Montelukast as Adjunct Therapy in Chronic Spontaneous Urticaria with Partial Response to Antihistamines: A Pediatric Case Report

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Abstract

Chronic spontaneous urticaria (CSU) in children may persist despite standard antihistamine therapy and can significantly affect quality of life. We report a 9-year-old girl with CSU who demonstrated partial response to cetirizine but achieved complete symptom resolution following the addition of montelukast. Symptoms resolved within three days and did not recur after discontinuation of therapy. While spontaneous remission cannot be excluded, this case highlights a possible role for montelukast as adjunct therapy in selected pediatric patients.

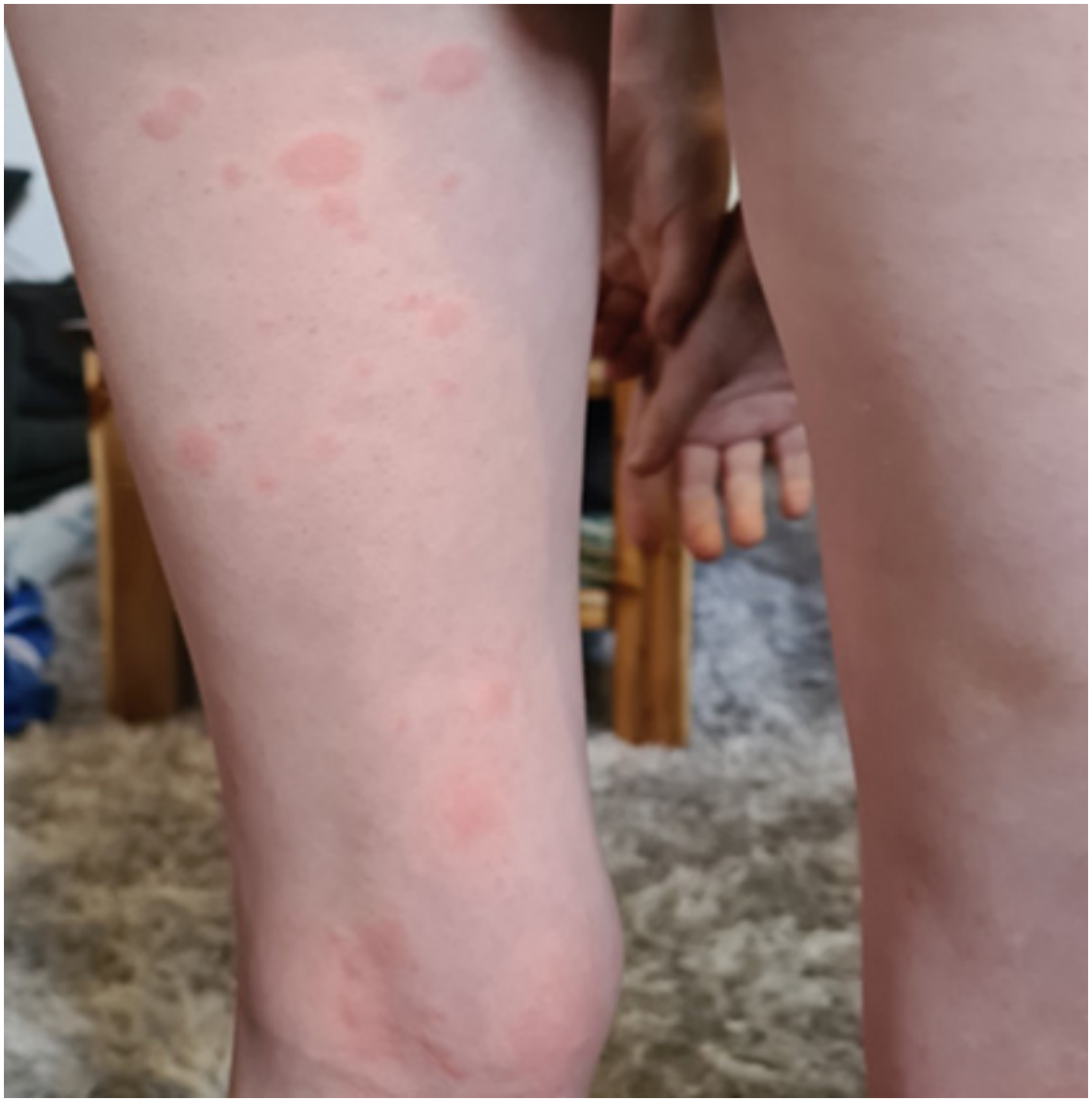
Key words: chronic spontaneous urticaria, montelukast, antihistamines, pediatric urticaria

Introduction

Chronic spontaneous urticaria is defined by recurrent wheals, angioedema, or both, for more than six weeks without an identifiable trigger. It is commonly idiopathic in children and may significantly impair sleep and quality of life.

