Chronic Urticaria in Children
Natural Course & Aetiological Factors

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Chronic Urticaria means urticaria extending beyond a period of 6 weeks.
- Urticaria (from the *urtica*, "nettle" from *urere*, "to burn") commonly referred to as hives, is a kind of skin rash notable for pale red, raised, itchy bumps.
Urticaria is a common problem. 20% of the general population would have had it at one point in their lives. When the symptoms extended beyond 6 weeks, then is defined as Chronic.
CLASSIFICATION

- Ordinary urticaria - acute, chronic, episodic.
- Physical urticaria
- Angioedema
- Contact urticaria
- Urticarial vasculitis
Urticaria Causes

Drug reactions: medication, vaccine
Food, food additives, preservatives
Ingested, inhaled or contacted allergens
Transfusion reaction
Infections: Viral, bacterial fungal or parasitic
Insect bites
Collagen-vascular diseases (e.g. lupus erythematosis)
Cutaneous vasculitis, Serum sickness
Hereditary
Physical triggers (light, Heat, cold and pressure)
idiopathic
CHRONIC URTICARIA – COMMON CAUSES

- Physical: 35%
- Idiopathic / Others: 30%
- Autoimmune: 25%
- Vasculitic: 5%
- Psuedoallergic: 3%
- Infectious: 2%
Allergen

Horny Layer

Histamines

IgE

Granules

Mast Cell

Image of skin rash
Subcutaneous antigen, low dose

Mast-cell activation

Increased vascular permeability leads to localized swelling

Figure 12.24 part 1 of 2 The Immune System, 3rd ed. © Garland Science 2009
HISTAMINE AS A MAST CELL MEDIATOR

Enhanced vasodilation (erythema) + Vasopermeability

Plasma leakage → Wheals → Histamine stimulates nerve endings → Pruritus → Neuropeptide release → Skin response (flare)
PHYSICAL URTICARIA- COLD

Itchy pale or red swelling at sites of contact with cold surfaces or fluids-ten minutes application of an ice pack causes a wheal within five minutes of the removal of ice.
LABORATORY ASSESSMENT

Initial tests
- CBC with differential
- Erythrocyte sedimentation rate
- Urinalysis

Possible tests for selected patients
- Stool examination for ova and parasites
- Blood chemistry profile
- Antinuclear antibody titer (ANA)
- Hepatitis B and C
- Skin tests for IgE-mediated reactions
- RAST for specific IgE
- Complement studies: CH₅₀
- Cryoproteins
- Thyroid microsomal antibody
- Antithyroglobulin
- Thyroid stimulating hormone (TSH)
Autologous Serum Skin test in urticaria

- First described in 1986
- Injection of autologous serum collected during disease activity into clinically normal skin elicits an immediate weal and flare respond on the normal subject.
- Moderate specificity as a marker for functional autoantibodies against IgE or IgE receptor, i.e. diagnosis of autoimmune urticaria.
- Not widely used nor accepted as useful except when patient showed poor response to treatment and may consider using immunomodulatory therapies.
Chronic Urticaria: etiology and natural courses in children

Sahiner et al. Ankara. Turkey
Int Arch Immunol 2011

- Children under 18, 8 year period. 100 patients m/f 1.27
- Autologous serum skin test +ve in 46.7% 71% female (p=0.023)
- ANA titers over 1/100 in 13.8%
- 1 food allergy
- 3 thyroid autoantibodies
- 1 possible collagen disease
- 1 drug (deferoxamine)
- Recovery 16.5% 38.8% and 50% in 12, 36 & 60 months
- Girls older than 10 unfavorable prognosis
The natural history of chronic urticaria in childhood: A prospective study

Chansakulporn et al. Thailand 2014

92 children, 4-15 years 53.3% female
Chronic Autoimmune urticaria 40%
Food allergy 8.7%
Parasitic infestation 5.4%
Remission at 1, 3 & 5 years 18.5%, 54% and 67.7% respectively
No predictor of remission identified

Chronic Urticaria have favorable outcome, Chronic Autoimmune urticaria did not have intractable course
Therapy for Urticaria

- Search for triggers.
  - Treat or avoid the treatable/avoidable causes
- Antihistamines H-1-antagonists
- H-2-antagonists
- Oral Steroids: Maximum 1 mg per Kg per day
  - Short-term :- 3 day reducing
  - 5 day reducing
  - Long term : consider alternate morning steroids by imitating the steroid natural circadian rhythm.