

A Case Of Aquagenic and Cholinergic Urticaria

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Background

- Inducible urticaria are disorders in which urticaria are caused by environmental stimuli such as heat or cold, pressure applied to skin, exercise, water, and sunlight, etc. These disorders result from heightened sensitivity by mast cells to environmental conditions, yet the pathogenesis is unknown. There are two subtypes of inducible urticaria relevant to our case: cholinergic and aquagenic.
- Cholinergic urticaria is induced by heating of the body. After stimulus the rash typically begins on the trunk within minutes to an hour and spreads to the limbs. It typically presents in the 2nd-3rd decade of life and accounts for 5% of all cases of spontaneous urticaria. Prognosis is favorable with symptoms persisting an average of 7.5 years.
- Aquagenic urticaria develop after direct skin contact with water. There are fewer than 100 cases reported and appears to mostly present with females around puberty. The rash appears 20-30 minutes after exposure to water, regardless of temperature. The hives fade within 30-60 minutes after removal of water. The prognosis and pathogenesis is poorly understood.

Case Presentation

- A young female presented to our clinic with a 1 year history of urticarial rash triggered by hot or cold water, exercise and stress. Of note, her sister and her mother also report a similar history for themselves.
- In the clinic we were able to illicit the rash by applying normal temperature tap water to her hands and within 30 minutes she had a diffuse pruritic urticarial rash that was located on her trunk.
- We diagnosed our patient with aquagenic and cholinergic urticaria based on our water test in clinic and the history she provided. We prescribed her cetirizine and scopolamine. We referred her to an allergist for further workup.
- At a 2 week follow up the patient reported that her symptoms were largely controlled with scopolamine and cetirizine.

Pictures

- The patient was able to provide us with pictures to demonstrate her rash after taking a shower.



Discussion

- Aquagenic urticaria is very rare with roughly 100 cases having been reported in the literature. There have been cases reported of patients having both aquagenic and cholinergic urticaria, but this appears to be even rarer.
- It is important to note that the patient's sister and mother also reported a similar history. For our case this would indicate a familial pattern of inheritance for the predisposition of this disease. In other case reports aquagenic urticaria was described to be either familial inheritance or acquired. This case report would support familial aquagenic urticaria.
- For treatment we chose a H1 antagonist (cetirizine) and added scopolamine patch for the cholinergic aspect of her urticaria.

Conclusion

- Our patient presented with aquagenic urticaria that was reproducible in clinic with a water provocation test. Also, based on her history she gave us we also diagnosed her with cholinergic urticaria.
- Aquagenic urticaria is rare but there is even fewer cases reported of a patient having both aquagenic and another inducible urticaria.
- A familial pattern of inheritance has been noted in other case reports and our case report would support this notion.
- We also report successful symptom control of our patients urticaria with a combination of cetirizine and scopolamine patch
- We anticipate that given enough time her symptoms will decrease in severity with immune quiescence.

References

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