Selections from international journals

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Recommendations for live viral and bacterial vaccines in immunodeficient patients and their close contacts1

Medical Advisory Committee of the Immune Deficiency Foundation, Shearer WT, Fleisher TA, Buckley RH, Ballas Z, Ballow M, Blaese RM, Bonilla FA, Conley ME, Cunningham-Rundles C, Filipovich AH, Fuleihan R, Gelfand EW, Hernandez-Trujillo V, Holland SM, Hong R, Lederman HM, Malech HL, Miles S, Notarangelo LD, Ochs HD, Orange JS, Puck JM, Routes JM, Stiehm ER, Sullivan K, Torgerson T, Winkelstein J1

The present uncertainty of which live viral or bacterial vaccines can be given to immunodeficient patients and the growing neglect of societal adherence to routine immunizations has prompted the Medical Advisory Committee of the Immune Deficiency Foundation to issue recommendations based on published literature and the collective experience of the committee members. These recommendations address the concern for immunodeficient patients acquiring infections from healthy subjects who have not been immunized or who are shedding live vaccine-derived viral or bacterial organisms. Such transmission of infectious agents can occur within the hospital, clinic, or home or at any public gathering. Collectively, we define this type of transmission as close-contact spread of infectious disease that is particularly relevant in patients with impaired immunity who might have an infection when exposed to subjects carrying vaccine-preventable infectious diseases or who have recently received a live vaccine. Immunodeficient patients who have received therapeutic hematopoietic stem transplantation are also at risk during the time when immune reconstitution is incomplete or while they are receiving immunosuppressive agents to prevent or treat graft-versus-host disease. This review recommends the general education of what is known about vaccine-preventable or vaccine-derived diseases being spread to immunodeficient patients at risk for close-contact spread of infection and describes the relative risks for a child with severe immunodeficiency. The review also recommends a balance between the need to protect vulnerable subjects and their social needs to integrate into society, attend school, and benefit from peer education.

Allergy. 2014; 69(9):1162-70.

Immune regulation by intralymphatic immunotherapy with modular allergen translocation MAT vaccine.

Zaleska A, Eiwegger T, Soyer O, van de Veen W, Rhyner C, Soyka MB, Bekpen C, Demiröz D, Treis A, Söllner S, Palomares O, Kwok WW, Rose H, Senti G, Kündig TM, Ozoren N, Jutel M, Akdis CA, Crameri R, Akdis M.

BACKGROUND: Allergen-specific immunotherapy (SIT) faces problems related to side effects and limited efficacy. Direct administration of allergen extracts into lymph nodes induces increased specific IgG production and T-cell responses using significantly lower allergen doses. METHODS: In this study, mechanisms of immune regulation by MAT vaccines in vitro and in allergen-SIT of cat-allergic rhinitis patients, who received 3 inguinal intra-lymph node injections of MAT-Fel d 1 vaccine, were investigated in PBMC and cell cultures for specific T-cell proliferation, Fel d 1-tetramer-specific responses, and multiple immune regulatory molecules. RESULTS: MAT-Fel d 1 vaccine was efficiently internalized by antigen-presenting cells. This was followed by precaspase 1 cleavage to caspase 1 and secretion of IL-1², indicating inflammasome activation. Mat-Fel d 1 induced specific T-cell proliferation and an IL-10- and IFN-³-dominated T-cell responses with decreased Th2 cytokines at 100 times lower doses than Fel d 1. Induction of immune tolerance by MAT-Fel d 1-ILIT involved multiple mechanisms of immune suppression. Early Fel d 1-specific T-cell activation was followed by full T-cell unresponsiveness to allergen after 1 year in the MAT-Fel d 1 group, characterized by increased allergen-specific T regulatory cells, decreased circulating Fel d 1 tetramer-positive cells, increased IL-10 and FOXP3 expression, and change in the HR2/HR1 ratio toward HR2. CONCLUSIONS: This study demonstrates the induction of allergen tolerance after 3 intra-lymph node injections of MAT-Fel d 1 vaccine, mediated by increased cellular internalization of the allergen, activation of inflammasome, and generation of allergen-specific peripheral T-cell tolerance.

Am J Gastroenterol. 2014; 109(8):1277-85.

