

Original Research Article


# An etiopathological study of urticaria in a tertiary care center in Northern India

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## Abstract

Urticaria is a common condition faced by both dermatologists and allergists alike. There are various causes of urticaria many of times multiple factors are responsible and on the other side at times no specific cause is found which is responsible for chronic Idiopathic urticaria. Very few studies have been done in this regard, so this study was carried out to find out the etiopathological factors responsible for urticaria.

## Key words

Urticaria, Etiopathology, Idiopathic.

## Introduction

Urticaria was first documented by the Chinese in the 10<sup>th</sup> century BC and it was named as 'feng Yin Zheng' [1]. William Cullen was probably the first to use the term "urticaria" in 1769 [2]. Urticaria commonly known as hives is a cutaneous syndrome characterized by upper dermal edema (wheal) and erythema (flare) that blanches on pressure. Acute urticaria is usually pruritic. It completely resolves within 6 weeks but mostly lasts less than 2 days. Acute urticaria is more common in children than in adults [3]. Urticaria usually becomes evident a few minutes

after exposure to the trigger. The common factors are mentioned as below [4].

- **Drugs:** Salicylates, Penicillin, Ace inhibitors, NSAIDS, Allopurinol and many others.
- **Food additives:** Azo dyes, Benzoates, sulfites, yeast.
- **Foods:** Fish, nuts, eggs, strawberries, milk, cheese, wine etc.
- **Infections:** Hepatitis B, Infectious mononucleosis, candidiasis, focal sepsis.
- **Inhalants:** Grass Pollen, Moulds, House Dust, Mites etc.

- **Infestations:** Ascariasis, Entrobiasis, Filariasis.
- **Immune complex and complement mediated:** IgE mediated and direct histamine release and uncertain mechanism.

Chronic Urticaria (6 weeks or more of continuous activity) Urticaria becomes chronic if the trigger persists for more than 6 weeks or more. When there is no etiological factor found it is labeled as chronic idiopathic urticaria [5].

Causative factors are described as below [4].

- **Urticaria caused by physical stimuli**
  - Mechanical stimuli - dermographism
  - Pressure urticaria
  - Vibratory angioedemas
- **Temperature related stimuli**
  - Heat (cholinergic urticaria)
  - Stress (Adrenergic urticaria)
  - Cold urticaria
- **Exercise induced urticaria**
- **Solar urticaria**
- **Aquagenic urticaria**
- **Urticaria due to underlying medical disease :-**
  - Urticaria pigmentosa
  - Cutaneous vasculitis
  - Serum sickness
  - Malignancy
  - Infections
  - Acquired CI- deficiency
- **Urticaria due to hereditary causes:**
  - Angioneurotic edema
  - Vibratory angioedema
  - Familial cold urticaria
  - C3 b complement deficiency
- **Autoimmune urticaria:** An autoimmune etiology is seen in 35-45% of patients with idiopathic urticaria.

### **Aim and Objectives**

- To study the various causes of urticaria in a tertiary care center.

### **Material and methods**

The present study was carried out to investigate the incidence of various causes of urticaria. One hundred patients of urticaria were studied in the out-patient department of Dermatology without any sexual predilection. The personal bio-data of each patient was documented including name, age, sex, occupation and duration of skin disease. Performa was filled and written informed consent was taken from all patients. Consent of attendants was taken in case of minor patient. Routine investigations including complete hemogram with absolute eosinophil counts, urine and stool complete examination were done in all cases. Special investigation done wherever required. The diagnosis was based on history of presentation, physical examination and supportive investigation carried out wherever necessary. Descriptive statistics were carried out.

### **Results**

Demographic profile of the patient showed 100% patients were from the rural background since our college is located in the rural area. 65% patients were in the age group of 20-30 years. It showed that the problem was more common in 20-30 years of age group followed by 10-20years (20%). 10% of patients were in the age group <10year. 5% patients were more than 30year of age group. (**Table – 1**) Majority (40%) of patients had primary education, 26% were secondary education, 16% patients were illiterate, 12% patients were graduate and only 6% were post graduate (**Table – 2**) It appeared that less educated patients had less practice of hygiene, hence developed the illness and vice versa.

Patients presented with different variants of urticaria i.e. acute urticaria (15%), acute on chronic urticaria (35%), chronic idiopathic urticaria (20%), Physical urticaria (10%), cold urticaria (12%), and cholinergic urticaria (8%). (**Table – 3**) These were the findings on history and examination. Laboratory investigations of 100 patients with urticaria found that 58% had urticaria due to worm infestation; 5% due to

bacterial infection (pus cells in urine); 3% insect bites; 5% drug induced; 4% patients had associated diabetes mellitus; 15% associated with parthenium allergy; 2% were associated with thyrotoxicosis and 8% were associated with allergic to various food articles. (**Table - 4, Figure - 1**)

**Table - 1:** Age group distribution.

Age group (years)	No. of patients
Less than 10	10
10-20	20
20-30	65
More than 30	05

