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Incremental expenditures associated with pediatric atopic dermatitis in the United States: A nationally representative retrospective cohort study

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Importance: Despite our increasing understanding of the quality of life and comorbidity burden of pediatric atopic dermatitis (AD), limited information exists regarding its incremental economic burden.

Objective: To provide nationally representative estimates regarding the incremental health care cost of pediatric AD controlling for comorbidities, other atopic conditions, and sociodemographic characteristics.

Methods: Retrospective analysis of the Medical Expenditure Panel Survey (2007-2015). After univariate comparison of sociodemographic characteristics between pediatric patients with and without AD, a validated two-part generalized linear model was used to estimate the adjusted incremental expenditure associated with AD.

Results: This study included 220 pediatric AD patients and 77,397 pediatric patients without AD. AD patients were more often female ($P = .031$), younger. $5 billion annually in population-level health care expenditures in the United States. Annual health care expenditures for AD patients are $1,267.56 (±$200.01) for outpatient visits, $445.77 (±$267.29) for inpatient expenditures, $272.66 (±$110.74) for emergency room expenses, $215.02 (±46.17) for prescription medications, and $226.82 (±$53.59) for home health care.

Conclusions: Pediatric AD is associated with substantial incremental increases in annual health care expenditures. As health care costs rise, it is vital to identify strategies to reduce expenditures due to AD.

Commercial disclosure: None identified.

15578

Cutaneous immune-related adverse events to immune checkpoint inhibitors: A dermatology perspective

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Immune checkpoint inhibitors are efficacious for a broad spectrum of solid organ malignancies. These monoclonal antibodies lead to cytotoxic T-cell activation and subsequent elimination of cancer cells. However, they can also lead to immune intolerance and immune-related adverse events (irAE), which are new and specific to these therapies. Treatments include pembrolizumab, nivolumab (anti−programmed cell death protein-1 [PD-1]); atezolizumab, avelumab, durvalumab (anti−programmed death-ligand 1 [PD-L1]); and ipilimumab (anti−cytotoxic T-lymphocyte associated antigen-4 [CTLA-4]). Cutaneous irAEs are the most common, arising in ~34% of patients on PD-1 inhibitors and 43%-45% on CTLA-4 inhibitors. The most common skin manifestations include maculopapular eruption, pruritus, and vitiligo. A grading system has been proposed which guides management of cutaneous manifestations based on percent body surface area (BSA) involved. Cutaneous irAEs may prompt clinicians to reduce doses, add oral steroids to the regiment and/or discontinue life-saving immunotherapy. Thus, the goal is for early identification and concurrent management to minimize treatment interruptions. In this project, we aim to emphasize that the severity of the reaction should not be graded based on, BSA involved, but rather on the nature of the primary cutaneous pathology. For instance, maculopapular eruptions rarely affect <30%, BSA and can often be managed conservatively, while Stevens-Johnsons syndrome (SJS) affecting even 5%, BSA should be managed aggressively. We review the management strategies reported in the literature and provide our recommendations for psoriatic, immunobullous, maculopapular, and lichenoid eruptions as well as SJS/toxic epidermal necrolysis. Oncologists and dermatologists need to work together to optimize management of these patients.

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Risk factors for Spitz neoplasms

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Background: Development of melanoma and elevated nevus counts are linked to ultraviolet (UV) exposure and subsequent mutagenesis. However, little is known about the pathogenesis and predisposing risk factors that lead to the occurrence of Spitz tumors. This study used a repository of Spitz neoplasm patients to investigate factors that are associated with these melanocytic neoplasms.

Methods: More than 200 patients with Spitz tumors seen at Northwestern Memorial Hospital and Lurie Children's Hospital were surveyed with a questionnaire about environmental and inherited factors.

Results: Preliminary results of this cohort study did not show any correlation with ultraviolet exposure either in terms of history of number of sun burns or tanning bed use. In addition, a broad range of Fitzpatrick skin types was identified with approximately fifty percent of cases being Fitzpatrick type III or higher. A broad range of environmental exposures such as history of radiation exposure, pesticide use in the home or vaccination showed no significant correlation. There was a statistically significant correlation with family history of melanoma and this included patients with higher Fitzpatrick scores.

Conclusions: We hypothesize that underlying genetic polymorphisms not necessarily related to Fitzpatrick skin type but which predispose to family history of melanoma may also predispose to Spitz tumors. In conjunction with germline sequencing studies, this epidemiologic data may help reveal important genetic factors predisposing to Spitz tumors and melanoma.

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CD4+ small/medium T-cell lymphoproliferative disorder: A Mayo Enterprise experience

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CD4+ small/medium T-cell lymphoproliferative disorder (SMTCLPD) is a rare, indolent lymphoproliferative disorder. The primary aim of our study was to analyze the clinical features comorbidities, treatment, and outcomes of patients treated for CD4+ SMTCLPD. A retrospective search for CD4+ SMTCLPD was performed across the Mayo Clinic enterprise. A total of 38 cases with follow up were included. The average age was 53.3 years. Median follow-up was 490.5 days. Associated lymphomas were not seen in any patients and autoimmune diseases were seen in 10.4%. Treatments included: excision (40.6%), topical steroids (25.0%), observation (22.6%), radiation therapy (12.5%), intralesional steroids (3.1%), light therapy (3.1%), and pulsed dye laser (3.1%). Of the patients who received treatment, 82.6% had a complete response, 13% had partial response, and 4.3% had progressive disease. In comparison, all 7 patients who received no treatment had a complete response after biopsy. Diagnostic testing included PET/CT (47.4%) and bone marrow biopsy (15%). Five (27.8%) of the PET/CT scans and none of the bone marrow biopsies revealed an abnormal but clinically insignificant findings. There were no disease specific deaths. In conclusion, CD4+ SMTCLPD is an indolent disease and clinicians should avoid an aggressive treatment strategy, imaging may play a limited role, and long-term monitoring is recommended.

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