

Clinical Communications

Management of chronic idiopathic urticaria in childhood: Are we on the same page?

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Clinical Implications

- Management of pediatric chronic idiopathic urticaria (CIU) varies with individual physicians.
- Knowledge of the preferred physician practices in the diagnosis and treatment of CIU will help sample the implementation of practice guidelines and recognize areas of controversies to facilitate future discussions and needs assessment.

TO THE EDITOR:

Urticaria is characterized by pruritic, erythematous, blanching, raised evanescent lesions that involve the superficial dermis.¹ When such lesions are present with no obvious cause for more than 6 weeks in duration, it is referred to as chronic idiopathic urticaria (CIU).¹ The diagnostic approaches and management of pediatric (age 0-18 years) CIU varies with individual physicians. No consensus protocol is available for the management of this chronic disorder. The practice parameters for chronic urticaria by the Joint Task Force dated 2000 gives guidelines but has not been revised in the past 12 years and does not include the recent modalities of diagnosis and management.¹

Diagnostic approaches can vary² from detailed clinical history, physical examination to tests, including skin prick tests, autologous serum skin tests,³ incremental food challenges, in vitro tests for detection of Fc epsilon receptor I antibodies with the use of peripheral blood histamine release or CD203c upregulation³⁻⁵ and skin biopsy. The clinical management of this condition is also varied. The treatment varies from antihistamines to alternative medications such as tacrolimus, cyclosporin, colchicine, and others.^{1,6-8} We hence embarked on this survey to identify the preferred practices by allergists in the management of CIU in children. The objective of this study was to identify the common diagnostic test and treatment regimen used by allergists.

A questionnaire that contained 14 items was sent electronically to the Listserv of 3200 members and fellows of the American Academy of Allergy, Asthma & Immunology (AAAAI) between August 24 and September 1, 2009. The AAAAI Listserv consists of all the physician members and fellows of the AAAAI and is maintained by the AAAAI by annual subscription. The questionnaire comprised 14 questions that explored the preferred *in vivo* or *in vitro* test for CIU, choice of drugs, and other modalities considered for treatment. The physician demographic data included practice setting, academic or private, years in practice, and the type of residency training (pediatric or internal medicine). The responses were collected anonymously. The study was approved both by the AAAAI Needs Assessment Committee and our institutional review board. The survey was open only for a week for participation. Positive responses such as always and sometimes were clubbed together in the Likert-based questions. A small number of respondents did not answer all

questions, so data were not always available for the full 463 respondents for every question.

Totally, 463 of 3200 members (14.5%) replied. The majority (381/460; 82.8%) were private practitioners, and 79 of 460 (17.2%) were from academic institutes. Many responders (287/461; 62.3%) were in practice for >10 years. The majority of responders (265/457; 58%) were primarily pediatric trained, whereas 192 of 457 (42%) were trained in internal medicine. Interestingly, 324 of 463 responders (70%) saw one to five pediatric patients with CIU per month. The commonly considered tests (Figure 1) included complete blood count (442/458; 96.5%); *Helicobacter pylori*

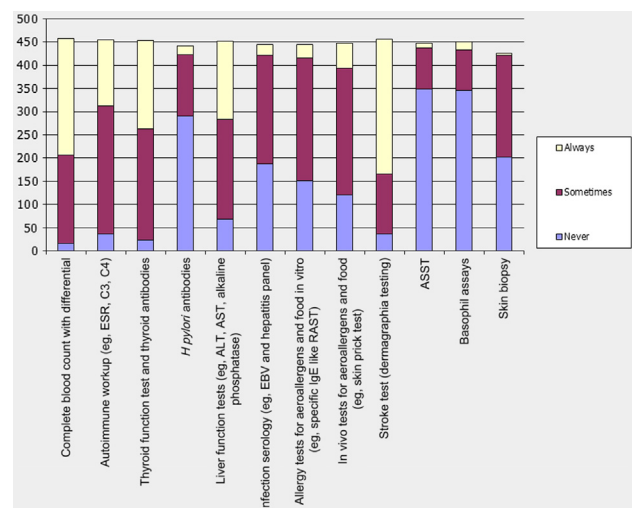


FIGURE 1. Frequency of laboratory tests ordered for childhood chronic idiopathic urticaria. ALT, Alanine aminotransferase; ASST, autologous serum skin test; AST, aspartate aminotransferase; EBV, Epstein-Barr virus; ESR, erythrocyte sedimentation rate.

