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Is butterbur an effective treatment for allergic rhinitis?

Sean Lewis DO
Lehigh Valley Health Network, Sean.Lewis@lvhn.org

Drew Keister MD
Lehigh Valley Health Network, drew_m.keister@lvhn.org

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FPIN envisions a primary care workforce that thinks critically, communicates expertly, and utilizes the best current evidence to improve the health of patients.

Is butterbur an effective treatment for allergic rhinitis?

Bottom line

An herbal medicine derived from extracts of the butterbur plant (*Petasites hybridus*) is more effective than placebo and similar in effectiveness to second-generation antihistamines for relieving symptoms of allergic rhinitis over 1 to 2 weeks, with about a third of patients responding (SOR: **B**, systematic review of short-term RCTs and single crossover study). However, unpurified butterbur has hepatotoxic properties and long-term safety and efficacy data are lacking.

Evidence summary

A 2007 systematic review assessed the efficacy of herbal medicines for treating allergic rhinitis in adults.[1] Six double-blind RCTs (4 with adults and 2 without age specification; N=720) compared butterbur (most commonly 100 mg daily) with placebo or a second-generation antihistamine (fexofenadine 180 mg/d or cetirizine 10 mg/d). Detailed numerical outcome data were not reported, and meta-analysis was not performed due to heterogeneity in study design.

Four of the 5 studies that compared butterbur extract with placebo found a statistically significant benefit in the butterbur group in subjective assessment of symptoms (Total Nasal Symptom Score), disease-specific quality-of-life questionnaires, and peak nasal inspiratory flow. The 3 studies that compared butterbur with nonsedating antihistamines demonstrated no difference between butterbur and antihistamines in the aforementioned outcomes. No trial was longer than 2 weeks.[1]

A 2005 double-blind RCT with 330 adults was the largest single trial in the systematic review and informs on magnitude of effect for butterbur.[2] Butterbur 8 mg 3 times daily was compared with placebo 3 times daily and fexofenadine 180 mg once daily plus placebo twice daily over a 2-week period. Outcome measures included total symptom score (TSS); a subjective assessment consisting of the sum of individual symptoms for sneezing, rhinorrhea, itchy palate/nose/throat, itchy/watery/red eyes, and nasal congestion on a scale of 0 (no symptoms) to 4 (severe symptoms), with a maximum possible score of 20. Other measures included responder rates (50% improvement in TSS at endpoint relative to baseline) and physician assessment using instruments that were not described.

Butterbur was associated with a 3.9-point improvement in TSS compared with a 0.4-point improvement for placebo ($P<.0001$). There was a 32% responder rate with butterbur compared with a 5% responder rate with placebo ($P<.0001$; number needed to treat [NNT]=4). Physicians assessed a full recovery in 31% of patients receiving butterbur compared with 13% of patients receiving placebo ($P<.0001$; NNT=6). No significant differences were found between butterbur and fexofenadine in any of the outcome measures. The authors noted that unpurified butterbur contains pyrrolizidine alkaloids, which have hepatotoxic properties.[2]

A 2011 double-blind, randomized crossover study of 18 adults compared butterbur 20 mg daily with desloratadine (unspecified dose) taken once daily and placebo.[3] Each patient randomly received an intervention for 5 days followed by an allergen challenge, assessment, and washout period. Patients then received a different intervention until all patients had received all interventions. A subjective global nasal assessment score consisting of a 0- to 10-point visual analog scale for sneezing, itching, nasal obstruction, and rhinorrhea was used.

Mean time to return to baseline nasal function after allergen challenge was significantly shorter among participants treated with butterbur (mean 3.2 hours) than participants given desloratadine (mean 4.5 hours; $P=.030$) or placebo (mean 8.3 hours; $P=.027$).[3] EBP

Sean J. Lewis, DO
Drew M. Keister, MD
Lehigh Valley Health Network
Allentown, PA

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