

Systemic Manifestations of Atopic Urticaria

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Urticaria

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graph TD; Urticaria --> Acute; Urticaria --> Physical; Urticaria --> Chronic; Acute --> Anaphylaxis; Anaphylaxis --> Systemic_Manifestation[Systemic Manifestation]; Physical --> Hypotension; Physical --> Diarrhea; Chronic --> Systemic_Manifestation; Chronic --> Systemic_Disease[Systemic Disease];
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Acute

Physical

Chronic

Systemic
Manifestation

Anaphylaxis

Hypotension
Diarrhea

1) Systemic Manifestation
2) Systemic Disease

Anaphylaxis

Skin	Respiratory	Gastrointestinal	Vascular
Urticaria Angioedema	Stridor Wheeze	Vomiting Pain Diarrhea	Hypotension

A) Typically antigen-dependent, IgE dependent thru IgE receptors

B) Skin involvement as early symptom is >90%

C) Diagnostic consideration: Find the antigen

IgE-Dependent Physical Urticaria

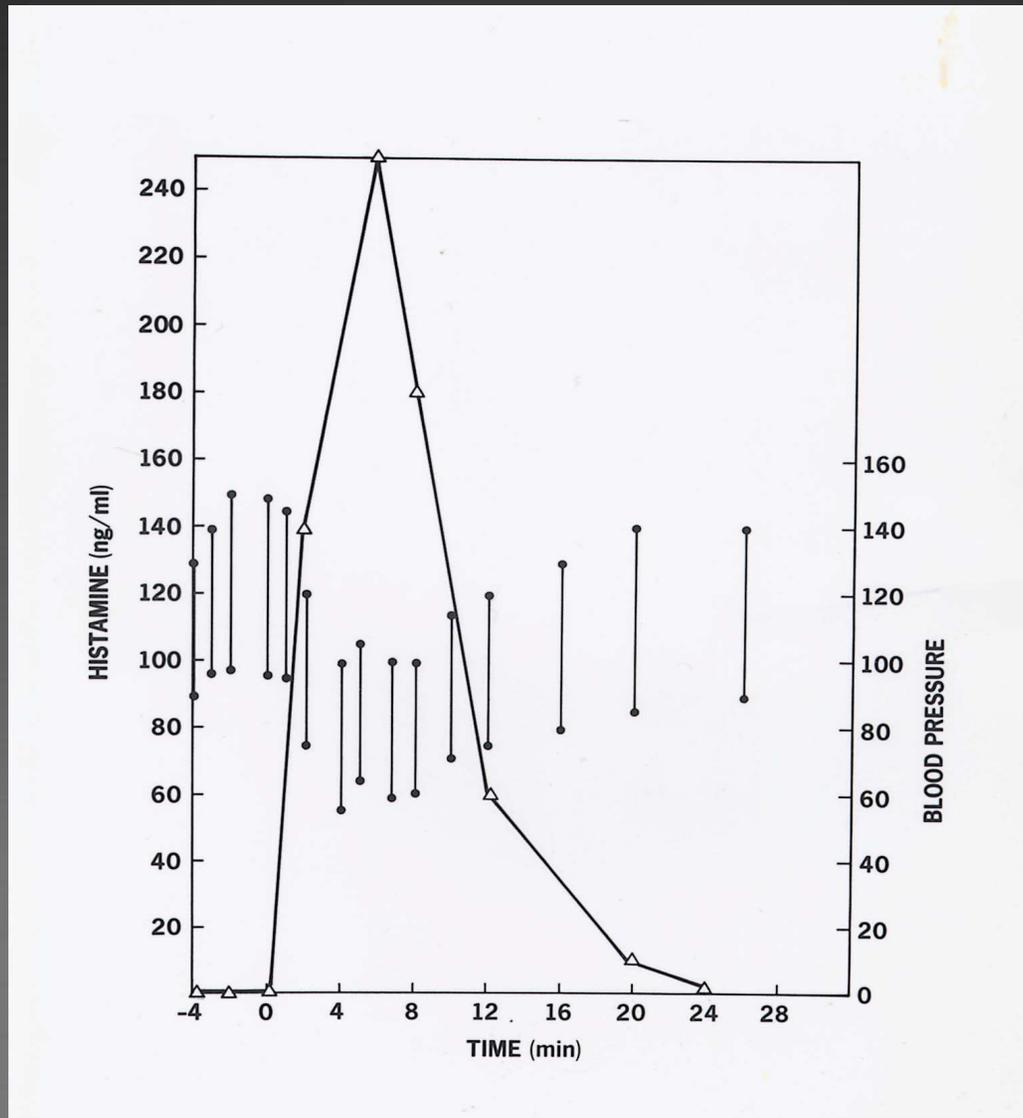
- 1) Cold Urticaria
- 2) Dermatographism
- 3) Solar Urticaria – light-inducible autoantigen
- 4) Cholinergic Urticaria

