Cetirizine

1. Systematic Reviews and Meta-Analyses

Reference

Herman SM, Vender RB. Antihistamine in the treatment of atopic dermatitis. J Cutan Med Surg 2003. 467-473.

Study Objective

- To review the evidence in the literature for the use of antihistamines in the treatment of atopic dermatitis

Scope

Cetrizine	Resources	Type of study	Number of patients	Duration of therapy	Support efficacy
Adults: 10mg od (Tx=26) 20mg od (Tx=34) 40mg od (Tx=35)	Hannuksela et al (1993)	Double blind, RCT, placebo-controlled	127	4 weeks	Yes
Children: 5mg od (Tx=12) 10mg bid (Tx=80)	La Rosa et al (1994)	Double blind, RCT, placebo-controlled	168	8 weeks	Yes

Methods

A MEDLINE search (1966-2002) was performed to obtain studies examining the use of antihistamines in the treatment of atopic dermatitis. Search terms included:
atopic dermatitis; eczema; antihistamines; azatadine; brompheniramine;cetirizine; chlorpheniramine; clemastine; cyclizine; cyproheptadine; desloratadine; diphenhydramine; fexofenadine; hydroxyzine; loratadine; meclizine; promethazine; trimeprazine. Further

references were gathered from these publications.

Main Results

Historically, antihistamines have been used in the treatment of AD. However, this review shows that the evidence for its use is inconclusive.

At present, several antihistamines continue to provide relief of pruritus by central sedation, and they can also be used therapeutically for concomitant allergic conditions associated with AD. More clinical trials examining the therapeutic efficacy of antihistamines, especially with the newer nonsedating antihistamines, are necessary to elucidate their role in the treatment of AD.

Conclusions

Dermatologists require additional evidence regarding the efficacy of antihistamines and their mechanism of action in the treatment of AD to enhance patient care.

Comments/Critical Appraisal

The studies evaluated were small in patient population and with inconsistent results. The duration of therapy was also short, maximum of 4 weeks long.

2. .<u>Primary literature</u>

Reference

Murota H, Kitaba S. Tani M, Wataya-Kaneda M, Azukizawa H, Tanemura A, Umegaki N, Terao M, Kotobuki Y, Katayama I. Impact of sedative and non-sedative antihistamines on the impaired productivity and quality of life in patients with pruritic skin diseases. Allerology International 2010; 59: 345-354.

Study Objective

- The objective of this study was to determine how pruritic skin diseases impact patient productivity and quality of life (QOL), in order to improve the measurement of these endpoints to allow the influence of treatment options including sedative and nonsedative antihistamines to be analyzed.

Methods

- Design: Open-label trial

- Setting: Osaka University Hospital or its affiliated hospitals
- Participants: 206; Patients with skin diseases associated with underlying systemic diseases, history of epilepsy, history of a previous drug allergy, or women who were pregnant or lactating were excluded from this study. Participants received no medical attention during the week before study initiation.
- Intervention: The selection of therapy for each patient, such as oral antihistamines versus external medicine (e.g., steroid ointments, tacrolimus ointments, or certain moisturizers), was left to the physician's discretion (open-label trial). Fexofenadine (n =72) and loratadine (n = 2), anti-histamines for which the package insert contained no cautionary statement regarding sedative actions, were categorized as "nonsedative". All other antihistamines were classified as "sedative".
- Outcomes: These results indicate that pruritic skin diseases reduce patient productivity at work, in the classroom, and during daily activities, and that non-sedative antihistamines may offer an advantage over sedative antihistamines for alleviating certain negative consequences of these skin diseases.

Main Results

Pruritic skin diseases resulted in significant impairment of work, classroom, and daily productivity. The severity of overall work impairment in atopic dermatitis (AD), urticaria, and prurigo was higher than for other diseases analyzed. However, classroom activity was more adversely affected in patients with urticaria relative to other diseases. All pruritic diseases in this study negatively impacted daily activity to a similar degree.

Impaired productivity was significantly improved in patients taking non-sedative antihistamines for 1 month, and the improvements correlated with the alleviation of itch and improved QOL

Conclusions

These results indicate that pruritic skin diseases reduce patient productivity at work, in the classroom, and during daily activities, and that non-sedative antihistamines may offer an advantage over sedative antihistamines for alleviating certain negative consequences of these skin diseases.

