

## E-cigarette or Vaping product use-Associated Lung Injury in an adolescent

Dear editor

Chan et al. attribute a case of Acute Respiratory Distress Syndrome to E-cigarette or Vaping product use-Associated Lung Injury (EVALI) from vaping in a Sydney adolescent in September 2020.[1] We believe that the confident attribution of this case to EVALI is not warranted on the evidence provided for the following reasons:

1 Vitamin E acetate was not detected. The EVALI outbreak was closely linked to vaping illicit THC oils contaminated with vitamin E acetate.[2] VEA was identified in 94% of cases of bronchial lavage in one study and in all 29 cases tested by the CDC.[3] The contaminated THC products were removed from the market and no further cases have been reported since February 2020. The geographic and temporal pattern was consistent with an outbreak of an infectious disease or a drug poisoning.[2]

2 EVALI has not been clearly linked to commercial nicotine vaping products which have remained unchanged before and after the EVALI outbreak. If vaping nicotine were the cause of these lung injuries, many more cases would have been reported.[4] Vitamin E acetate is oil-based and cannot be added to nicotine liquids. Although 14% of EVALI patient reported only using nicotine, many were subsequently found to have used contaminated THC oils as well.[5]

3 Glycerol, nicotine, ethyl-maltol and menthol are widely used in vaping products. There is no known mechanism by which they could cause this pulmonary injury and no reported cases so far.

4 There are other potential causes for this case such as a pulmonary infection secondary to smoking or urosepsis, which may have responded to the early use of intravenous antibiotics. Other possibilities include an allergic sensitisation reaction (eosinophils were found in the pleural fluid) or a toxic response to another undisclosed chemical. There was also a recent history of cannabis use, tobacco smoking and other medications.

5 As the authors noted, EVALI is a diagnosis of exclusion. A bronchoscopy and bronchial lavage, which may have provided more information, were not performed.

### References

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4. Gartner C, Bonevski B, Hall W. Miscommunication about the causes of the US outbreak of lung diseases in vapers by public health authorities and the media. *Drug Alcohol Rev.* 2020;39(1):3-6.
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