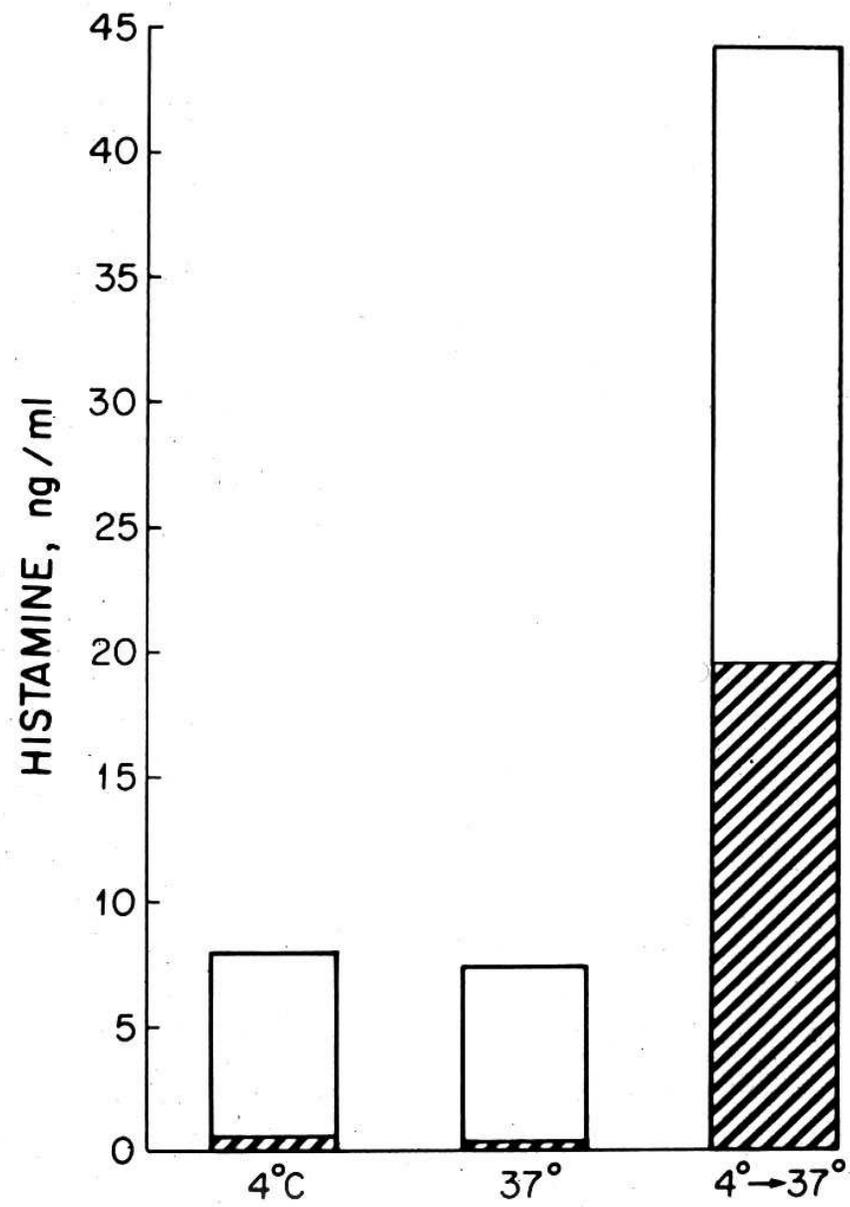
1,3,4 – Occasionally associated with hypotension

