

Urticaria

Urticaria aka hives is a **Type I Hypersensitivity Reaction**. Caused by exposure to an antigen, it crosslinks **IgE** on **mast** cells causing **Histamine** to be released. This causes leaky capillaries, producing an **annular, blanching red papule** of varying size. That antigen can be anything: bee stings, pressure, heat, food, contact dermatitis. If there's **no anaphylaxis** a clinical diagnosis may be made; use **anti-histamines** to decrease the rash. Since any antigen can cause urticaria it's critical to identify the agent and avoid using it again. Send them to **RAST** to identify the culprit antigen.

Drug Reaction

These are commonly a **pink, morbilliform** rash (though any rash may be the case) occurring **7-14 days after exposure** (so new drugs are not culprits) in **hospitalized patients**. They're generally **widespread, symmetric**, and **pruritic**. Always stop the offending agent. Give diphenhydramine for mild symptoms, corticosteroids for severe symptoms.

A **fixed drug eruption** is any rash or blister that occurs in the same one spot in reaction to one drug every time it's administered. It occurs within 24 hours of exposure. Avoid the drug. It's never life-threatening.

Erythema-Multiforme

This is primarily a **cutaneous** drug reaction to **medication** (Sulfa, Anticonvulsants, NSAIDs, and PCN) that appears as a **target shaped** lesion that can occur on the **palms and soles**. It's benign and **self-limited**. Remove the drug and watch. Two other possibilities to consider: 1 – It can be caused by **chronic HSV** and refractory cases need **acyclovir** and 2 – if it's spreading or involving the oral mucosa get ready for **Steven-Johnson Syndrome**. Syphilis may also present with Targetoid lesions on the palms and soles and might be present as a distractor on the tests.

Anaphylaxis = shortness of breath and hypotension with exposure to allergen. Give epinephrine. Follow with systemic steroids, H1 blocker and H2 blocker.

Steven-Johnson Syndrome + Toxic Epidermal Necrolysis

Both diseases are the same disease that exist as a continuum in severity commonly occurring from **drug reactions** (sulfa, anticonvulsants, NSAIDs, PCN). Each causes **widespread loss of sheets of skin** with a **⊕ Nikolsky Sign**. Two things differentiate the diseases: Body Surface Area + Biopsy. **SJS** involves **<10% BSA** and has **basal cell degeneration** on biopsy. **TEN** involves **>30% BSA** and shows **full-thickness epidermal necrosis**. **Removal ALL meds** (including steroids) and admit to the **burn unit** (heat, electrolytes, fluid, infection risk). The biopsy is critical to differentiate between the **SJS / TEN** (which responds to removal of antibiotics) and **Staphylococcus Scalded Skin Syndrome** (which responds to the administration of antibiotics), as well as separating severity of SJS versus TEN. **SSSS doesn't have mucosal involvement**.

| <i>Dz</i> | <i>Pt</i> | <i>Tx</i> | <i>Bx</i> |
|----------------------------|---|---|------------------------------------|
| Urticaria | IgE-Mast Cell mediated release of histamine after exposure to any antigen, blanching red papule | Diphenhydramine, Epinephrine if Anaphylaxis | N/A |
| Drug Reaction | Widespread Symmetric pruritic rash OR Any One rash at One spot in reaction to One Drug | Stop the drug, monitor | N/A |
| Erythema Multiforme | Targetoid lesion on palms and soles caused either by HSV or will progress to Steven Johnson | Acyclovir and/or Remove Drug | N/A |
| Steven Johnson | <10% BSA affected ⊕ Nikolsky's, ⊕ Oral Mucosal Involvement | Admit to the burn unit, fluids, electrolytes, supportive care. | Basal Cell Degeneration |
| Toxic Epidermal Necrolysis | >30% BSA affected ⊕ Nikolsky, ⊕ Oral Mucosal Involvement | Steroids AREN'T helpful and may exacerbate the condition | Total epidermal thickness necrosis |