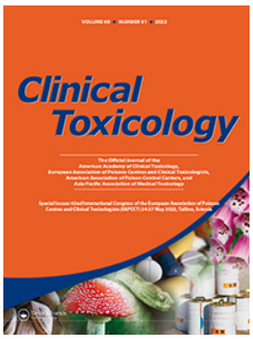

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Table 1. Frequency of reporting and detection of common drugs of misuse between Scotland and England and Wales.

	Scotland (n = 78)	England and Wales (n = 274)	Chi^2 P=
Suspected use (reported by patient or clinician)			
Benzodiazepines/related	38 (48.7%)	49 (17.9%)	<0.0001
Stimulants	28 (35.9%)	149 (54.4%)	0.004
Opioids	20 (25.6%)	70 (25.5%)	N.S.
Cannabinoids	8 (10.3%)	68 (24.8%)	0.0061
Gabapentinoids	6 (7.7%)	12 (4.4%)	N.S.
Ketamine	4 (5.1%)	17 (6.2%)	N.S.
Cathinones	4 (5.1%)	1 (0.4%)	0.0022
Gamma hydroxybutyrate/related	3 (3.8%)	26 (9.5%)	N.S.
Confirmed exposure (detected in at least one sample)			
Benzodiazepines/related	69 (88.5%)	189 (69.0%)	0.0006
Stimulants	53 (67.9%)	190 (69.3%)	N.S.
Opioids	58 (74.4%)	171 (62.4%)	N.S.
Cannabinoids	55 (70.5%)	111 (40.5%)	<0.0001
Gabapentinoids	28 (35.9%)	64 (23.4%)	0.0269
Ketamine	15 (19.2%)	57 (20.8%)	N.S.
Cathinones	6 (7.7%)	6 (2.2%)	0.0185
Gamma hydroxybutyrate/related	0 (-)	6 (2.2%)	N.S.
Drug combinations			
Opioid with benzodiazepine	47 (60.3%)	129 (47.1%)	0.04
Opioid with gabapentinoid	27 (34.6%)	56 (20.4%)	0.0092
Opioid with benzodiazepine and gabapentinoids	24 (30.8%)	51 (18.6%)	0.0204

Results: Comparing Scotland with E&W there were no significant differences in median age (33 versus 31 years, respectively) or sex (males 67.9% versus 77.4%). Higher proportions of Scottish patients reported use of benzodiazepines, but lower proportions reported use of cannabinoids or stimulants. Sample analysis revealed larger numbers of separate substances in Scottish than E&W patients (median 6 versus 4, $P < 0.001$), with the following found significantly more often: benzodiazepines (including diazepam, etizolam and alprazolam), cannabinoids, gabapentinoids (gabapentin and pregabalin) and cathinones (mephedrone and eutylone). Opioid detections were not significantly different, but combinations of opioids with benzodiazepines, gabapentinoids or both were significantly more common in Scotland (Table 1). Scottish patients had longer median hospital stays but there were no significant differences in frequency of intubation/ventilation or fatality.

Conclusion: Patients attending participating emergency departments in Scotland after drug misuse are exposed to more substances than those in E&W. Although this study is too small to detect significant differences in case fatality, the higher incidence of opioid combinations with benzodiazepines and gabapentinoids may contribute to the higher rate of drug-related death in Scotland.

9. It is not always COVID-19: a case of respiratory failure from lung damage associated with electronic cigarettes (EVALI)

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Objective: In the period of the SARS-COV-2 pandemic, the differential diagnosis between several causes of respiratory failure can represent a challenge for clinicians. We present the case of an adolescent with e-cigarette associated lung injury mimicking COVID-19 presentation.

Case report: A previously healthy 14-year-old male was transferred to our Pediatric Intensive Care Unit for respiratory distress and history of contact with a SARS-COV-2 positive schoolmate. At admission he was febrile, tachycardic, tachypneic, and hypoxic. The laboratory findings showed increased inflammatory markers. Chest computed tomography (CT) showed ground glass opacities (GGO) predominantly in the lower lobes with sparing of the subpleural region, parenchymal consolidation with areas of lobular sparing ("atoll sign"), centrilobular nodules of GGO and nodular consolidation were visible. He was suitably isolated and treated with non-invasive ventilation. The infectious workup, including respiratory viruses, SARS-CoV-2, as well as blood and bronchial cultures, was negative. After further questions, the boy admitted that he had been vaping nicotine for more than 90 days. According to the definitions of the Centers for Disease Control and Prevention, lung damage associated with the use of vaping products (EVALI) was diagnosed [1] and methylprednisolone was started at 2 mg/kg/day. Following gradual improvement, he was transferred to the pediatric ward on the fourth day.

Conclusion: The incidence of vaping has more than doubled from 2017 to 2019. COVID-19 and EVALI share clinical symptoms and radiological findings, however the negativity of microbiological investigations and the history of vaping may help in the differential diagnosis. Additionally, as in our case, EVALI CT may present subpleural sparing, slight lower lobe predominance, centrilobular nodules and the atoll sign [2]. Finally, correct identification and early therapy of EVALI can improve the outcome and minimize the length of hospital stay. In patients presenting with unexplained respiratory failure, excluding COVID-19, the possibility of EVALI should be carefully evaluated as the treatment of EVALI differs from COVID-19.

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