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ACUTE URTICARIA: A CASE STUDY ON DIAGNOSIS AND MULTIDISCIPLINARY MANAGEMENT

G.Venkata Nagaraju, Patan Suhana Parveen
Department of Pharmacy Practice, Hindu College of Pharmacy, Amravati Road, Guntur.

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***Corresponding author**
Dr. G. Venkata Nagaraju

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Abstract:
Urticaria is a dermatological condition characterized by transient, pruritic, erythematous wheals due to histamine release from mast cells. A 37-year-old female was admitted with red lesions and facial swelling persisting for 30 days. Three days prior to admission, she developed multiple red lesions with itching and a burning sensation. She had no history of allergies, diabetes, hypertension, or stroke. Examination revealed erythematous wheals with itching and burning. Laboratory findings showed mild anemia (Hb: 10 g/dl), leukocytosis (WBC: 12,000), and eosinophilia (5%). The patient was treated with intravenous pheniramine, oral chlorpheniramine maleate, Calamine lotion, and ranitidine. Treatment provided symptomatic relief and aimed at recurrence prevention. Preventive measures included allergen avoidance, stress management, skincare, and dietary modifications. Clinical pharmacists played a crucial role in medication adherence and lifestyle guidance. Regular dermatological follow-ups were advised. This case highlights a multidisciplinary approach to urticaria management.

Keywords: Urticaria, erythematous wheals, itching, antihistamines, dermatology, lifestyle modifications, patient education.

Introduction

Acute urticaria is a medical condition characterized by the wheals (hives) or angioedema (swelling in 10%) or both (in 40 %). the name urticaria is derived from the common European stinging nettle 'Urtica dioica [1, 2]'.

Types:

There are several types of urticaria:

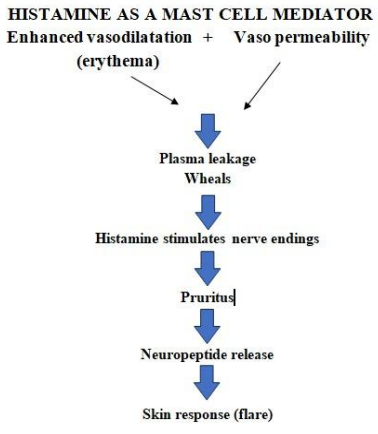
1. A wheal is a superficial skin

A colored or pale skin centrally swelling, surrounded by erythema. Itching or burning sensations. The wheal last or disappear within 1-24 hours [3].


2. Angioedema

Is a deeper swelling within the skin or mucus membranes and can be skin colored or red. It resolves within 72 hours. Angioedema may be itchy or painful but is often asymptomatic [4].


Pathophysioloy [5-7]



Symptoms [1, 3, 8]

Itchy, raised, red welts (wheals) that may appear anywhere on the bodyWheals are typically round and erythematous. Flushing, angioedema and anaphylaxis.

Causes [4, 9]

Common triggers include

- Infections – viral, bacterial, parasitic.
- Allergic reactions – foods, medications, insect bites.
- Autoimmune disorders.
- Physical stimuli – cold, heat, pressure.
- Idiopathic – unknown cause.

Diagnostic Criteria [6, 10, 11]

Clinical Criteria

Presence of wheals: Transient, itchy, and raised lesions with a clear boundary, typically round or oval in shape.
Duration: Symptoms lasting less than 6 weeks.
Intensity: Wheals can appear anywhere on the body and may vary in size, shape and number.

Major Diagnostic Criteria

Typical appearance of wheals: Raised, erythematous lesions with a clear boundary.
Itching or burning sensation: Accompanying the wheals.
Transient nature: Wheals typically resolve within 24 hours.

Minor Diagnostic Criteria

Angioedema: Swelling of the deeper dermal and subcutaneous tissues.
Systemic symptoms: Fever, headache, or arthralgia.
Family history: History of urticaria or atopy.

Diagnostic Algorithem

History and physical examination: Assess for the presence of wheals, itching, and other symptoms.
Differential diagnosis: Rule out other conditions that may **mimic urticaria, such as**: Erythema multiforme, Stevens- Johnson syndrome, Contact dermatitis, Insect bites.
Laboratory test: - complete blood count
Erythrocyte sedimentation rate
C reactive protein
Autoantibody tests
Skin prick testing or blood test for allergies.
Classification: classify the urticaria as acute (<6 weeks) or chronic (> 6weeks).