Current international guidelines, including the EAACI/GA²LEN/EuroGuiDerm/APAAACI urticaria guideline, recommend second-generation H1-antihistamines as first-line therapy, with dose escalation in non-responders. Additional therapies may be considered in refractory cases. Leukotriene receptor antagonists such as montelukast have been used as adjuncts, although evidence remains inconsistent and their role is not routinely recommended in guideline-based pathways.

Case Presentation



A 9-year-old previously healthy girl presented with a 6-week history of recurrent, intensely pruritic wheals affecting the trunk and limbs. Lesions were transient, migratory, and resolved within 24 hours without residual skin changes. Symptoms were worse in the evening and interfered with sleep.

There were no associated systemic symptoms including fever, angioedema, respiratory symptoms, or gastrointestinal complaints. No recent infections, medications, or identifiable triggers were reported.

On examination, the child was well and afebrile. Cutaneous examination revealed erythematous, blanching wheals over the chest, back, and upper limbs. No vasculitic features were present. Systemic examination was normal. Laboratory investigations including full blood count, inflammatory markers, renal function, and liver function tests were within normal limits.

A diagnosis of chronic spontaneous urticaria was made.

The patient was commenced on cetirizine twice daily with partial improvement. Cetirizine dose escalation was undertaken prior to consideration of adjunct therapy, with only incomplete symptom control. Montelukast 5 mg once daily was subsequently added.

Complete resolution of symptoms occurred within three days of initiation of montelukast. No other therapeutic or environmental changes were identified. The patient remained symptom-free for four weeks. Montelukast was discontinued, with no recurrence on follow-up.

Discussion

Chronic spontaneous urticaria (CSU) is a common condition encountered in primary care and is often managed initially with second-generation antihistamines. While most patients respond to standard therapy, a subset require dose escalation or additional agents to achieve adequate symptom control.

In this case, a child with CSU demonstrated partial response to cetirizine with persistent symptoms affecting quality of life. Cetirizine dose escalation was undertaken prior to consideration of adjunct therapy, with only incomplete symptom control. Montelukast was subsequently introduced, resulting in rapid resolution of symptoms within three days.

Although this temporal association suggests a possible therapeutic benefit, CSU is known to be a fluctuating and often self-limiting condition, and spontaneous remission cannot be excluded. Therefore, a direct causal relationship cannot be confirmed from a single case.

Current international recommendations, including the EAACI/GA²LEN/EuroGuiDerm/APAAACI urticaria guideline, support a stepwise approach to CSU management, beginning with second-generation antihistamines and progressing to higher doses before considering additional therapies. In cases of persistent disease, biologic therapy such as Omalizumab has the strongest evidence base.

The Australasian Society of Clinical Immunology and Allergy guidance also acknowledges a potential role for leukotriene receptor antagonists in selected cases of chronic spontaneous urticaria. ASCIA suggests that a short-term trial of a leukotriene receptor antagonist such as montelukast may be considered in patients with persistent symptoms despite antihistamine therapy. This approach reflects the possible contribution of leukotriene-mediated pathways in a subset of patients and provides a pragmatic option prior to escalation to more advanced therapies. However, consistent with international guidelines, the overall quality of evidence remains limited, and response is variable, supporting an individualised trial of therapy rather than routine use.

Importantly, montelukast is generally well tolerated but has been associated with neuropsychiatric adverse effects, including mood and behavioural changes. Awareness of these potential risks is essential when prescribing, particularly in pediatric populations.

Overall, this case highlights a potential adjunctive role for montelukast in pediatric CSU with incomplete response to antihistamines. However, given the self-limiting nature of the condition and limited supporting evidence, its use should be individualised and considered on a case-by-case basis within guideline-based management.

Conclusion

Montelukast may be considered as adjunct therapy in selected pediatric patients with chronic spontaneous urticaria who have an incomplete response to antihistamines. Further studies are required to clarify its role in routine clinical practice.

Consent

Written informed consent was obtained from the patient's parent/guardian for publication of this case report. Patient anonymity has been maintained.

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