Cold urticaria



Histamine release in cold urticaria





Cholinergic (generalized heat) urticaria



Dermatographism



Diagnostic Consideration

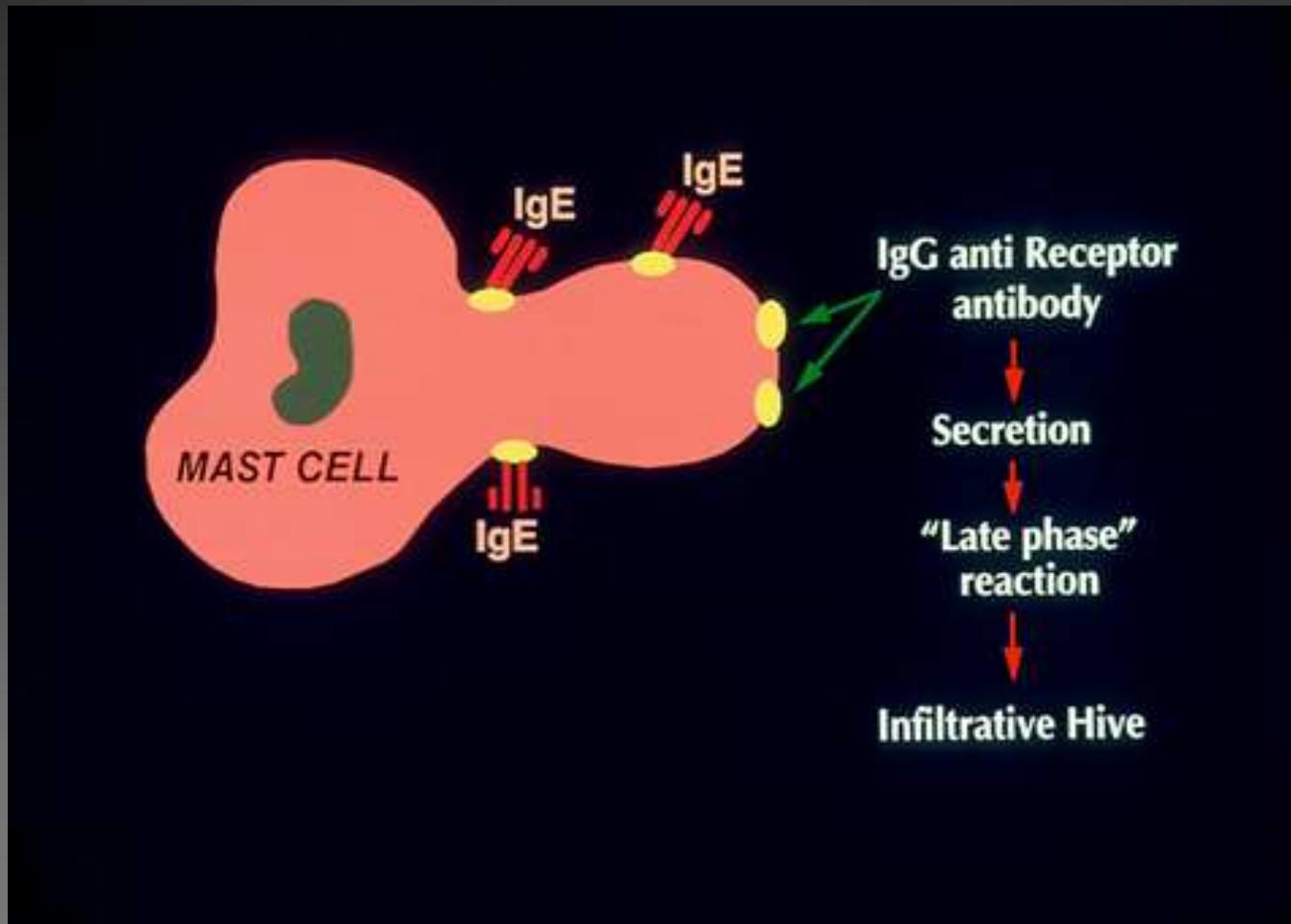
- 1) Cold Urticaria – Occasionally associated with cold agglutinins or Cryoglobulins
- 2) Physical Urticarias occur spontaneously and are not associated with systemic diseases
- 3) Solar Urticaria and photosensitive rashes in SLE are different



