ACUTE ANNULAR URTICARIA IN A CHILD

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1. ABSTRACT

Urticarial skin rashes have a range of causes, the most common of which is atopy. We present a case of a widespread diffuse urticarial rash related to a lower respiratory tract infection; a case of an annular urticarial hypersensitivity syndrome.

KEYWORDS
Pneumonia, Urticarial Rash, Annular urticarial hypersensitivity syndrome.

2. CASE REPORT

A 2 year old girl (L.R.) developed an asymmetric, erythematous, pruritic, migrating urticarial rash over her face, limbs and torso. She had a two week history of shortness of breath while walking and a two day history of vomiting, fever, migrating rash. Her rash started on the groin, legs and chest; it was raised and appeared inflamed. Her primary carers had treated her with Calpol and Cetirizine and a topical emollient. However the rash increased, extending to her distal extremities involving her face, hands, and feet. Her wrists were painful with movement but not swollen. Following a number of vomits and a concern that she may be dehydrated, she was admitted to Hospital for observation. There she was described as alert with normal blood pressure and capillary refill. Her temperature was 37.1°C. She had a widespread papular urticarial rash. Notable features included some swelling of her eyes, hands and feet. There was no conjunctivitis. She also had a mildly red throat and cervical lymphadenopathy. A 3/6 pan systolic murmur was heard at the left lateral sternal edge. Urine dipstick and culture as well as throat cultures were negative. A chest x-ray showed extensive consolidation of the right middle lobe. Echocardiogram revealed a moderate sized patent ductus arteriosus (PDA). Her blood investigations revealed a raised CRP (165 normal 0-5mg/L) and LDH (324 IU/L normal 135-214IU/L). Her C3 and C4 were normal. Antibody tests were negative for anti dsDNA and ANA, mycoplasma and pneumococcal antibodies were present (low titres). Diagnoses of lower respiratory tract infection, PDA and an urticarial rash were made. She was managed with IV augmentin, PRN paracetamol and
ibuprofen. During her admission a detailed history and family history was collected. There were no previous episodes of atopy, allergy or drug reaction in this patient, or either of her parents.

During her admission L.R. continued to spike fevers that resolved on the third day of admission with a decrease in CRP (109mg/L normal 0-5mg/L). On day 2 of admission the rash improved, on day 4 of her admission her rash had mostly resolved and she was discharged with three further days of treatment with augmentin. (See photographs below documenting changes in the rash)

3. DISCUSSION

The differential diagnosis of urticarial rashes can be challenging. An urticarial rash with peripheral swelling is termed urticaria multiforme; it is a component of an acute annular urticarial hypersensitivity syndrome. Erythema multiforme and serum sickness like reactions are also manifestations of this syndrome. Urticaria multiforme is benign and commonly presents as an acute onset of blanchable annular, arcuate, polycyclic erythematous wheals associated with acral edema. Dermatographism, pruritis, systemic symptoms of fever (1-3 days), diarrhea and cough may be noted as well. The most common age group affected by urticarial syndromes is 4 months to 4 years (1,6).

Distinguishing features of urticaria multiforme include the absence of true target lesions, skin necrosis, blistering, mucous membrane involvement with blisters or erosions or a toxic appearance. Angioedema may be present and can cause difficulty walking if there is significant swelling of the feet; it may also include the hands, periocular or oral mucosa (6). The angioedema is self limiting and has not been associated with laryngealedema (2–4). There is a favorable response to antihistamines and only mild elevations in acute phase reactants (WBC, ESR, CRP), unlike that seen in rheumatologic disorders, systemic infections or vasculitides such as Kawasaki disease (6). Acute annular urticaria has not been reported with food allergy (5). In one prospective study 81% of patients with acute urticaria had an associated infection (3). The association between these types of rash and atopy is not well defined, but a significant proportion of patients presenting with these rashes do not suffer any form of allergy in the chest, skin or bowel.

Standard treatment of the underlying infection if present may be augmented with the use of antihistamines or steroids in recalcitrant cases. Patients can be expected to resolve in several days to weeks as in this case without complication or sequelae.

4. CONCLUSION

Urticarial rashes may be associated with infections. Despite their dramatic appearance an appropriate history and physical exam will usually
reveal a relatively benign diagnosis. A history of upper respiratory tract infection is typical. Acute annular urticaria treated with antihistamines usually resolves in several days with noticeable improvement usually within 24 hours.

5. ACKNOWLEDGEMENTS

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6. REFERENCES

The rash at presentation:

The rash at presentation 2
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The abdomen on recovery