Selections from international journals

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Childhood asthma outcomes during the COVID-19 pandemic: Findings from the PeARL multi-national cohort

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Background: The interplay between COVID-19 pandemic and asthma in children is still unclear. We evaluated the impact of COVID-19 pandemic on childhood asthma outcomes. Methods: The PeARL multinational cohort included 1,054 children with asthma and 505 non-asthmatic children aged between 4 and 18 years from 25 pediatric departments, from 15 countries globally. We compared the frequency of acute respiratory and febrile presentations during the first wave of the COVID-19 pandemic between groups and with data available from the previous year. In children with asthma, we also compared current and historical disease control. Results: During the pandemic, children with asthma experienced fewer upper respiratory tract infections, episodes of pyrexia, emergency visits, hospital admissions, asthma attacks, and hospitalizations due to asthma, in comparison with the preceding year. Sixty-six percent of asthmatic children had improved asthma control while in 33% the improvement exceeded the minimal clinically important difference. Pre-bronchodilatation FEV1 and peak expiratory flow rate were improved during the pandemic. When compared to non-asthmatic controls, children with asthma were not at increased risk of LRTIs, episodes of pyrexia, emergency visits, or hospitalizations during the pandemic. However, an increased risk of URTIs emerged. Conclusion: Childhood asthma outcomes, including control, were improved during the first wave of the COVID-19 pandemic, probably because of reduced exposure to asthma triggers and increased treatment adherence. The decreased frequency of acute episodes does not support the notion that childhood asthma may be a risk factor for COVID-19. Furthermore, the potential for improving childhood asthma outcomes through environmental control becomes apparent.

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Management of asthma in childhood: study protocol of a systematic evidence update by the Paediatric Asthma in Real Life (PeARL) Think Tank

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Introduction: Clinical recommendations for childhood asthma are often based on data extrapolated from studies conducted in adults, despite significant differences in mechanisms and response to treatments. The Paediatric Asthma in Real Life (PeARL) Think Tank aspires to develop recommendations based on the best available evidence from studies in children. An overview of systematic reviews (SRs) on paediatric asthma maintenance

management and an SR of treatments for acute asthma attacks in children, requiring an emergency presentation with/without hospital admission will be conducted. Methods and analysis: Standard methodology recommended by Cochrane will be followed. Maintenance pharmacotherapy of childhood asthma will be evaluated in an overview of SRs published after 2005 and including clinical trials or real-life studies. For evaluating pharmacotherapy of acute asthma attacks leading to an emergency presentation with/without hospital admission, we opted to conduct de novo synthesis in the absence of adequate up-to-date published SRs. For the SR of acute asthma pharmacotherapy, we will consider eligible SRs, clinical trials or real-life studies without time restrictions. Our evidence updates will be based on broad searches of PubMed/Medline and the Cochrane Library. We will use A MeaSurement Tool to Assess systematic Reviews, V.2, Cochrane risk of bias 2 and REal Life EVidence AssessmeNt Tool to evaluate the methodological quality of SRs, controlled clinical trials and real-life studies, respectively. Next, we will further assess interventions for acute severe asthma attacks with positive clinical results in meta-analyses. We will include both controlled clinical trials and observational studies and will assess their quality using the previously mentioned tools. We will employ random effect models for conducting meta-analyses, and Grading of Recommendations Assessment, Development and Evaluation methodology to assess certainty in the body of evidence. Ethics and dissemination: Ethics approval is not required for SRs. Our findings will be published in peer reviewed journals and will inform clinical recommendations being developed by the PeARL Think Tank.

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Skin eruptions in children: Drug hypersensitivity vs viral exanthema

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Childhood rashes or exanthemas are common and are usually relatively benign. There are many causes of rash in children, including mainly viruses, and less often bacterial toxins, drugs, allergens and other diseases. Viral exanthema often appears while children are taking a medication in the course of a viral infection; it can mimic drug exanthema and is perceived as a drug allergy in 10% of cases. In the vast majority of cases, the distinction between virus-induced and drug-induced skin eruption during the acute phase is not possible. The drugs most commonly implicated are beta-lactams (BL) and non-steroidal anti-inflammatory drugs (NSAIDs). Viruses, commonly Epstein-Barr virus (EBV), human herpesvirus 6 (HHV6) and cytomegalovirus (CMV), and the bacterium, Mycoplasma pneumoniae, may cause exanthema either from the infection itself (active or latent) or because of interaction with drugs that are taken simultaneously. Determination of the exact diagnosis requires a careful clinical history and thorough physical examination. Haematological and biochemical investigations and histology are not always helpful in differentiating between the two types of exanthema. Serological and polymerase chain reaction (PCR) assays can be helpful, although a concomitant acute infection does not exclude drug hypersensitivity. A drug provocation test (DPT) is although considered the gold standard for the diagnosis and is not preferred by the patients. Skin tests are not well tolerated, and in vitro tests, such as the basophil activation test and lymphocyte transformation, are of low sensitivity and specificity and their relevance is debatable. Based on current evidence, we propose a systematic clinical approach for timely differential diagnosis and management of rashes in children who present a cutaneous eruption while receiving a drug.

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Food allergy treatment value: Child caregiver and patient perspectives

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Background: Food allergy is a major health problem that significantly impacts quality of life (QoL). There is growing focus to evaluate food allergy-related QoL and treatment options' value beyond the clinical effectiveness perspective by engaging patients and caregivers. We aimed to identify and prioritize outcomes important to food allergy parents of children and patients allergic to milk, egg, and/or peanut, to guide comparative effectiveness research (CER) that focuses on evaluating food allergy treatment decisions. Methods: We conducted a modified 3-round Delphi study to identify and derive consensus on priority treatment outcomes for parents of children and adult patients with diagnosed allergies to at least one of three major allergenic foods (milk, egg, and peanut) from across the United States. Results: Round 1 yielded 44 statements for round 2, and 39 statements reached the agreement level for round 3 ranking. Statements were organized under 4 sections: 1) food allergy problems, 2) treatment experiences, 3) important treatment outcomes, and 4) value of different treatment options. Conclusion: Food allergy parents and patients face several social, psychological, medical, healthcare, financial, food selection, and awareness challenges. The areas of consensus on important treatment outcomes revealed shared priority for reducing the risk of potentially fatal allergic reactions and having reliable treatments. The most valued treatment options reflect hope for permanent cure and fear of serious allergic reactions.