Urticaria & Angioedema

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Definition

- **Urticaria**
  - A condition characterized by transitory, pruritic, erythematous, blanching wheals
  - The lesions last less than 24 hours and resolve without a trace
  - Common conditions that affects 15% to 24% of the US population at some time in their life

- **Angioedema**
  - Pathologic alterations similar to urticaria but involves the deep dermis and subcutaneous tissues. Associated with little or pruritus and is described as painful or burning. Swelling usually lasts 12 to 48 hours and occurs in 40% of the patients with urticaria. It commonly involves the lips, eyelids, face, extremities and genitalia in an asymmetrical manner. It may also affect the GI tract and the upper airway.

Urticaria-Face

Giant Urticaria

Urticaria
Acute & Chronic Urticaria

**Acute**
- Urticarial lesions occur for less than 6 weeks
- A cause can usually be identified
- Careful and detailed history is important in identifying a the cause or trigger

**Chronic**
- Lesions persist for greater than 6 weeks
- Incidence is 0.1% of the population and there does not appear to be an increase risk in patient with atopy
- Usually idiopathic

Common Causes of Acute Urticaria

- Medications (prescription, over-the-counter, herbal, other)
- Infections (Viral, bacterial, parasitic)
- Foods (Peanuts, nuts, fish, shellfish, wheat, eggs, milk, soybeans)
- Insect stings (Hymenoptera venom)
- Contact Allergens (latex sensitivity)
- Inhaled allergens
- Physical urticaria

Causes of Urticatia - Medications

- Prescription, OTC, Herbal preparations
- Antibiotics
- Aspirin and NSAIDs
- Opiates

Physical Urticaria

- Physical urticaria is characterized by wheals triggered by a specific physical stimulus
- Dermatographism
- Cold Urticaria
- Cholinergic Urticaria
- Delayed pressure urticaria
- Solar Urticaria

**Dermatographism**

- Dermatographism
Common associations of Chronic Urticaria

- Medications (aspirin, nonsteroidal anti-inflammatory drugs, opiates)
- Endocrine abnormalities (thyroid dysfunction, hormonal changes)
- Collagen vascular diseases (cutaneous vasculitis, serum sickness)
- Systemic mastocytosis (urticaria pigmentosa)
- Malignancy (gastrointestinal cancer, lung cancer, lymphoma)
- Physical urticaria
- The majority are idiopathic

IGG Antibodies Against IGE receptors sites

Work Up Chronic Urticaria

- Idiopathic
- Circulating antibodies against IGE receptors ige2
- Autoimmune diseases
- Collagen vascular

Management of Urticaria

- Avoidance of Triggers
- Avoid meds that exacerbate cause hives. (aspirin, NSAIDs)
- Rofecoxib (Vioxx), Valdecoxib (Bextra), Celecoxib (Celebrex) are safe

Pharmacotherapy

- Antihistamines 2nd generation (Cetirizine, desloratidine, fexofenadine)
- Antihistamines 1st generation (Hydroxyzine, diphenhydramine, cyproheptadine)
- H2 Blockers (tagamet, zantac)
- Tricilic antidepressants (Doxipen)
- Leukotrine receptor blockers (singular)
- Glucocorticoids

Pharmacotherapy - Cont.

- Investigational Drugs and treatments
  Cyclosporine (Gengraf, Neoral, Sand immune), Immunoglobulin, plasmapheresis, methotrexate, colchicine, dapsone, sulfasalazine, hydroxychloroquine, warfarin
Angioedema- Quincke’s Edema

- Rapid swelling of the skin, mucosa, and submucosal tissues
- Apart from the common form, mediated by allergy, it is also associated with side effects of medications specifically ACE inhibitors
- There are autosomal dominant inherited forms
- Rapid progression of airway edema can lead to suffocation

Angioedema

- Deeper in the skin
- Decrease itching
- Associated with urticaria 40%
- Affects lips, eyes, etc.
- Release of histamine deeper in the dermis and subcutaneous tissue

Sign and Symptoms

- Swelling of the face, lips, mucousa of the mouth, tongue, and throat (minutes to hours)
- Hands, genitalia
- Urticaria may be present in 40% of patients
- Abdominal pain, watery diarrhea (1-5 days)
- Frequency of swelling varies: average 1 per month
- Edema 12-36 hrs subsides 2-5 days

Angioneurotic Edema

- Swelling in deeper portions of the skin
- Decrease itching
- Associated with urticaria 40%
- Affects lips, eyes, etc.
- Release of histamine deeper in the dermis and subcutaneous tissue

Fig. 225. Angioneurotic edema
Angioneurotic Edema

Diagnosis
- Clinical picture
- Routine bloods
- Mast cell tryptase levels (anaphylaxis)
- Complement Levels depletion of factor 2-4
- C-1 inhibitor
- C 4 factor

Pathophysiology
- Activation of the bradykinin pathway
- ACE is an enzyme that degrades bradykinin
- HAE bradykinin is formed by a continuous activation of the complement system due to a deficiency in C1 esterase inhibitor
- Antibodies against C1 INH. (lymphoma)

Angioedema Types
- Allergic- food allergies
- Drug Induced- ACE inhibitors
- Hereditary
  - Type I, decrease levels C1INH (85%)
  - Type II, normal levels C1 INH fun(15%)
  - Type III, X linked dominant
- Acquired- antibodies against C1 INH

Therapy- Allergic Angioedema
- Avoidance of Allergen
- Desensitization
- Antihistamines (cetirizine)
- Steroid therapy

Therapy- Drug induced angioedema
- Discontinuation of ACE inhibitor
Therapy - Hereditary Angioedema

- Avoid specific stimuli which precipitated attacks
- C1 INH concentrate from donor blood
- Fresh frozen plasma
- Androgens Danazol (increase C1 INH synthesis)
- Short term prophylaxis. C1 INH, androgens
- Intubation- tracheotomy