Peer reviewed

Abstract

Pediatric Stevens-Johnson Syndrome and Toxic Epidermal Necrolysis in the US

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Dermatology Online Journal 22 (9)

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Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN) are life-threatening blistering disorders. Few studies have addressed SJS/TEN in children. We sought to determine risk factors, comorbidities, inpatient burden and mortality in US children with SJS, SJS-TEN and TEN. We analyzed data from the 2009-2012 Nationwide Inpatient Sample (NIS), containing a representative 20% sample of all hospitalizations in the US. SJS, SJS-TEN and TEN were identified by a validated algorithm using ICD-9-CM codes. Socio-demographics, inflation- adjusted cost, length of stay (LOS), comorbidities and mortality were analyzed using descriptive statistics and multivariate regression analysis. The incidences of SJS, SJS-TEN and TEN were a mean 5.5, 0.8 and 0.4 cases per million children per year, respectively. Prolonged LOS and higher costs of care (SJS: 9.3±0.6 days, $24,776±$3,183; SJS-TEN: 15.7±1.5 days, $63,787±8014; TEN: 20.4±6.3 days, $102,243±37,588) were observed compared to all other admissions (4.6±0.1 days, $10,496±424). Mean sex and age-adjusted mortality was 0% for SJS, 3.7% [1.4-6.1] for SJS-TEN and 24.8% [11.8-37.8] for TEN. In multivariate logistic regression models, SJS was associated with Herpes Simplex Virus (odds ratio [95% confidence interval]: 19.18 [7.84-46.91]) and *Mycoplasma* infection (9.91 [4.54-21.62]). In regression models with stepwise selection, predictors of mortality included renal failure (>999.99 [182.58->999.99]), malignancy (13.58 [2.98-61.99]), septicemia (56.50 [14.41-227.27]), bacterial infection (27.60 [6.71-113.61]), and epilepsy (34.39 [8.32-142.06]). Pediatric SJS-TEN pose a substantial health burden in the US. BSA >30%, renal failure, septicemia, and bacterial infections were the strongest predictors of mortality. Future studies are needed to improve prognostication and reduce the incidence and mortality of SJS-TEN.