

SKINimages

Flagellate Dermatitis following Shiitake Mushroom Consumption

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Shiitake (*Lentinus edodes*) is a mushroom commonly consumed in Asian cuisine. In rare occurrences, the ingestion of raw or undercooked shiitake mushrooms can result in a unique dermatologic manifestation known as shiitake flagellate dermatitis. This condition presents with severe pruritis and characteristic erythematous linear flagellate/whip-like lesions on the body.^{1,2} Following the ingestion of shiitake, cases have been reported to occur within a 5-day period.¹

In this image, we present a 42-year-old female patient with a spontaneous eruption of pruritic skin lesions. She denied any other symptoms and had no prior episodes of

similar rashes. A review of systems was negative, and her past medical history was noncontributory. Upon further questioning, she recalled eating shiitake mushrooms at P.F. Chang's about 14 hours prior to the outbreak. She also ate Chinese fast food she believed may had shiitake mushrooms the day prior as well.

Physical examination demonstrated erythematous linear papules spread diffusely across her body. These lesions spanned from her neck to her lower thighs with small papules grouped into linear streaks forming a flagellate-like pattern. A 2x3mm biopsy obtained via punch biopsy of the lesion revealed a superficial perivascular,

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predominantly lymphocytic infiltrate with a few eosinophils. Her clinical presentation and history conform with the diagnosis of shiitake mushroom induced flagellate dermatitis.

The occurrence of shiitake dermatitis outside of Asia is remarkably infrequent and relatively rare. The diagnosis of Shiitake flagellate dermatitis is often overlooked due to the rarity of the condition and the commonality of shiitake mushroom consumption. However, the recent rise in popularity of shiitake has led it to become the second largest consumed mushroom globally which may contribute to a greater number of cases.³ Hence, building awareness and familiarity to this condition would be beneficial in alleviating patient's concern and preventing unnecessary procedures or treatment that may exacerbate symptoms.

Cases where lesions of shiitake dermatitis were biopsied classically demonstrated spongiosis, dermal edema, and lymphocytic perivascular infiltrates with eosinophils and neutrophils. Laboratory testing may also indicate blood cell count abnormalities such as eosinophilia, neutrophilia, and leukocytosis. Other testing that may aid in diagnosing shiitake dermatitis includes skin prick testing, patch testing and oral rechallenge.⁴

Currently, the mechanism behind this unique skin eruption remains unclear. However, some studies propose a hypersensitivity reaction to lentinan as a possible source.⁴ Lentinan is a β -glucan polysaccharide found within the cell wall of shiitake mushrooms. The outbreak of shiitake dermatitis following consumption of raw or undercooked shiitake may also be explained by lentinan's heat-labile nature.^{2,4} Furthermore, four cases described by Boels et al, demonstrated shiitake dermatitis is also triggered or worsened by sun exposure suggesting a

possible photosensitivity component to this condition.⁵

Overall, shiitake dermatitis is a self-resolving condition that tends to subside within approximately 8 weeks and can be prevented by ensuring shiitake are fully cooked prior to ingestion.^{1,2} Treatment is often tailored towards symptomatic alleviation and may include topical corticosteroids or oral antihistamine.² Due to the possibility of photosensitivity, limited sun exposure may be an appropriate recommendation as well.⁵

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