

URTICARIA

Introduction

Urticaria (in lay terms “hives”) manifests as circumscribed lesions consisting of raised pruritic areas of erythema and edema of the *superficial dermis*.

When the condition is more marked, the *subdermal tissues* and mucosal surfaces are involved and the condition is known as **angioedema**, (see separate guidelines). The difference is merely one of degree. ¹ Angioedema is a more life threatening condition in its own right because of its propensity for oropharyngeal involvement.

Urticaria and angioedema can occur together in the same patient at the same time or they may occur separately.

By arbitrary definition:

- **Acute urticaria lasts less than 6 weeks.**
- **Chronic urticaria lasts more than 6 weeks.**

In true urticaria *individual lesions* develop within quickly (sometimes within minutes) and resolve within 24 hours.

Individual lesions which last more than 24 hours are likely to be due initial presentations of more complicated underlying pathology, the causes of which can include:

- Drug eruptions.
- Erythema multiforme.
- Erythema nodosum.
- Urticarial vasculitis, there is initial urticaria which then fades leaving a purpuric area or an area of pigmentation.

Pathophysiology

Angioedema involves vessels in the layers of the skin *below* the dermis, while urticaria involves vessels within the *superficial* dermis. ¹

There is an inflammatory response mediated by vasoactive mediators, released from mast cells, such as:

- Histamine.
- Serotonin.
- Kinins (such as bradykinin).

The subdermal source of angioedema results in regions of well demarcated, localized, *non-pitting* edema.

Urticaria is localized to the superficial portion of the dermis and consists of circumscribed wheals with raised erythematous borders and central blanching. These may coalesce to form larger wheals.

These conditions can occur together or separately.

Causes

1. Allergic:

- Urticaria in isolation is the mildest manifestation of anaphylaxis.
- It may however accompany the more serious forms of anaphylaxis and angioedema

2. Anaphylactoid reaction:

- This is due to a direct release (as opposed to an IgE mediated release) of histamine

3. **Idiopathic:**

- Commonly no cause will be found, particularly in chronic cases.

4. Viral:

- Urticaria may be associated with viral infections, (in particular hepatitis B, EBV and HIV)

5. Physical urticarias:²

Physical factors can exacerbate acute or chronic urticaria.

Less commonly, urticaria is induced only by a physical stimulus

The causative mechanisms are not well understood although histamine is a major effector in most forms.

Physical stimulants include:

- Temperature related, (heat or cold)
 - Urticarial lesions resulting from light scratching of the skin (dermographism, an exaggeration of the normal triple wheal response).
 - Vibratory, (jack hammers and similar, rare).
 - Water (aquagenic urticaria)
6. Solar urticaria:
- Occurring only on skin exposed to the sun.
7. Autonomic urticarias:

Cholinergic

- This is essentially associated with *sweating*. Lesions are typically small (1-4 mm) and discrete.
- Physical stress/ exercise is a common precipitant.

Adrenergic

- Emotional stress.

Clinical Features

Important points of history:

1. Any previous history of anaphylactic or urticarial reactions.
2. Medications.
3. History of exposure to any recognized precipitant.
4. Acuteness of onset and duration of symptoms, including if possible duration of individual lesions beyond 24 hours.
5. Recent or current symptoms of viral illness:
6. Co-morbidities

In particular:

- Rheumatic conditions.

- Malignant conditions.

Important points of examination:

1. The immediate priority is to rule out a more generalized anaphylaxis, anaphylactoid or oropharyngeal angioedema reaction.
 - Assess the airway.
 - Assess, vital signs and SaO₂
 - Respiratory distress with wheeze.
2. Check that the lesions are typical of urticaria.

Urticarial lesions (wheals) will be:

- Erythematous
- Raised
- Well demarcated, but may coalesce with adjacent lesions.
- There may be central clearing of lesions.
- Pruritic, (those of angioedema are generally *not* pruritic)

Lesions that are *not* typical of urticaria include those which are, vesicular/ bullous, petechiae/ purpura, weeping, scaling.



Left, typical appearance of allergic urticaria. Right typical appearance of cholinergic urticaria.

Investigations

None are routine in uncomplicated cases of acute urticaria

Some investigation may be required if lesions are atypical or if chronic. Investigation will then depend on the index of suspicion for any given condition.

Skin biopsy of **persistent** lesions may be required to make a diagnosis.

Management

1. Immediately treat any generalized anaphylactic or anaphylactoid reaction, if present, (see separate guidelines).
2. Avoidance or minimization of any suspected precipitant.

Treatment of uncomplicated acute urticaria will then depend on the severity of symptoms.²

3. **Mild:**

- Use an oral **H1 anti-histamine agent**.
- Non sedating agents are best during the day, (eg cetirizine, fexofenadine, loratadine)
- Sedating agent may be preferred at night, (eg phenergan)
- In troublesome cases, **doxepin** may be useful. It is a tricyclic antidepressant, which possesses both H1 and H2 antagonist properties. There are some H2 receptors in skin.

Its sedative action may be beneficial when sleep disturbance is troublesome. The mild anxiolytic effects may also be an advantage if the patient has a lot of psychological distress. A dosage of 25–50 mg at night is usually effective.

4. **Moderate:**

In cases of extensive urticaria, or severe urticaria involving eyelids and lips, parental anti-histamine is warranted.

- **Promethazine** 25-50 mg IM, (note this can be very sedating)

5. **Severe:**

In severe cases or those failing to respond to antihistamines, **steroids** may be used.

- Give 25-50 mg orally of prednisolone for up to 7 days as required.

6. Referral:

Dermatological referral will be necessary when:

- Chronic urticaria has developed.
- Symptoms are recurrent and severe.
- Features are atypical and the diagnosis is uncertain.

References

1. deLauney and Land, Principles and Practice of Dermatology, 3rd ed 1993.
2. Dermatology Therapeutic Guidelines, 2nd ed 2004.
3. Katlaris C. Treatment of Urticaria, Australian Prescriber Vol. 24 No. 5 2001

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