URTICARIA GUIDELINE

BACKGROUND

This guideline is intended for use in A&E and general paediatric OPD to assist with the management of initial presentations of urticaria. Acute urticaria is more prevalent, affecting 4.5 – 15% of children in the UK. Chronic urticaria is thought to affect 0.1-3% of children.

DEFINITIONS

- **Acute Spontaneous Urticaria** – a wheal and flare/nettle sting rash. An individual lesion lasts less than 24 hours and resolves without leaving a mark. If this a response to allergic or physical stimulation there is usually less than two hours interval between the stimulus and the rash occurring. Repeated episodes may occur when the stimulus is re-encountered. The rash may also be associated with viral infections which cause repeated spontaneous urticaria over several days or occasionally several weeks. The viral infection may be mild or in some cases subclinical.

- **Chronic Spontaneous Urticaria** – an urticarial rash occurring on most days for > 6 weeks

- **Angioedema** – swelling of the submucosa, deep reticular dermis and subcutaneous tissue. In children 50-80% of those with chronic urticaria have accompanying angioedema. Angioedema as a lone clinical problem should prompt consideration of alternative diagnoses. Is there fluid retention such as nephrotic syndrome or is there infection? Hereditary Angioedema (HAE) or a reaction to NSAIDs/ACEI should also be considered. If HAE is suspected, discussion with the responsible consultant and referral to a specialist for ongoing investigation should be carried out. Hereditary angio-oedema (HAE) is rare with no reported bias in different ethnic groups. It has an estimated population prevalence of 1 in 50,000.
CAUSES OF URTICARIA

**Acute** (e.g. food, latex, pollens, viral infections, pseudoallergens)

**Spontaneous Urticaria**

**Chronic** (e.g. autoimmune, chronic infection, vasculitis)

**Physical Urticaria**

Cold/Heat

- Pressure
- Solar
- Aquagenic
- Vibratory
- Dermographic

**Exercise Induced**

Exercise/Food Dependant Exercise Induced

**Cholinergic**

Increased body Temperature

**Mastocytosis**

Darier’s sign – agitation of lesions produce urticaria

**Chronic Urticaria**

It has been found that the majority of children with chronic urticaria present with rash alone but children may also present with angioedema alone (6.6%) or wheals and angioedema (15%) - Volonakis M, Katsarou-Katsari A, Stratigos J. Etiologic factors in childhood chronic urticaria. *Ann Allergy* 1992;69:61-5. Remission is difficult to predict but may take months to years.

Many cases of chronic urticaria remain ‘idiopathic’. Some of the most common causes of urticaria in children are viruses. Physical urticarias can be a common cause of acute intermittent urticaria. Clues to this may be, for example linear urticaria following scratching, typifying dermatographism.

Infection is felt to be a more common cause of chronic urticaria in children than in adults. Chronic sinus or dental infection as well as recurrent URTI or staphylococcal or streptococcal infections have been implicated. H.pylori infections have been both implicated and refuted as a cause of chronic urticaria but can be considered.

Approximately 30-45% of children with CU would have a positive autologous serum skin test result if performed, according to one study (Brunetti L, Francavilla R, Miniello VL et al. High prevalence of autoimmune urticaria in children with chronic urticaria. *J Allergy Clin*
*Immunol* 2004;114;922-7.). This is a research tool rather than a clinical test but demonstrates presence of an autoreactive antibody to part of the high affinity IgE receptor present on mast cells and basophils. Treatment is conservative and remission is usually achieved but may take years.

4% of children with CU have positive antithyroid antibodies but are most are euthyroid, requiring surveillance only.


There is increasing evidence for systemic effects of *Gastric Helicobacter pylori infection*, which may result in extra gastrointestinal disorders. Although CU can result from several causes, a possible relationship between chronic urticaria and Helicobacter pylori has been recently suggested (Sadighha A et al: *Relationship between Helicobacter pylori and chronic urticaria.* *J Eur Acad Dermatol Venereol.* 2009 23:198-199)

Chronic urticaria as part of another systemic disease such as vasculitides (urticarial vasculitis) or autoimmune disease should be considered if aspects of the history or previous tests are atypical. E.g:

- Individual lesions persist> 24 hours
- Lesions leave bruising/staining after resolution
- Fever, pain or other constitutional symptoms are associated
- Elevated ESR/abnormal urinalysis
- Raised ANA

Depending on the presenting symptoms these children should be referred on to dermatology/rheumatology as appropriate.

**REFERENCES**

1. Urticaria Care Pathway: Life Threatening Symptoms. RCPCH
3. Allergy 69 (2014) e1–e29 © 2014
5. Old Guideline Feb 2014 Dr Carolyn Hore & Dr Diab Haddad

**AUTHORS**

Reviewed and updated (Nov 2014) –
Dr Ashok Aralihond and Dr Diab Haddad
Old Guideline Authors Dr Carolyn Hore & Dr Diab Haddad
FIG 1. Step-care approach to the treatment for CU.

management of acute urticaria

Acute Onset Urticaria
Associated with difficulty breathing or collapse

Treat for ANAPHYLAXIS
See Protocol

Acute Urticaria
No respiratory or cardiovascular symptoms

History consistent with allergic reaction
Refer Allergy OPD for SPT

History NOT consistent with allergic reaction
Intercurrent Infection

Yes

Regular non drowsy H1 receptor antagonist + GP follow up

No

Atypical Features
Residual bruising/fever/joint pain

Yes

Urinalysis, BP, Senior Review

No

Review Hx for physical causes, regular H1RA, GP

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Antihistamine

CETIRIZINE

1-2 years 0.25mg/kg BD
2-6 years 2.5mg BD
6-12 years 5mg BD
12-18 years 10mg OD
Dose may need to be doubled to achieve control
Angioedema alone

Consider: Fluid retention eg nephrotic syndrome; Infection; any link to allergic trigger.
Consider HAE

If suspect allergy/HAE refer to allergy clinic. D/W consultant if any urgent concerns

Chronic urticaria +/- angioedema > 6 weeks duration

Systemic features e.g. joint pain/fever/weight loss/lesions lasting >24hr

See Table

Specialist referral as required – D/W Consultant

Immediate allergic symptoms < 2hrs after contact. Reproducible. Check for association with NSAIDS

Remove allergic stimulus, Treat with antihistamine. Consider need for autoinjector. Refer to allergy clinic

No systemic features

Mild infrequent urticaria

Non drowsy H1 receptor antagonist, dose may need to be doubled.

Routine f/u and reassess. Improvement?

Yes – GP follow up

No – Reassess from top of algorithm

Frequent and severe urticaria

Regular no drowsy AH, may need double dose +/- old H1 AH in the evening. TFT, thyroid autoantibodies, Coeliac screen

Refer to Allergy clinic

HISTORY
Timing
Duration
Shape, size, distribution
Angioedema
Associations eg exercise/temperature
Systemic symptoms
History of infections
Atopic history
Use of medication and response
Drug history
Family history

TESTS
FBC with differential and Blood film
ESR/CRP/ASO
Urinalysis
Stool for ova and parasites, H.Pylori
Liver function tests
Thyroid function and autoantibodies
Coeliac screen
Anti-IgE antibodies
H.Pylori Antibodies
C3 and C4, C1 esterase inhibitor level
Rheumatoid factor
Hepatitis serology

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