



## PARASITIC INFECTIONS, AND THEIR ASSOCIATION WITH CHRONIC URTICARIA

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**ABSTRACT** **Introduction:** Parasites have been proposed to be an underlying cause of chronic spontaneous urticaria, but a clear causal relationship between them has not been established. **Aims And Objectives:** This study was aimed to find out the prevalence of intestinal parasitic infections in patients with underlying chronic urticaria and correlate it with associated gastrointestinal symptoms, presence of urticaria, gender, age group and area (rural or urban). **Material And Methods:** The stool samples of suspected patients were sent to parasitology section from dermatology OPD from August 2018-august 2019 and subjected to routine stool investigations. Macroscopic examination was carried out for the presence of adult worms or their body segments and stool samples were processed using saline and iodine mounts and examined microscopically for ova, cysts and eggs of parasites. **Results:** Total of 3850 patients were referred from dermatology opd with underlying urticaria. Out of them, 68 (17.7%) had parasitic infection. Maximum numbers of patients were in the age group of 0-10yrs 28(41.2%). Total 84 parasites were isolated from 68 positive patients. Parasite most commonly isolated was Giardia lamblia 29(34.5%), followed by Entamoeba histolytica 22(26.2%), Ascaris lumbricoides 20(23.8%), Hymenolepis nana 6(7.1%), followed by Taenia species 4(4.7%) and Enterobius vermicularis was the least common isolate 2(2.4%). Mixed infection with a combination of Entamoeba histolytica and Giardia lamblia were most commonly isolated (9 out of 16 mixed infections). Only 60% positive patient had a history of urticaria and 39% patients have underlying gastrointestinal symptoms. 58.8% were male patients and 59% were from urban area. **Conclusion:** Intestinal parasites can be attributed as one of the underlying cause of skin problems like chronic urticaria. Therefore routine stool examination should be done in suspected cases.

**KEYWORDS :** Parasites, Urticaria, Skin**INTRODUCTION**

Intestinal parasites have been proposed to be an underlying factor of Chronic Spontaneous Urticaria(CSU), but a causal relationship between them has not been described in the literature. Chronic spontaneous urticaria (CSU), which is defined as the spontaneous and transient appearance of urticaria, angioedema, or both for more than 6 weeks, is a rare but often distressing allergic skin disorder in childhood<sup>1</sup>. Although information on the prevalence of parasitic infections in CSU is available, data on the effect of its eradication in the natural course of urticaria are limited. Intestinal parasitic infections is a serious public health problem in the world, especially in developing countries, and accounts for a major cause of morbidity and mortality among different high-risk groups. The frequency and incidence of intestinal parasites also varies with age, sex and geography. WHO (2004) report suggests that approximately 150.9 million people in the world has high intensity intestinal nematodes infection, which is predominant in south East Asia with 37.3 million cases<sup>2</sup>. The prevalence of intestinal parasites in India varies from 5.56% to 90% as reported by different institutes.

This study was undertaken to know the prevalence of intestinal parasitic infections in patients attending dermatology clinic in a tertiary care centre in Haryana and the influence of age and sex on prevalence of infections among the patients complaining with underlying urticaria.

**MATERIAL AND METHODS**

The stool samples of suspected patients were sent to parasitology section from dermatology OPD from August 2018-august 2019 and subjected to routine stool investigations. Macroscopic examination was carried out for the presence of adult worms or their body segments and stool samples were processed using saline and iodine mounts and examined microscopically for ova, cysts and eggs of parasites.

**RESULTS**

Total of 3850 patients were referred from dermatology opd with underlying urticaria. Out of them, 68 (17.7%) had parasitic infection. Maximum numbers of patients were in the age group of 0-10yrs 28(41.2%). Total 84 parasites were isolated from 68 positive patients. Parasite most commonly isolated was Giardia lamblia 29(34.5%), followed by Entamoeba histolytica 22(26.2%), Ascaris lumbricoides 20(23.8%), Hymenolepis nana 6(7.1%), followed by Taenia species 4(4.7%) and Enterobius vermicularis was the least common isolate 2(2.4%). Mixed infection with a combination of Entamoeba histolytica and Giardia lamblia were most commonly isolated (9 out of

16 mixed infections). Only 60% positive patient had a history of urticaria and 39% patients have underlying gastrointestinal symptoms. 58.8% were male patients and 59% were from urban area.

**DISCUSSION**

The relationship between parasitic infections and CSU remains unclear. To date foods, infections, thyroid diseases, and autoimmunity have been shown to be etiologic factors<sup>3</sup>. The relationship between parasitic infections and CSU remains unclear<sup>4</sup>. One study showed that the prevalence of intestinal parasites in patients with allergic skin disorders including chronic urticaria was significantly higher than in healthy controls<sup>5</sup>.

Gastrointestinal symptoms, including nausea, vomiting, and abdominal pain, were frequent in the parasite related group, but some of the patients with CSU did not have any gastrointestinal symptoms. The frequency and incidence of Intestinal parasites also varies with age, sex and geography<sup>6</sup>.

Data on the etiology of CSU in the pediatric age group are limited. Its estimated prevalence in children is 0.1–3%. The underlying etiology of parasitic infection has been described.

The prevalence rate is differing in developing and developed areas, in developing countries the rate of prevalence is 20 to 30% and in developed countries 2 to 5% (Pereira et al., 2007).

In a recent systematic review, the prevalence of parasitic infection in children with CSU and the efficacy of antiparasitic medication in CSU symptoms were found to have a wide range of 0–37.8 and 0–100%, respectively.

In our study the prevalence was higher in males than females other study was done by Shenoy et al., 1998; Surinder Kumar and Varsha, 2106 Singh also reported the higher incidence of these parasites in males. Possible reason may be that the males have more outside activities like offices shopkeeper and hoteling as matched to females with the result they are exposed to unhygienic environmental conditions as studied by (Sayyari et al., 2005).

Rajeswori et al 1994 reported prevalence of G.lamblia(14.7%) in southern India.

Our results suggest that urticaria may be the only symptom of intestinal

parasites in many symptomatic cases . Recent guidelines recommend inquiring about gastric or intestinal complaints in patients with CSU<sup>1</sup> as supported by our data.

### CONCLUSION

Parasites may cause CSU, and remission may only be possible with the treatment of parasitic infection. The presence of gastrointestinal symptoms like diarrhea may point to parasitic infection in patients with CSU. Therefore, we suggest that parasites should be investigated routinely as a causative factor of CSU not only in tropical countries, but also in non tropical countries, especially if the patient has gastrointestinal symptoms.

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