Eosinophilic gastritis in children: clinicopathological correlation, disease course, and response to therapy.

Ko HM, Morotti RA, Yershov O, Chehade M.

OBJECTIVES: Eosinophilic gastritis (EG), defined by histological criteria as marked eosinophilia in the stomach, is rare, and large studies in children are lacking. We sought to describe the clinical, endoscopic, and histopathological features of EG, assess for any concurrent eosinophilia at other sites of the gastrointestinal (GI) tract, and evaluate response to dietary and pharmacological therapies. METHODS: Pathology files at our medical center were searched for histological eosinophilic gastritis (HEG) with e70 gastric eosinophils per high-power field in children from 2005 to 2011. Pathology slides were evaluated for concurrent eosinophilia in the esophagus, duodenum, and colon. Medical records were reviewed for demographic characteristics, symptoms, endoscopic findings, comorbidities, and response to therapy. RESULTS: Thirty children with severe gastric eosinophilia were identified, median age 7.5 years, 14 of whom had both eosinophilia limited to the stomach and clinical symptoms, fulfilling the clinicopathological definition of EG. Symptoms and endoscopic features were highly variable. History of atopy and food allergies was common. A total of 22% had protein-losing enteropathy (PLE). Gastric eosinophilia was limited to the fundus in two patients. Many patients had associated eosinophilic esophagitis (EoE, 43%) and 21% had eosinophilic enteritis. Response to dietary restriction therapy was high (82% clinical response and 78% histological response). Six out of sixteen patients had persistent EoE despite resolution of their gastric eosinophilia; two children with persistent HEG post therapy developed de novo concurrent EoE. CONCLUSIONS: HEG in children can be present in the antrum and/or fundus. Symptoms and endoscopic findings vary, highlighting the importance of biopsies for diagnosis. HEG is associated with PLE, and with eosinophilia elsewhere in the GI tract including the esophagus. The disease is highly responsive to dietary restriction therapies in children, implicating an allergic etiology. Associated EoE is more resistant to therapy.

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The diagnosis and management of acute and chronic urticaria: 2014 update.

Bernstein JA, Lang DM, Khan DA, Craig T, Dreyfus D, Hsieh F, Sheikh J, Weldon D, Zuraw B, Bernstein DI, Blessing-Moore J, Cox L, Nicklas RA, Oppenheimer J, Portnoy JM, Randolph CR, Schuller DE, Spector SL, Tilles SA, Wallace D.

These parameters were developed by the Joint Task Force on Practice Parameters (JTFPP), representing the American Academy of Allergy, Asthma & Immunology (AAAAI); the American College of Allergy, Asthma & Immunology (ACAAI); and the Joint Council of Allergy, Asthma & Immunology. The AAAAI and ACAAI have jointly accepted responsibility for establishing "The diagnosis and management of acute and chronic urticaria: 2014 update." This is a complete and comprehensive document at the current time. The medical environment is a changing environment, and not all recommendations will be appropriate for all patients. Because this document incorporated the efforts of many participants, no single individual, including those who served on the JTFPP, is authorized to provide an official AAAAI or ACAAI interpretation of these practice parameters. Any request for information about or an interpretation of these practice parameters by the AAAAI or ACAAI should be directed to the Executive Offices of the AAAAI, the ACAAI, and the Joint Council of Allergy, Asthma & Immunology. The JTFPP understands that the cost of diagnostic tests and therapeutic agents is an important concern that might appropriately influence the work-up and treatment chosen for a given patient. The JTFPP recognizes that the emphasis of our primary recommendations regarding a medication might vary, for example, depending on third-party payer issues and product patent expiration dates. However, because a given test or agent's cost is so widely variable and there is a paucity of pharmacoeconomic data, the JTFPP generally does not consider cost when formulating practice parameter recommendations. In extraordinary circumstances, when the cost/benefit ratio of an intervention is prohibitive, as supported by pharmacoeconomic data, commentary might be provided. These parameters are not designed for use by pharmaceutical companies in drug promotion. The JTFPP is committed to ensuring that the practice parameters are based on the best scientific evidence that is free of commercial bias. Practice parameters are available online at www.jcaai.org and www.allergyparameters.org.