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EDITORIAL VIEW PERIOPERATIVE MEDICINE

The need for uniform labeling regulations for monosodium glutamate: addressing health risks and consumer protection

Akhtar Purvez [1] , C. Michael Valentine [2]

Authors affiliations:

1. Akhtar Purvez, MD, FASRA, Clinical Adjunct Professor, Lincoln Memorial University, Harrogate, TN; Pain & Spine Center of Charlottesville, Charlotteville, Virginia, USA; Momentum Medical Research, Charlottesville, Virginia, USA; ap9h@uvahealth.org
2. C. Michael Valentine, MD, Past president, American College of Cardiology; Professor of Medicine, Cardiovascular Division, Department of Medicine, University of Virginia, USA; cmv2pp@uvahealth.org

Correspondence: Akhtar Purvez; **Email;** mansbal@yahoo.com; **Phone:** 4348252481; Mobile: 1 4348252481

ABSTRACT

Monosodium Glutamate (MSG) is a widely used food additive that enhances flavors in processed foods. However, MSG is also linked to serious health risks, particularly for individuals susceptible to atrial fibrillation (AF) and its serious consequences.[1,2,Error! Reference source not found.] There is an unmet need for uniform labeling regulations for MSG, as it is often listed under multiple names, creating confusion for consumers trying to avoid it. By exploring the current state of MSG labeling and its associated health risks, advocacy for clearer labeling practices to protect at-risk consumers is needed.

Clear and uniform labeling of monosodium glutamate (MSG) is crucial for protecting vulnerable populations, particularly individuals sensitive to MSG-triggered atrial fibrillation. Current labeling practices inadequately inform consumers due to the additive's many aliases, highlighting an urgent need for standardized regulatory action. This editorial might draw the focus of attention of the concerned authorities towards this important health issue.

Abbreviations: AF: Atrial fibrillation, FDA: Food and Drug Administration, GRAS: generally regarded as safe, MSG: monosodium glutamate

Keywords: Atrial fibrillation; GRAS; health risk; MSG; monosodium glutamate

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Monosodium glutamate (MSG) is a ubiquitous additive in processed foods that enhances the savory taste known as umami. While it is generally regarded as safe (GRAS) by the U.S. Food and Drug Administration (FDA), mounting evidence suggests that MSG poses significant health risks for some individuals.[3] Atrial fibrillation (AF), a cardiac arrhythmia, is one of the most severe risks that can result in serious complications such as ischemic stroke and death[1] For those sensitive to MSG, the compound may trigger AF, leading to the need for lifelong management, including anticoagulation therapy or cardiac ablation.[1,Error! Reference source not found.] The challenge forconsumers lies in identifying MSG on food labels. It

is often disguised under various names, such as "autolyzed yeast," "hydrolyzed vegetable protein," and "flavor enhancer E621."[4] This paper argues for the need for uniform labeling regulations that ensure the identification of MSG on all food products to protect at-risk consumers.

Health Risks Associated with MSG:

MSG is an excitatory amino acid that can overstimulate neurons, leading to a range of adverse physiological responses that can affect different physiological and metabolic processes, the heart and brain For individuals with certain health conditions, particularly atrial fibrillation, the consumption of MSG can be dangerous.[1,Error! Reference source not found.,Error! Reference source not found.] A recent, under review, report links the occurrence of atrial fibrillation to the heavy use of MSG spice in an otherwise healthy patient [Error! Reference source not found.] Several studies have established a link between MSG consumption and atrial fibrillation. Previous reports have detailed recurrent AF episodes in patients following the ingestion of MSG-laden foods[1Error! Reference source not found.] Cases like this are not isolated; reports suggest that MSG, with or without the prior or concomitant use of sugar substitutes including aspartame, may contribute to arrhythmias and other cardiovascular issues.[1Error! Reference source not found.Error! Reference source not found.Error! Reference source not found.]

Multiple MSG Source Names on Food Labels:

MSG can appear on food labels listed as follows:

- *Monosodium glutamate*
- *Monosodium salt*
- *Autolyzed yeast extract*
- *Hydrolyzed vegetable protein (e.g., corn)*
- *Hydrolyzed corn gluten*
- *Sodium caseinate (a hydrolyzed protein)*
- *Yeast extract*
- *Textured protein (may contain MSG)*
- *Calcium caseinate (a hydrolyzed protein)*
- *E621 flavor enhancer*
- *Torula yeast*

This array of names creates confusion for consumers who may be trying to avoid the additive due to health concerns.[Error! Reference source not found.] A study emphasized the need for clear labeling, particularly for those with food-related allergies and intolerances.[Error! Reference source not found.] MSG can be labeled under any of the above names without explicit mention of the compound itself, making it nearly impossible for consumers to avoid.**Error! Reference source not found.**

The Case for Uniform Labeling Regulations:

The current lack of consistent MSG labeling presents a significant public health concern. Considering the documented health risks associated with MSG, particularly its role in triggering atrial fibrillation, food manufacturers must adopt uniform labeling practices. Such regulations would ensure that MSG, in any form, is clearly listed on food packaging under a single, standardized name.

The importance of uniform labeling has been highlighted by health organizations in several reports and advisories. The Food and Drug Administration's designation of MSG as GRAS has been criticized for not adequately protecting those with sensitivities, as it allows manufacturers to use alternative names for the additive.[1]

In January 2022, a class-action lawsuit was filed against Nissin Foods, the maker of Cup Noodles and Top Ramen, alleging that its "No Added MSG" labeling was misleading because the products contained free glutamate-containing ingredients, such as autolyzed yeast extract and hydrolyzed proteins. The lawsuit claimed that these ingredients are sources of free glutamates, including MSG, and that the "No Added MSG" label misled consumers. However, a federal court in New York dismissed the proposed class action in March 2023, ruling that the labeling, which included a disclaimer about naturally occurring glutamates, would not deceive a reasonable consumer.

This case underscores the importance of transparent labeling, especially concerning allergens and additives such as MSG.

Incorporating allergy- and sensitivity-guided labeling, as proposed by several researchers, would provide consumers with the information they need to make safer food choices.[Error! Reference source not found.] For individuals with atrial fibrillation or other MSG sensitivities, this approach would help them avoid the additive, thereby reducing the risk of severe health.[7] Implementing such a system would align with global efforts to improve food safety and protect vulnerable populations.[Error! Reference source not found.]

CONCLUSION

The health risks associated with MSG, particularly its association with atrial fibrillation, highlight the need for uniform labeling regulations. Current labeling practices, which allow MSG to be listed under various names, are insufficient for protecting consumers from its potential dangers.[1]

Uniform labeling regulations would help those with MSG sensitivities and contribute to public health initiatives by promoting transparency. Implementing standardized labeling practices that clearly identify MSG and its derivatives is crucial for ensuring public safety, especially for individuals sensitive to the additive.[Error! Reference source not found.]

Conflict of interest

All authors declare that there was no conflict of interest. Our study received the appropriate ethical oversight for Viewpoints.

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Authors' contribution

Both authors took equal part in the concept and preparation of this text.

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