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Garlic: A brief overview of its interaction with chemical drugs

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Abstract

Allium sativum L. belongs to the Amaryllidaceae family that has pronounced nutritional and medicinal properties. *A. Sativum* L. is a plant with different nutritional and medicinal principles. Therapeutic compounds of garlic include allele, allicin, mercaptans, polysulfides, adenosine, thioglycosides, aguins, and thiosulfinates. Despite the valuable medicinal effects that have been reported for the garlic plant, but drug interactions with chemical drugs have been reported. Garlic interacts with antihypertensive drugs, Saquinavir, hypoglycemics, general anesthetics, and anticoagulants, so associated use of garlic with mentioned chemical drugs should be used with caution to prevent drug interactions and side effects.

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Introduction

In the experimental medicinal sciences, medical plants play an important role in the treatment of diseases and disorders. They are a valuable source of medicine because of their active pharmaceutical ingredients [1,2]. One of the most widely used medicinal plants in traditional medicine is garlic. *Allium sativum* L. belongs to the Amaryllidaceae family that has pronounced nutritional and medicinal properties [3]. Garlic is a widely used herbal medicine in traditional medicine. The garlic plant structure includes stem, onion with the white and slender leaves, and white and red flowers. The plant grows up to 70 cm in height. This plant has antimicrobial, antifungal, anticancer, lipid-lowering, anti-inflammatory, anti-atherosclerosis, antioxidant, immune system stimulant, decreasing stomach acid, meningitis, anti-parasitic, and stomach tonic effect [4-15]. Therapeutic compounds of garlic include allele, allicin, mercaptans, polysulfides, adenosine, thioglycosides, aguins, and thiosulfinates [16]. Despite the valuable medicinal effects that have been reported for the garlic, but this widely used medicinal plant may reveal interactions with chemical drugs. Different studies mentioned that garlic interacts with antihypertensive drugs that prescribe to adjustment the blood pressure. It also interacts with Saquinavir and reduces the level of the drug in the blood circulatory [17]. Additionally, garlic interacts with cholesterol-lowering and enhance the drug effect in the body [18]. Other drug interactions of garlic include increasing the possibility of hypoglycemia due to the effect on hypoglycemic drugs [19]. On the other hand, garlic interacts with general anesthetics by increasing INR, fibrinolytic activity, and platelet-activating anti-factor activity [20]. This plant interacts with anticoagulants such as heparin, warfarin, and aspirin which increases the risk of bleeding and INR [19,21-23].

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According to various studies that have proven the drug interaction of this valuable plant with chemical drugs, so the simultaneous use of garlic with chemical drugs should be used with attentiveness to prevent different side effects.Conclusion

The results of this short review study showed that the drug G. glabra L. can interact with various chemical drugs, so the concomitant use of G. glabra L. with other drugs requires caution.

Authors' contribution

All authors contributed equally to the manuscript.

Conflicts of interest

The authors declared no competing interests.

Ethical considerations

Ethical issues (including plagiarism, data fabrica¬tion, double publication and etc.) have been completely ob¬served by author.

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