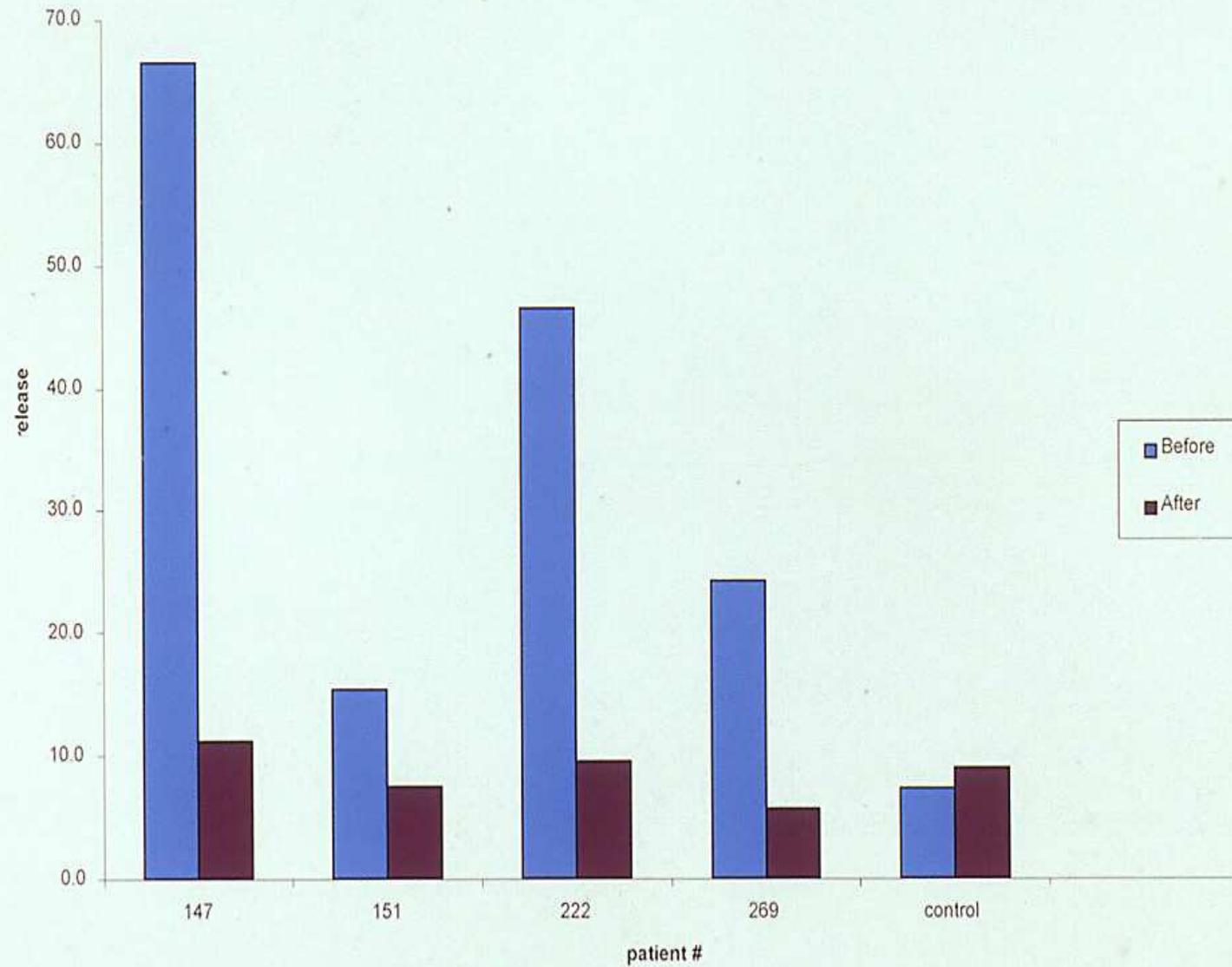
Autoimmune urticaria



Mast cell activation by bivalent cross-linking of the high affinity IgE receptor by specific IgG autoantibody