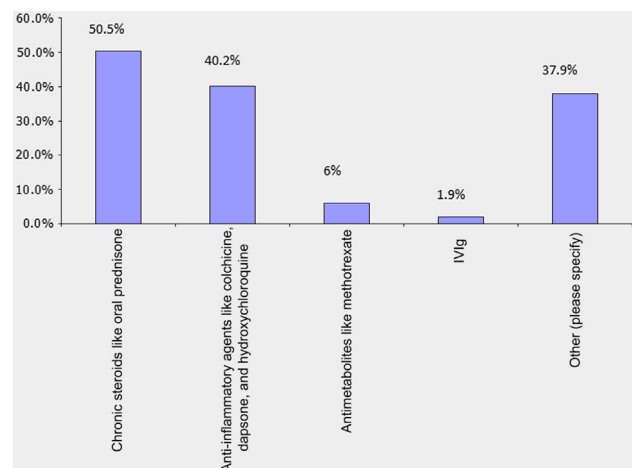


FIGURE 2. Preferred alternate drug for treatment of childhood chronic idiopathic urticaria. IVIg, Intravenous immunoglobulin.

antibodies (150/441; 34%); liver function tests, for example, aspartate aminotransferase, alanine aminotransferase, alkaline phosphatase (384/452; 84.9%); infection serology, for example, Epstein-Barr virus and hepatitis panel (257/444; 57.9%); autoimmune workup such as C3, C4, erythrocyte sedimentation rate and so forth (418/454; 92.1%); thyroid function with antibodies (430/453; 94.9%); stroke test for dermatographia (420/456; 92.1%); *in vitro* test for aeroallergens and food (294/445; 66.1%); skin prick testing for aeroallergens and food (327/448; 72.9%); autologous serum skin tests (100/448; 22.3%); basophil assays (104/450; 23.1%); and skin biopsy (223/425; 52.5%). Many of the responders (376/461; 81.5 %) believed that emotional or psychological factors may act as a trigger for the CIU.

Few responders (73/462; 15.8%) volunteered information on additional tests, including serum tryptase, and tests to determine previous infection with group A beta-hemolytic *Streptococcus* such as antistreptolysin O titer, anti-DNase-B, and throat culture. Other additional tests considered were C-reactive protein; serum ferritin; complete metabolic panel; immunoglobulins; protein electrophoresis; parasitic workup, including stool for ova and parasites; *Toxocara*; and a detailed dental examination.

In the treatment patterns, 440 of 461 responders (95.4%) used H₁ antihistamines as the preferred initial medication to treat CIU. The majority of responders (403/455; 88.6%) selected second-generation antihistamines, preferably cetirizine (321/460; 69.8%). Surprisingly, 52 of the 455 responders (11.4%) considered first-generation antihistamines such as hydroxyzine (356/456; 78.1%) as the first line of treatment. Second-tier drugs included H₂ antihistamines (349/460; 75.9%), leukotriene modifiers (250/460; 54.3%), adding another H₁ antihistamine (133/460; 28.9%), and oral corticosteroids (93/460; 20.2%). Interestingly, many responders (313/460; 68%) considered alternative medications within 1 to 2 months of persistence of urticaria (Figure 2). Likely drugs considered then were chronic steroids such as oral prednisone (217/430; 50.5%), antimetabolites such as methotrexate (26/430; 6%), or anti-inflammatory agents such as dapsone, colchicine, and so forth (173/430; 40.2%). Some responders (163/430; 37.9%) specified agents such as cyclosporine, anti-IgE monoclonal antibodies, montelukast, zileuton, dextroamphetamine, theophylline, cyproheptadine, and so forth and alternative therapies such as acupuncture, hypnosis, and a dermatology referral for treatment. Few responders (8/430; 1.9%) opted to infuse intravenous immunoglobulin as alternative therapy.

The prevalence of chronic urticaria has been reported to be about 0.5% of the general population,⁹ a small percentage of which is characterized as pediatric CIU. In our survey 70% saw at least one to five pediatric patients with CIU every month. Common laboratory tests ordered for initial screening included complete blood count; liver function tests; autoimmune workup such as C3, C4, erythrocyte sedimentation rate; and thyroid function with antibodies. It is interesting that the workup also included screening for parasites, chronic infection such as *Streptococcus*, and a dental examination, suggesting that most clinicians feel compelled to order tests for this frustrating condition.

Incidentally, 11.4% still preferred to use the first-generation antihistamines as the first-line therapy. Despite absence of evidence-based outcomes,¹ 68% resorted to alternative medications such as chronic steroids, cyclosporine, and tacrolimus even in children as early as 1 to 2 months of unimproved symptoms. In

addition, some practicing allergists specified other complementary therapies such as acupuncture and hypnosis, the role of which needs to be explored. It would be useful if the new practice parameters will shed more light and guidance on the role of alternate drugs. The choice of the drug, when to start, and the duration of treatment need to be clarified, especially in the pediatric age group.

Understandably, our survey was limited by possible recall and nonresponse bias because only 14.5% responded. Despite the shortcomings, periodic sampling of clinician practice behaviors provides important feedback about how guidelines are implemented and the issues that need to be considered by the future task force while revising or updating clinical guidelines such as the practice parameters. It also helps to identify areas of controversies to facilitate future discussions and needs assessment. Perhaps a flash card–like appendix within the practice parameters with bulleted points to highlight the important clinical pearls may be beneficial to busy practitioners.

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