

Steroid Statistics: a Regional Review of the Use of Systemic Steroids in the Treatment of Electronic Vaping-Associated Lung Injuries (EVALI)

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Background: Nicotine vaping was introduced as a theoretically “cleaner” alternative to traditional cigarette smoking. In recent years, novel delta-9-tetrahydrocannabinol (THC) oil cartridges have enjoyed significant popularity among young adults. This year, a striking number of electronic vaping-associated lung injury (EVALI) cases have been reported nationally. Although health authorities are working diligently to define the disease, definite information regarding etiology and treatment remains a subject of clinical intrigue. Currently, the CDC makes the nonspecific recommendation that steroids may represent a treatment consideration; however, specific evidence and dosing regimens are not reported.

Hypothesis: We aim to characterize the patterns of systemic steroid use in the treatment of EVALI patients at our institutions.

Methods: Institution-specific data were obtained as a subset from the national ToxIC Registry. A total of 27 EVALI cases were identified and individually analyzed. All cases had been seen at bedside by medical toxicologists at our associated academic facilities in a large metropolitan city, from August through October of 2019. One case was excluded due to incomplete data.

Results: A significant majority of patients (88%) were treated with systemic steroids. Of the patients administered steroids, 78% received treatment via intravenous administration. The majority of treated patients received a steroid taper. Remarkable heterogeneity exists among steroid-dosing regimens. Treatment duration ranged from 2 days to several weeks; 50% of cases involved pediatric patients (age < 19), with overall age ranges 13–55. All pediatric patients and patients age > 30 years were treated with systemic steroids. Of treated patients, only 3 (11%) received no more than 60 mg prednisone per day.

Conclusion: This report characterizes the use of systemic steroids in the clinical treatment of EVALI. Steroid use was highly prevalent, predominantly via the intravenous route of administration. Dosing was characteristically heterogeneous, though tapering was common among those treated.