Management [1,2,4,6,8,12,13]

First Line Treatment

1. **Antihistamines:** Diphenhydramine (Benadryl), Loratadine (Claritin) or Cetirizine (Zyrtec). To relieve itching, reduce the size of wheals, and prevent new lesions.
2. **Topical Corticosteroids:** Hydrocortisone cream or ointment to reduce inflammation and itching.

Second Line Treatment

Oral corticosteroids: Prednisolone or methylprednisolone for short term use (3-5 days) to reduce inflammation and swelling.
Leukotriene receptor antagonists: Monterlulcast to reduce inflammation and itching.
Immunosuppressants: Cyclosporine or tacrolimus for severe cases resistant to other treatments.

Emergency Treatment

Epinephrine: Administer epinephrine via an Epi Pen or other auto injector for anaphylaxis or severe angioedema.
Intravenous corticosteroids: Administer intravenous corticosteroids, such as methylprednisolone, for sever cases.

Case Study

A 37-year-old female patient was admitted to the Department of Dermatology with chief complaints of red-colored lesions on her body and facial swelling for the past 30 days. She had been apparently normal until 3 days prior, when she developed multiple red lesions accompanied by itching and a burning sensation. The patient denied any history of food allergies, drug allergies, diabetes, hypertension, or stroke. On physical examination, erythematous wheals were noted on her body, along with itching and a burning sensation. Laboratory results showed a hemoglobin level of 10 g/dl, platelets at 189,000, WBC count of 12,000, with differential counts of 5% eosinophils, 20% lymphocytes, 75% neutrophils, and a random blood sugar level of 98 mg/dl. The prescribed treatment included 2 cc of IV Avil twice daily, 4 mg of oral CPM once daily, Calamine lotion for external application twice daily, and 150 mg of oral Ranitidine once daily.

Discussion

The 37-year-old female patient presented with erythematous wheals, itching, and a burning sensation, which are characteristic features of urticaria. Urticaria is a common dermatological condition that manifests as transient, pruritic, erythematous wheals due to histamine release from mast cells [14]. The acute onset of symptoms suggests an allergic or hypersensitivity reaction, though no specific trigger was identified in the patient's history.
Physical examination confirmed the presence of erythematous wheals, consistent with the clinical diagnosis of urticaria. The absence of systemic symptoms such as angioedema or anaphylaxis suggested that the condition was localized and non-life-threatening [14]. The patient's laboratory findings revealed mild anemia (hemoglobin: 10 g/dl) and leukocytosis (WBC count: 12,000) with eosinophilia (5%), which can be associated with allergic reactions or parasitic infections [15].
The prescribed treatment aimed to alleviate symptoms and prevent further exacerbations. Intravenous Avil (pheniramine) was administered to provide rapid relief from itching and wheals due to its antihistaminic properties [16]. Oral chlorpheniramine maleate (CPM) was prescribed for continued antihistamine coverage, reducing histamine-mediated symptoms [17]. Calamine

lotion was used for symptomatic relief by providing a soothing effect on the affected skin and reducing irritation [18]. Ranitidine, an H2 receptor antagonist, was included to mitigate histamine-induced effects in the gastrointestinal system and provide additional relief from urticaria symptoms [19, 20].

Overall, the patient's presentation and management aligned with standard urticaria treatment protocols. Avoidance of potential allergens, stress management, and adherence to prescribed medications were crucial for symptom resolution. Further evaluation may be required if symptoms persist or worsen to rule out chronic urticaria or an underlying systemic cause.

Conclusion

The patient responded well to treatment, with symptomatic relief from itching and erythematous wheals. As a preventive measure, lifestyle modifications such as avoiding known allergens, wearing loose-fitting clothing, and maintaining proper skincare are essential. Stress management techniques, including meditation and adequate sleep, can help reduce flare-ups. A balanced diet rich in antioxidants and omega-3 fatty acids may aid in immune regulation. Regular follow-ups with a dermatologist and adherence to prescribed medications will ensure long-term symptom control. Clinical pharmacists play a crucial role in patient education, ensuring medication adherence, and recommending suitable lifestyle modifications for improved disease management.

Conflict of Interest

The Authors of the paper declare to have no conflict of interest.

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Ethical Approval and Inform Consent

Authors took prior consent from patient before taking this case and also taken ethical permission from head of the department and superintendent of Government General Hospital Guntur.

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Author Contribution

Both authors are contributed equally.

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