

## UNDERSTANDING URTICARIA

Urticaria is characterized by, raised, palpable wheals, which can be linear, annular (circular), or arcuate (serpiginous). These lesions occur on any skin area and are usually transient and migratory. These lesions are often separated by normal skin, but may coalesce rapidly to form large areas of erythematous, raised lesions that blanch with pressure.

Urticaria may be acute (lasting less than 6 weeks) or chronic (lasting more than 6 weeks). Episodic urticaria describes intermittent attacks of urticaria, which may last a few days or a few weeks

### Aetiology

- Cause of acute generalized urticaria often is undetermined. Known causes include the following:
  - Infections (e.g., pharyngitis, GI infections, genitourinary infections, respiratory infections, fungal infections [e.g., dermatophytosis], malaria, amebiasis, hepatitis, mononucleosis, coxsackievirus, mycoplasmal infections, infestations [e.g., scabies], HIV, parasitic infections [e.g., ascariasis, strongyloidiasis, schistosomiasis, trichinosis]).
  - Caterpillars and moths
  - Foods (particularly shellfish, fish, eggs, cheese, chocolate, nuts, berries, tomatoes)
  - Drugs (e.g., penicillins, sulfonamides, salicylates, NSAIDs, codeine, antihistamines)
  - Environmental factors (e.g., pollens, chemicals, plants, danders, dust, mold)
  - Exposure to latex
  - Exposure to undue skin pressure, cold, or heat
  - Emotional stress
  - Exercise
  - Pregnancy (i.e., pruritic urticarial papules and plaques of pregnancy)
- Chronic urticaria can be related to all of the above as well as to the following:
  - Autoimmune disorders (SLE, rheumatoid arthritis, polymyositis, thyroid autoimmunity, and other connective tissue diseases); probably up to 50% of chronic urticaria is autoimmune
  - Cholinergic urticaria induced by emotional stress, heat, or exercise; examine for other signs of cholinergic stimulation including lacrimation, salivation, and diarrhea.
  - Chronic medical illness, such as hyperthyroidism, amyloidosis, polycythemia vera, malignant neoplasms, lupus, lymphoma
  - Cold urticaria, cryoglobulinemia, cryofibrinogenemia, or syphilis
  - Mastocytosis
  - Inherited autoinflammatory syndromes
  - The etiology of chronic urticaria is undetermined in at least 80-90% of patients
- Recurrent urticaria can be related to the following:
  - Sun exposure -solar urticaria, occurring only on skin exposed to the sun
  - Exercise (cholinergic urticaria)
  - Emotional or physical stress
  - Water (aquagenic urticaria)

*Physical urticaria* refers to urticaria induced by external physical influences. The wheals take about 5 minutes to develop, and last 15 to 30 minutes.

*Dermographism* - Stroking the skin causes it to wheal in the line of the stroke. This is very itchy, but scratching causes more wheals to appear. Dermographism usually starts quite suddenly.

*Cholinergic urticaria* results from sweating.

*Cold urticaria* affects skin warming up after a reduction in temperature, especially in winter.

*Contact urticaria* results from absorption of an eliciting substance through the skin or through a mucous membrane. It may be allergic or non-allergic in origin. It may result in wheals confined to the site of contact or spreading more widely.

*Localised heat urticaria*, *aquagenic urticaria* (water contact), *solar urticaria* (sunlight), *vibratory angioedema* and *delayed pressure urticaria* are less common.

### **Investigations**

In most cases of urticaria, there is no need for specific investigations. However, the following tests may be helpful in some cases.

- Full blood count to identify eosinophilia caused by allergy or parasitic infestation, and low white blood count from systemic lupus erythematosus.
- Thyroid antibodies and function in chronic urticaria if autoimmune origin is considered likely.
- Skin prick testing and blood tests for specific allergy (RAST, or radiallergosorbent tests, or CAP fluoroimmunoassay).
- Autologous serum skin prick test (if available) in chronic urticaria.
- Complement tests in case of angioedema without urticaria or urticarial vasculitis.
- Skin biopsy if wheals are prolonged, to identify vasculitis.

### **Treatment**

Treatment depends on the type of urticaria, its severity and how long it has been present. If a medicine is thought to be the cause, it should be stopped.

### **General measures**

- Minimize or avoid use of aspirin and codeine.
- Nonsteroidal anti-inflammatory drugs should be avoided in those that react adversely to aspirin.
- ACE inhibitors should be avoided in those with angioedema.
- Dietary changes may help. Some urticaria is aggravated by salicylates in certain fruits, or additives including amines, tartrazine, benzoates and other food chemicals.

### **Drugs**

**Oral antihistamines** control wheals and itching for the majority of patients with urticaria. They do not affect the underlying cause of the rash. Antihistamines may need to be taken intermittently or continuously until the underlying tendency to urticaria disappears.

*Non-sedating antihistamines* include:

- loratidine 10 mg/day
- desloratidine 5 mg/day
- fexofenadine 180 mg/day
- levocetirizine 5 mg/day
- cetirizine 10 mg/day

*Conventional antihistamines* such as chlorpheniramine or promethazine may be preferred at night as they tend to have a sedative effect. Hydroxyzine or diphenhydramine may be taken during the day and in some people they appear more effective than newer, non-sedating antihistamines.

- H<sub>2</sub> blockers, famotidine or ranitidine, can also reduce urticaria
- Oral steroids (prednisone) in moderate dose for a few days are useful for severe acute urticaria. They are rarely recommended long term because of serious adverse effects.
- Other drugs/treatments which are used in chronic urticaria include
  - Tricyclic medications such as amitriptyline, nortriptyline and doxepin
  - Antileukotriene agents, - montelukast
  - Antimalarials - hydroxychloroquine.
  - Ultraviolet radiation treatment (narrowband UVB and PUVA)
  - Antibiotics, dapsone, sulfasalazine and antifungal agents
  - Immunosuppressive medications- cyclosporin, Methotrexate,
  - plasmapheresis
  - intravenous immunoglobulins
  - Antifibrinolytic agents (tranexamic acid, androgenetic steroids such as danazol) are mainly used for treatment-resistant angioedema or angioedema due to C1 esterase inhibitor deficiency.
- Intramuscular injection of adrenaline (epinephrine) is reserved for life-threatening anaphylaxis or angioedema
- Desensitisation to certain essential medications has been reported to be effective in the case of urticaria caused by drug allergy.

### **Brain Teaser**

1. Topical drugs are ineffective in the treatment of urticaria because of the intact epidermis
  - a. **True**
  - b. False
2. Oral provocation tests are not useful in deciding on treatment
  - a. **True**
  - b. False
3. H<sub>2</sub>-receptor antagonists may be helpful when conventional anti-histamines fail
  - a. **True**
  - b. False
4. Levocetirizine is a non sedating antihistaminic
  - a. **True**
  - b. False