



No man is an island: e-cigarette, or vaping, associated lung injury in Europe

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The first case of e-cigarette, or vaping, associated lung injury (EVALI) diagnosed and treated in Europe reminds us to remain vigilant for this diagnosis, and importantly, that we are still learning about the full spectrum of risks of e-cigarette use <http://bit.ly/2Taultr>

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An outbreak of e-cigarette, or vaping, associated lung injury (EVALI) was noted in the USA starting in March of 2019 [1]. Although there have been prior reports of various lung diseases associated with e-cigarette use since they first came on the market in 2011 [2], the outbreak this summer was remarkable in the large number of patients affected (2409 reported hospitalised with 52 deaths as of 13 December, 2019 in the USA alone [1]) and the severity of lung injury. Although e-cigarette use is quite common in Europe [3], to date no cases of EVALI that developed in Europe have been reported. Questions regarding the geographic distribution of EVALI in the context of the global distribution and use of e-cigarettes have been raised. Even as reports of patients with EVALI in Canada [4], and South America [5] have arisen, uncertainty remains about whether the lack of EVALI cases elsewhere was due to lack of syndrome recognition, variation in the components and contaminants in the e-cigarette products, or alternative causes. While no single definitive cause of EVALI has been identified, vitamin E acetate has emerged as a substance of interest [1], and its use as a diluent in e-liquids, especially those containing THC (tetrahydrocannabinol), is intriguing. This observation invites speculation about the relative popularity of e-cigarettes in Europe and the simultaneous lack of EVALI cases reported here... until now.

In this issue of the *European Respiratory Journal*, CASANOVA *et al.* [6] report the first case of EVALI diagnosed in Europe, in a patient from Chicago, IL, USA who travelled to Barcelona, perhaps partially answering the question of recognition. Namely, that when a case of EVALI presented in Europe, the diagnosis was made. This case is informative not only in the diagnostic acumen for this presentation, but importantly, consistently obtaining e-cigarette and vaping history from our patients, will remain important for all of us in diagnosing and treating our patients, even after this outbreak wanes.

The patient in this case was initially treated with steroids as part of routine treatment for community-acquired pneumonia, and upon recognition of the diagnosis of EVALI, the dose of steroids was increased, and she improved rapidly. Many of the features of the case presentation are typical and consistent with prior reports: namely respiratory and constitutional symptoms, days of symptom onset preceding presentation, recent switching of e-cigarette products, negative infectious work up with lipid laden macrophages on bronchoalveolar fluid, and rapid improvement with corticosteroids [7, 8]. While the case reported here fulfils the criteria of EVALI (vaping within 90 days, pulmonary infiltrates, lack of infection, and absence of evidence for alternative diagnosis), it is important to remember that these criteria

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are based on a working case definition and remain quite broad diagnostically. In fact, many of the pulmonary diseases previously reported to be caused by e-cigarette use outside of this outbreak [2], such as acute hypersensitivity pneumonitis, acute eosinophilic pneumonia, acute respiratory distress syndrome and others, meet this case definition. Indeed, it remains unclear whether even the current outbreak of EVALI has only a single cause.

This case is important for two major reasons: first, it reminds us all that “no man is an island” [9], no man ever was, though especially in our modern global society where, through the movement of people and goods (e-cigarettes), we are more interconnected than ever. EVALI, while reported predominantly in the USA, is of concern to people who vape and their clinicians across the world.

Second, while (hopefully) we may be starting to see the waning of this specific outbreak of EVALI [1], it serves as a reminder that the risks associated with vaping and e-cigarette use are incompletely understood and evolving. Given the diversity of products and devices, and how people use them, it will be important to remain attentive, not only for diagnosing EVALI in the context of this outbreak, but for future possible outbreaks as use patterns and products change.

While Europeans seem to have escaped the scourge of “homegrown” EVALI for now, given the rapidly increasing popularity of e-cigarettes around the world [10], we must remain vigilant not only to new vaping-associated illnesses, but also to the rising rate of e-cigarette use among children [11].

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