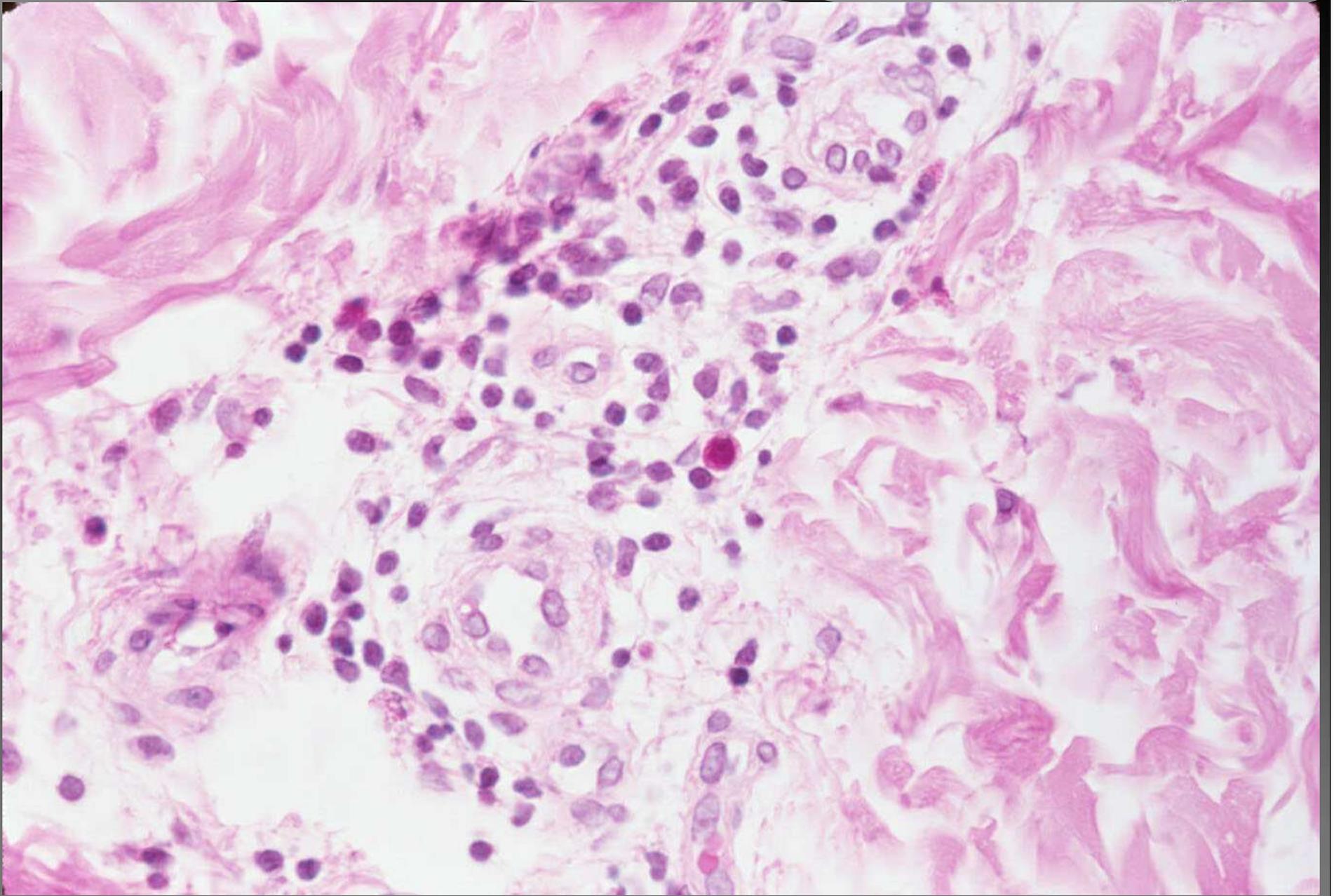


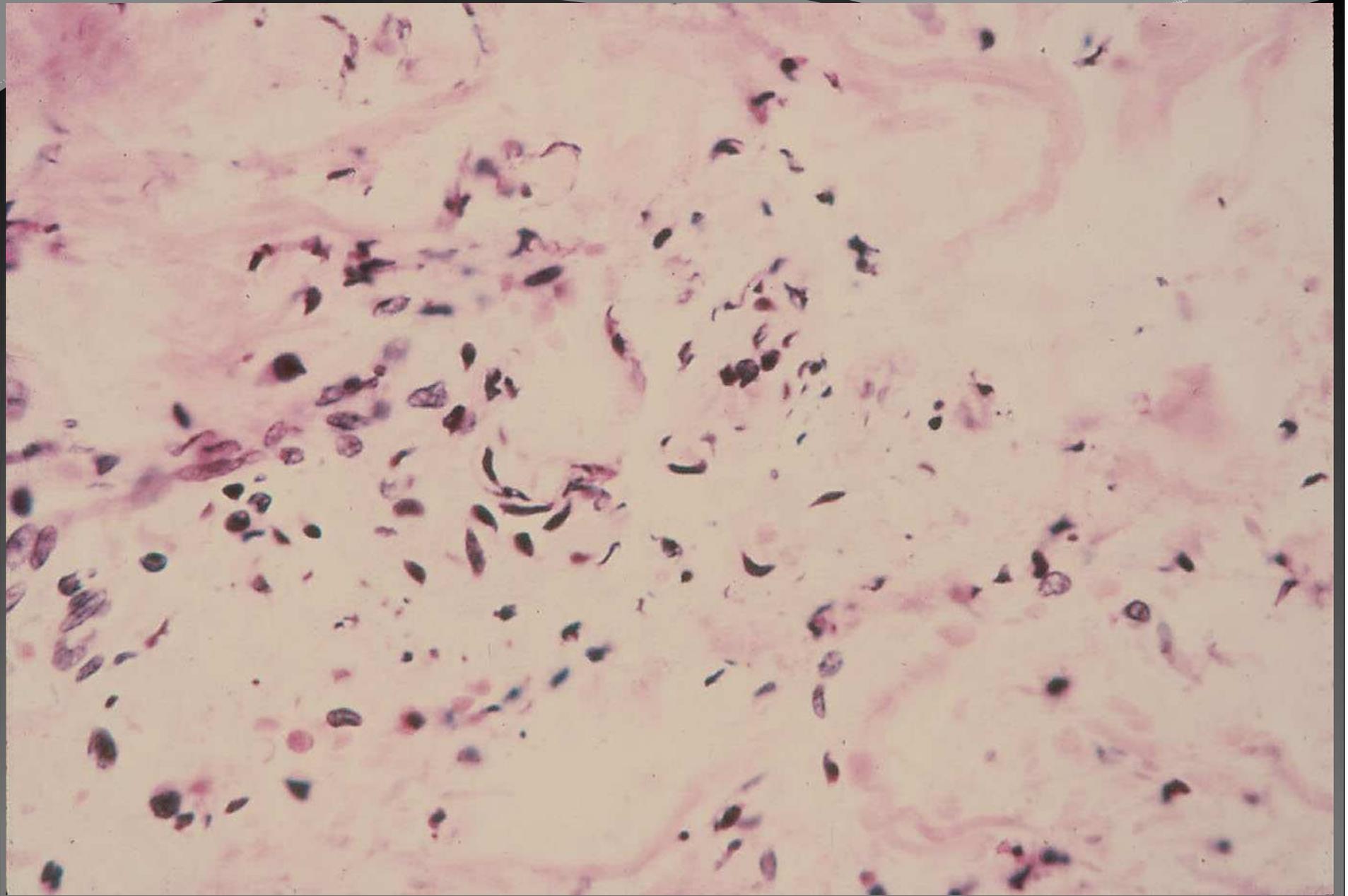
Basophil release before and after treatment with IgE Myeloma



