Clinical risk factors associated with MRSA incidence in inpatient pediatric cellulitis

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Background: Methicillin-resistant Staphylococcus aureus (MRSA) infection in pediatric cellulitis can be difficult to diagnose and treat with appropriate antibiotic coverage. Detection of methicillin resistance can be challenging as it requires isolation of the causative organism by microbial culture, and clinical characteristics alone have limited ability to distinguish MRSA infection. Objective: To identify predictive risk factors for MRSA infection in hospitalized pediatric patients. Methods: Single-center, retrospective chart review of 893 pediatric patients who were admitted to a pediatric medical/surgical service from January 1 to December 31, 2015. At the study hospital, MRSA cellulitis was defined as cellulitis of an extremity that failed to respond to empiric antimicrobial therapy or had complicated infections such as at a surgical site. Multivariate logistic regression analysis was conducted using all independent variables that reached statistical significance in univariate testing. In this model, the outcome variable was growth of MRSA from a wound culture. Results: 359 patients (63.1%) met criteria. Risk factors for prediction of MRSA growth were performed for all patients receiving a wound culture (n=290; 51.9%). Univariate analysis revealed a positive association between MRSA growth on wound culture and infection of the groin and buttocks region, fever at presentation, leukocytosis at presentation, MRSA nasal carriage, and abscess formation (p<.1). Multivariate analysis resulted in the following: the groin and buttocks region (OR 5.86, 95% CI 1.00, 34.4) and MRSA nasal carriage (OR 29.3, 95% CI 12.9, 66.5) as independent factors for MRSA growth on wound culture. Conclusion: Both MRSA nasal carriage and infections of the groin and buttocks are strong and independent predictors of MRSA cellulitis. These factors should be considered in antibiotic selection for inpatient pediatric cellulitis.

445 Mycoplanoce motefoil and metotrexate in dermatomysis treatment

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While dermatomysis (DM) treatment often follows a stepwise sequence, data is lacking regarding the efficacy of new therapies. We sought to evaluate the efficacy of metotrexate (MTX) and mycoplanoce motefoil (MMF). A cohort of 31 patients with currently skin-predominant DM taking MTX or MMF with ≥2 study visits within a 500 day retrospective observation period was seen at The University of Pennsylvania. The Cutaneous Dermatomyositis Disease Area and Severity Index (CDAI) was used to assess severity and outcomes. Patients with mild disease activity defined as a CDAI activity score is ≥14 (maximum sub-score of 100) were excluded from the analysis as were any patients with active malignancy. The Determomyositis (DM) Disease Area and Severity Index (CDAI) was used to assess severity and outcomes. Patients with mild disease activity defined as a CDAI activity score <14 were then treated with either MTX or MMF with the exception of chronic antimalarial or topical medications. Responders were defined as those that had an improvement in their CDAI activity score of ≥40% between their first and last visits post initiation of immunosuppressive use. For both MMF (n=19) and MTX (n=12), there was no baseline difference in CDAI activity scores between responders and non-responders at medication initiation. For MTX, 33.3% of patients responded to therapy while 47.4% of patients taking MMF responded. There was no significant difference in the degree of improvement on either medication, with a mean difference in daily CDAI activity change of -<0.4152 (p>0.011). There was a significant difference in daily CDAI activity change between responders and non-responders, -<0.014 (p<0.001) for MMF and -<0.014 (p<0.01) for MTX. Either MMF or MTX may be added as a treatment plan for patients with DM who have not responded to antimalarial therapy. Moreover, our data suggest that responders continued to improve over many months while most non-responders showed little improvement at first follow-up (ranging from 2-6 months) during the observation period.

550 Quality appraisal of recent guidelines for adult atopic dermatitis

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Introduction: In 2017, Dupilumab was approved for adults with moderate-to-severe atopic dermatitis (AD). Clinical practice guidelines (CPGs) have since incorporated this option into treatment algorithms. Studies on CPGs quality are needed. Objective: Assess quality of methods and development processes of adult AD CPGs reported since approval of Dupilu- mab. Methods: A literature search was conducted in June 2020 on MEDLINE, EMBASE, SCOPUS and CINAHL (2017-current). Two reviewers independently screened reports with management recommendations for adults. Quality was independently assessed by 3 reviewers using validated Appraisal of Guidelines for Research & Evaluation II (2) criteria (1). Each CPG had one or more domains that did not meet criteria, therefore, a score between 0 and 100 was calculated for each CPG. Results: 11 CPGs were reviewed. Median scores per domain were higher in (6) scope (68.0%) and (6) external review. Discussion: CPGs are heterogeneous in their quality. More research is needed to determine which characteristics are associated with higher CPG quality.