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RESEARCH LETTTERS

Food allergy to Shiitake (*Lentinus edodes*) manifested as oesophageal symptoms in a patient with probable eosinophilic oesophagitis

To the Editor:

Shiitake fungi (*Lentinus edodes*) from China, is the second most commonly produced edible mushroom in the world. Its consumption is spreading in the Eastern world and therefore adverse effects are being reported regarding production and intake. The most frequent reaction related to Shiitake is an itching toxicoderma similar to eczema that appears in scratching areas related to raw or lightly cooked Shiitake intake. In some patients, skin prick and/or patch tests were positive for Shiitake, however, not in every cases, and controls also showed similar results. Thus this dermatitis seems to be a toxic, non-allergic disease.[1,2] Clinical manifestation related to hypersensitivity to Shiitake has been reported related mainly as an occupational disease. Thus, allergic contact dermatitis,[3] contact urticaria,[4] asthma, rhinitis and conjunctivitis,[5] and many cases of hypersensitivity pneumonitis (mushroom workers' lung)[6,7] have been reported in workers involved with Shiitake cultivation and marketing. However, to our knowledge, no food allergy to Shiitake with gastrointestinal symptoms has been reported. Thus, we describe a case of an atopic patient with allergy to Shiitake mushroom showing oesophageal symptoms.

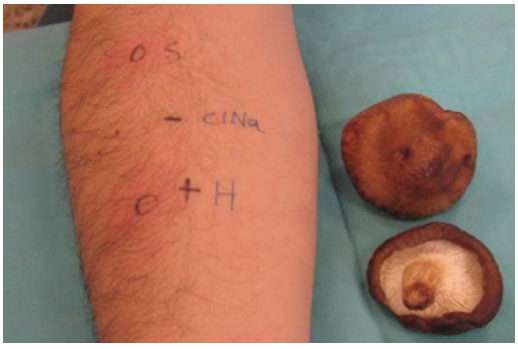

Figure 1 Positive prick result to Shitake Prick-to-prick. "H"=histamine (positive control). "S"=Shiitake.

We report a case of a 37-year old man with a studied history of seasonal rhinoconjuntivitis due to grass pollen for 20 years who started referring oesophagic autolimited stop after eating the fungi Shiitake. He also referred choking of some minutes of duration followed by a discomfort at that level which lasted for 1–2 h without needing any emergent attention for food impact. Consumption of other mushrooms was well tolerated. Allergological in vivo study was performed by skin prick test to standard aeroallergens including moulds. Skin test was negative except for grass pollen, as was known, and for *Plantago lanceolata* pollen, a new sensitisation detected. Prick-to-prick test was performed using fresh Shiitake as well as other edible fresh mushrooms that the patient usually ate *(Lactorius deliciosus, Lepista personata, Tuber nigrum, Pleurotus ostreatus, Cantharellus tubaeformis, Agrocybe aegerita, Agaricus campestris, Trichocoma Potatorum, Pleurotus eryngii, Hydnum Repandum*). Skin test was positive for Shiitake mushroom (7×4 mm) (Fig. 1) and negative for the other fungi. Prick-to-prick was negative for Shiitake in seven controls. A Shiitake home-made extract was prepared in PBS (30%). Basophile activation test (BAT) and histamine release test (HRT) were performed using Shiitake extract at different concentrations (4.9 mg/ml, 0.49 mg/ml, 0.049 mg/ml and 0.0049 mg/ml). Both BAT and HRT for Shiitake were positive for the four concentrations tested

Table 1

	Basal	Anti-IgE	Shitake extract (mg/ml)			
			4.9	0.49	0.049	0.0049
BAT (% of activated basophiles)	20.2%	89%	82.2%	88.4%	89%	89.1%
HRT (% of histamine release)	2.17%	6.74%	8.24%	9.89%	9.10%	6.11%

BAT (%): Results of percentage of basophiles activated incubated with buffer (basal), Anti-IgE, and four different concentrations of Shiitake extract.
HRT (%): Results of percentage of histamine release test with buffer (basal), Anti-IgE, and four different concentrations of Shiitake extract.

(Table 1). BAT and HRT were negative to Shiitake in two controls. An endoscopy study was performed showing contractions on the medium and distal third of oesophagus like a *bamboo* joint and the histological study showed up to nine eosinophils in the oesophageal mucosa.

Although clinical symptoms and macroscopic images from the endoscopic study suggested an eosinophilic oesophagitis, the number of eosinophils was not diagnostic. However, some authors suggest that a number of 7–20 eosinophils in oesophagic mucosa could be a probable eosinophilic oesophagitis.[8] The fact that the Shiitake is not a frequent food and that the patient refused to eat it due to the symptoms could be responsible for the microscopic findings. Moreover, as there is not a commercial extract available for this mushroom, prick-to-prick has to be done and a home-made extract has been obtained from Shiitake showing specific positive results in in vitro tests supporting the in vivo test findings.

We describe a case of food allergy manifested as oesophageal symptoms due to Shiitake mushroom. Moreover, in vitro tests such as BAT and HRT using home-made extract is a useful technique to diagnose food allergy.

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Treatment of telangiectasia macularis eruptiva perstans with montelukast

To the Editor:

Telangiectasia macularis eruptiva perstans (TMEP) was first described by Parker in 1930.[1] It is a form of cutaneous mastocytosis, and is differentiated from other forms such as urticaria pigmentosa, solitary mastocytoma, and diffuse or systemic mastocytosis by its refractory nature and/or lack of systemic associations. All forms have in common excessive accumulation of mast cells, whether localised to the skin or generalised to involve internal organs.

Although TMEP typically occurs in adults, a few cases have been reported in children.[2] It may rarely be inherited. Chang et al. reported a case of TMEP affecting members of three generations, with onset during childhood, supporting the hypothesis of an autosomal dominant mode of inheritance.[3] Clinically, TMEP presents with cutaneous telangiectasia as the most important feature. Clinical presentation consists of red telangiectactic macules, with subtle and discrete papules and accompanying hyperpigmentation. Darier's sign, which is urtication after rubbing, is usually negative in patients with TMEP as opposed to other forms of mastocytosis in which it occurs. Lesions typically involve the trunk and extremities, and facial involvement is rare.[4,5]

Diagnosis of TMEP is confirmed by skin biopsy with the finding of spindle-shaped mast cells. Special stains such as Giemsa stain, Toludine blue, and Leders stain highlight mast cells typically in the upper third of the dermis and around capillaries. The presence of more than 5–10 mast cells per high-power field in Giemsa or Toludine blue-stained tissue sections is considered abnormal, thus confirming the diagnosis[3,6] (Figure 1).

Generally the lesions are refractory to treatment. Different treatment modalities are used according to clinical findings. We report a 4.5 year old boy with TMEP in whom a good clinical response was achieved by administration of montelukast.

A boy was first seen at the age of 6 months (Figure 2) with a history of pruritic erythematous macules on his trunk and extremities. Darier's sign was negative. The diagnosis was TMEP with the clinical findings and skin biopsy. Laboratory tests and physical examination revealed no systemic involvement. Antihistamine treatment was given. Eighteen months later, he still had pruritus and needed supplementary high doses of antihistamine in addition to regular doses. At 2 years of age, we added montelukast 4 mg per day to treatment. We were able to stop the regularly used antihistamine 2 months later. The patient is 4.5 years old now, and uses the montelukast without almost any new lesions and pruritus or side effects. He rarely needs antihistamine. The pictures below show the lesions every two years (Figures 2 and 3) and the skin biopsy microscopic appearance in the first visit (Figure 1).