Serologic Abnormalities

- 1) CRP is elevated compared to normal
- 2) IL6 levels are increased
- 3) Metalloproteinase 9 levels are increased
- 4) Prothrombin fragments 1 + 2 are increased
- 5) There is no fever, or thrombosis or bleeding





Search for Systemic Disease in Chronic Urticaria

- A) Systemic diseases can have urticaria as a manifestation
- B) Urticaria can be the presenting symptom of a systemic disease, but it's uncommon
- C) What to order, and when

Systemic Diseases with Urticaria or Urticarial Vasculitis

- A) Systemic Lupus Erythematosis
 - a) Autoimmune
 - b) Cutaneous vasculitis
- B) Dermatomyositis
- C) Microscopic Polyarteritis Nodosa
- D) Wegener's Granulomatosis
- E) Churg-Strass Syndrome
- F) Rheumatoid Vasculitis
- G) Cryoglobulinemia

Cases

- A) A 30 yr old male presents with urticaria on a daily basis for 3 months. There is no fever, arthralgia, or myalgia. He is somewhat tired but indicates that he is not sleeping well because of pruritus. There is no other significant history and physical exam is normal except for generalized urticaria
- B) A 30 yr old female presents with chronic urticaria for 10 weeks accompanied by angioedema affecting the lips and eyes. When symptoms are prominent she complains of fatigue and joint pain. A prior evaluation by a family physician reveals a sedimentation rate of 16 and a positive ANA at 1:80 titer

Rationale for Doing the Minimum

- 1) With the exception of idiopathic urticarial vasculitis, the incidence of chronic urticaria being the presenting symptom of a rheumatic disease is less than 1%.
- 2) Patients with chronic urticaria frequently have a (+) ANA (low titer ~15-20%) and elevated CRP as part of the disorder.
- 3) Although arthralgia, if prominent, frequently leads to extensive testing for rheumatic diseases, it can be part of the syndrome of chronic urticaria as long as there is no true arthritis.

Rationale for Doing the Minimum

- 4) Drawing ANA's routinely means that a significant number of patients who have a titer that is less than 1:320 will have tests for anti ds DNA, anti SLA, s (Ro), anti SSB (La), anti Sm, anti RNP, anti SCL-70 and rheumatoid factor and typically none are positive.

Rationale for Doing the Minimum

- 5) If you miss a connective tissue disease that has presented with chronic urticaria, it will become obvious, and if you knew about it earlier, there is nothing you could have done.
- 6) Patient A- order CBC, CRP, thyroid function tests and antithyroid antibodies, and antibody to IgE receptor.
- 7) Patient B- Tests for systemic disorders other than SLE are unwarranted. An ANA and anti ds DNA are reasonable, but will likely be negative.

Rationale for Doing the Minimum

A skin biopsy is indicated if the patient has fever, palpable purpura, true arthritis, hives lasting >24 hrs, hives that leave a bruise when they fade. Then serologies for rheumatic diseases are also indicated.