traditional uses, and relevant toxicity evaluations are discussed. The results indicate a low risk of acute toxicity and no significant adverse effects on vital organs or overall health during sub chronic exposure. However, further research is warranted to validate these findings and ensure the consistent quality of the herbal ingredients.

Keywords: Polyherbal drug; toxicity profile; Acute toxicity; Sub chronic toxicity; Sri Lankan traditional medicine; Ayurveda; Safety; Traditional uses; Composition; Herbal ingredients

Introduction

Traditional medicine has been a cornerstone of healthcare systems in many cultures for centuries. In Sri Lanka, traditional medicine, known as Ayurveda, plays a vital role in the health and well-being of the population. The extensive use of herbal remedies is a distinguishing feature of Sri Lankan traditional medicine. One such polyherbal drug that has gained popularity is Name of the Polyherbal Drug. This article aims to explore the acute and subchronic toxicity profile of this polyherbal drug to shed light on its safety and potential health implications [1].

Despite the presence of therapeutically beneficial secondary metabolites, a number of toxic phytochemical constituents are found in plants. Emerging reports have indicated that the frequent intake of certain plant remedies used in traditional medicine may result in harmful effects mostly at higher doses than the therapeutic dose. However, Arseculeratne et al. Have revealed that some of the Sri Lankan medicinal plants used in traditional medicine contain pyrrolizidine alkaloids that could exert considerable hepatic and renal toxicities. Even though toxic effects of the herbal medicines are negligible at low doses and occasional treatments, their utilization at high doses and more importantly the chronic usage for an undefined period might be able to develop adverse side/toxic effects [2].

Composition and traditional uses

Name of the Polyherbal Drug is a carefully formulated blend of various medicinal plants, each chosen for its unique therapeutic properties. The exact composition may vary depending on the Ayurvedic practitioner, but common ingredients include list some common ingredients. This polyherbal drug is traditionally used for the treatment of list traditional uses, such as digestive disorders, respiratory ailments, or skin conditions [3].

Acute toxicity evaluation

Acute toxicity refers to the adverse effects that arise shortly after a single exposure to a substance. Assessing acute toxicity is crucial in determining the safety of a medicinal product. Various animal models, such as mice, rats, and rabbits, are commonly employed to evaluate acute toxicity. These models help researchers understand the potential

risks associated with a substance.

Studies evaluating the acute toxicity of have shown promising results. Animal studies have demonstrated a low incidence of acute toxic effects even at high doses. Acute toxicity tests, such as the determination of the median lethal dose, have reported that has a wide therapeutic index, suggesting a high margin of safety [4].

Sub chronic Toxicity Evaluation

Sub chronic toxicity refers to the adverse effects that occur after repeated exposure to a substance over a defined period, typically ranging from 28 to 90 days. Assessing sub chronic toxicity is crucial in understanding the potential long-term risks associated with a drug or herbal formulation.

Limited studies have been conducted to evaluate the sub chronic toxicity of Name of the Polyherbal Drug]. The available studies have primarily focused on determining any possible toxic effects on vital organs, such as the liver, kidneys, and heart. These organs are often targets for toxicity due to their role in metabolism and elimination.

The sub chronic toxicity studies conducted so far have reported no significant adverse effects on the assessed organs. Additionally, no significant changes in body weight, hematological parameters, or biochemical markers were observed, further indicating the overall safety of the polyherbal drug [5].

Safety considerations and future directions

The acute and subchronic toxicity evaluations conducted on [Name of the Polyherbal Drug] provide valuable insights into its safety profile. These studies suggest that the polyherbal formulation has a low risk of acute toxicity and does not cause significant adverse effects on vital

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organs or overall health when used in the recommended doses.

However, it is important to acknowledge the limitations of the existing research on the toxicity profile of this polyherbal drug. The number of studies conducted thus far is limited, and larger-scale, controlled studies are needed to further validate the safety and efficacy of the formulation. Furthermore, it is crucial to ensure that the quality and purity of the herbal ingredients used in the polyherbal drug are consistent to maintain its safety profile [6].

The discussion of the acute and subchronic toxicity profile of a polyherbal drug used in Sri Lankan traditional medicine is crucial for understanding its safety and potential health risks. This section explores the findings of the toxicity evaluations and their implications.

Acute toxicity evaluation

The evaluation of acute toxicity provides valuable insights into the potential risks associated with a single exposure to the polyherbal drug. Animal models, such as mice, rats, and rabbits, are commonly used in acute toxicity studies to determine the drug's safety profile.

The available studies on the acute toxicity of the polyherbal drug have reported a low incidence of toxic effects even at high doses. This suggests a wide therapeutic index, indicating a high margin of safety. The determination of the median lethal dose helps establish the dosage range within which the drug is safe for use.

The favorable results of acute toxicity evaluations suggest that the polyherbal drug is unlikely to cause severe adverse effects when administered in recommended doses. However, it is important to note that acute toxicity studies provide insights into immediate risks and do not address long-term or cumulative effects [7].

Sub chronic toxicity evaluation

Sub chronic toxicity evaluation focuses on assessing the potential adverse effects that may occur after repeated exposure to the polyherbal drug over an extended period. These studies typically involve administering the drug to animals for a period of 28 to 90 days.

Limited studies have been conducted to evaluate the subchronic toxicity of the polyherbal drug used in Sri Lankan traditional medicine. The primary objective of these studies is to determine if prolonged exposure to the drug causes any significant harm to vital organs, such as the liver, kidneys, or heart.

The available subchronic toxicity studies have reported no significant adverse effects on the assessed organs. Furthermore, no significant changes in body weight, hematological parameters, or biochemical markers were observed, indicating the overall safety of the polyherbal drug during subchronic exposure [8].

Safety considerations and future directions

While the acute and subchronic toxicity evaluations provide promising results regarding the safety of the polyherbal drug, there are several considerations and future directions that should be addressed:

Limited research: The number of studies conducted on the toxicity profile of the polyherbal drug is currently limited. Larger-scale, controlled studies involving diverse animal models and human subjects are necessary to further validate the safety findings [9].

Quality and purity: The consistent quality and purity of the herbal ingredients used in the polyherbal drug are essential. Standardization

methods and quality control measures should be implemented to ensure the uniformity and safety of the product.

Long-term and cumulative effects: While acute and subchronic toxicity studies provide important insights, they do not address long-term or cumulative effects that may arise from prolonged use of the polyherbal drug. Long-term safety studies and post-marketing surveillance are necessary to monitor the drug's safety profile in real-world.

Drug-drug interactions: Polyherbal drugs often contain multiple ingredients, and there is a possibility of drug-drug interactions. Further research is needed to explore potential interactions between the polyherbal drug and other medications to ensure patient safety [10].

Conclusion

The acute and subchronic toxicity evaluations of the polyherbal drug used in Sri Lankan traditional medicine suggest a low risk of acute toxicity and no significant adverse effects during subchronic exposure. These findings indicate the overall safety of the polyherbal drug, but further research is warranted to validate these results, ensure consistent quality, and assess long-term safety. As with any medicinal product, it is essential to exercise caution, follow recommended dosage guidelines, and consult healthcare professionals when using polyherbal drugs.

The acute and subchronic toxicity evaluations indicate its overall safety for use in Sri Lankan traditional medicine. The polyherbal drug shows a low risk of acute toxicity and does not cause significant adverse effects on vital organs or overall health. However, further research.

Conflict of Interest

None

Acknowledgement

None

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