Comments/Critical Appraisal

Limitations of this study include the number of patients in each group and the potential influences of the adverse global economic conditions. Nonetheless, this report may highlight a new goal in the treatment of pruritic skin diseases and provide a rationale for shifting the choice of treatment options to nonsedative antihistamines.

3. **Primary literature**

Reference

Hannuksela M, Kalimo K, Lammintausta K, Mattila T, Turjanmaa K, Varjonen E, *et al*. Dose ranging study: cetirizine in the treatment of atopic dermatitis in adults. *Ann Allergy* 1993; 70(2):127–33**.**

Study Objective

- To determine optimal dose of cetirizine in treatment of atopic dermatitis.

Methods

- Parallel RCT
- Study population: 178, over age of 18 years old
- Duration: 4 weeks
- Severity of eczema was moderate to severe
- Treatment: 3 different doses of cetirizine 10mg, 20mg, and 40mg doses
- Withdrawals: 51 total, 20 adverse events, 19 non-compliers

Main Results

There was non-significant difference between groups in patient-assessed pruritis intensity at baseline. All groups improved significantly (p=0.005). This improvement was significantly more pronounced for cetirizine 40mg compared with placebo.

Conclusions

The sedation observed probably was partly responsible for pruritis relief, authors suggest that cetirizine has other properties responsible for skin lesion healing.

Comments/Critical Appraisal

Method and concealment of randomization unclear. A high drop-out rate of 51 subjects. No ITT analysis carried out. Possible benefit of cetirizine when used at four times normal dose, but at the expense of sedation

4. **Primary literature**

Reference

Henz BM, Metzenauer P, O'Keefe E, Zuberbier T. Differential effects of new-generation h1-receptor antagonists in pruritic dermatoses. *Allergy* 1998;53(2):180–3.

Study Objective

- To determine differential effects of new-generation of H1 receptor antagonists in pruritic dermatoses

Methods

- Parallel RCT
- Study population: 74 with atopic eczema, 244 total including urticaria, 17-67 years of age
- Duration: 2 weeks
- Moderate to severe pruritis
- Treatment: cetirizine 10mg vs azelastine 4mg vs placebo

Main Results

Mean overall % response rate based on physician's global score was 36.4%, 25.0% and 27.3% in the azelastine, cetirizine, and placebo groups, respectively. Baseline data and exact numbers of atopic eczema patients in each group were not stated. Mean itching score dropped from 2.2 to 1.4 in cetrizine group.

Conclusions

The data underline the low efficacy of antihistamine in atopic eczema

Comments/Critical Appraisal

Neither drug reduced itching significantly more than placebo. Statistics not given for atopic eczema patients, no description of what constituted a response, placebo looks very impressive, clearly no difference in atopic eczema patients. High drop out rate of 37, no ITT analysis carried out

5. **Primary literature**

Reference

La Rosa M, Ranno C, Musarra I, Guglielmo F, Corrias A, Bellanti JA. Double-blind study of cetirizine in atopic eczema in children. *Ann Allergy* 1994;73(2):117–22.

Study Objective

- To determine effectiveness of cetirizine in atopic eczema in children

Methods

- Parallel RCT
- Study population: 23, ages 6-12 years
- Duration: 8 weeks
- Treatment: cetirizine 5mg/day for 30kg and under vs placebo, 10mg day for over 30kg vs placebo
- 1 voluntary withdrawal

Main Results

Patient diary card scores showed a statistically significant decrease in erythema and other cutaneous symptoms such as lichenification, in the cetirizine group. Improvement in baseline total mean global score of 230 for cetirizine reduced to 155 after 8 weeks treatment, and 205 basline for placebo reduced to 180 after 8 weeks treatment

Conclusions

Results of this preliminary study suggest that cetirizine can effectively control pruritis and other cutaneous symptoms in children suffering from atopic eczema without noticeable adverse effects

Comments/Critical Appraisal

Method and concealment of randomization unclear, study described as double-blind. There was only one dropout rate. Patient diary card scores is a subjective assessment tool. Higher baseline scores in those on active treatments suggest that regression to the means could partly amount for results