**Table - 2:** Education status of patients.

Education status	No. of patients
Primary education	40
Secondary education	26
Graduate	12
Post-graduate	6
Illiterate	16

**Table - 3:** Pattern of variants of urticaria.

Variants of urticaria	%
Acute on chronic	35
Chronic idiopathic	20
Acute	15
Cold	12
Physical	10
Cholinergic	08

**Table - 4:** Associated etiological factors.

Associated factors	%
Worm infestation	58
Parthenium allergy	15
Allergic to food particle	8
Bacterial infection	5
Drug induced	5
Diabetes mellitus	4
Insect bite	3
Thyrotoxicosis	2

## Discussion

As this is the hospital based study, data obtained cannot be considered to be representative of the prevalence of the disease in general population. Very few studies are reported in the literature. An Indian study of 100 patients with urticaria found that 10% had urticaria due to bacterial infection; 69% due to worm infection; 6% drug induced; 3% insect bites 2% cold urticaria; 4% cholinergic urticaria; and 3% dermographism. Inhalants and food were responsible in 35% and 25% cases respectively. Among inhalants 26% cases were due to pollen; 9% due to fungi; 10% due to house dust and buffalo dung. In 6% cases no cause could be defined [6].

Another Indian study of 500 patients showed 37% of patient were suffering from physical urticaria, including 16.4% due to symptomatic dermographism, 10.8 % cholinergic urticaria , 8.4% cold urticaria , 0.7 solar urticaria and 0.5% both pressure and cold urticaria [7].

Our study has revealed that the most common cause is worm infestation and which is preventable. Appropriate health education is vital in combating the disease and reducing the associated morbidity and improving the health status of the population.

## Conclusion

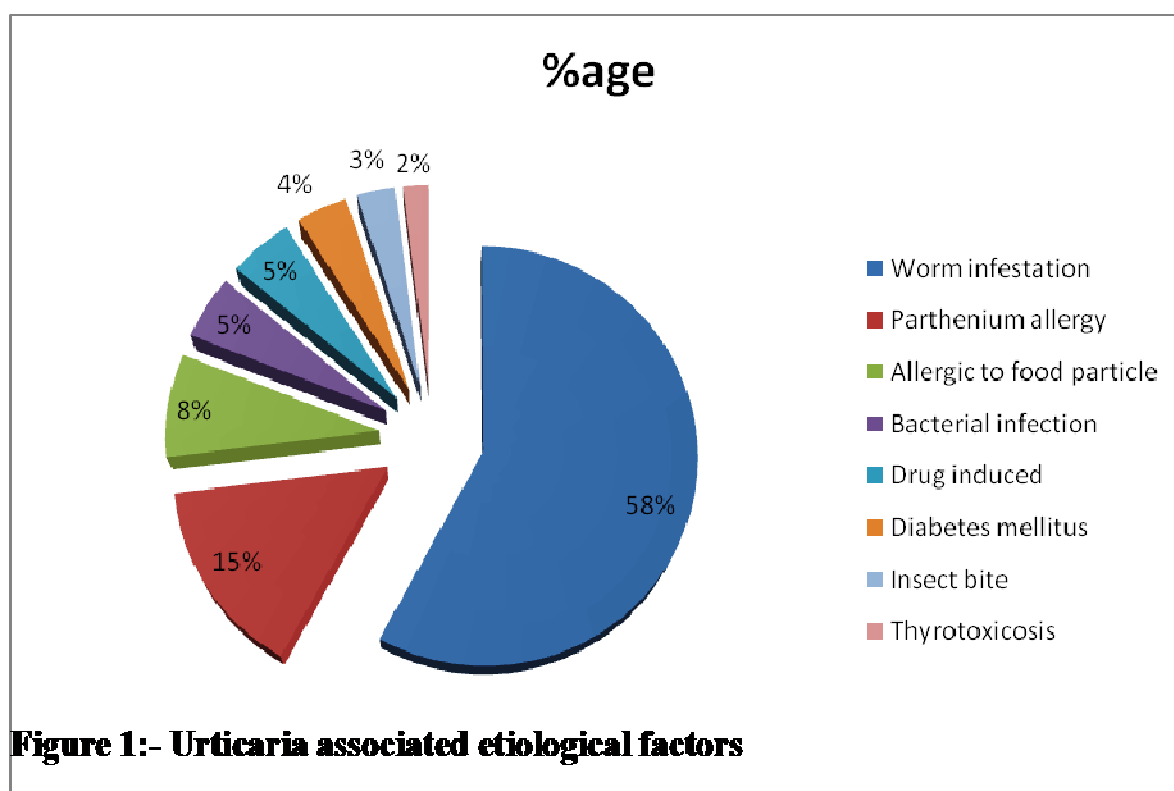
A complete history, thorough examination and laboratory investigations are important in a case of urticaria to find out the exact cause of the disease. This is also helpful in the cure of ailments.

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**Figure - 1:** Urticaria associated etiological factors.



**Figure 1:- Urticaria associated etiological factors**