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Synergistic Bleomycin Toxicity and EVALI: A Lethal Combination

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Synergistic Bleomycin Toxicity and EVALI: A Lethal Combination

Introduction:

Both vaping and bleomycin-based chemotherapy regimens are known risk factors for acute lung injury. Few, if any, cases are documented in the literature of these insults co-occurring.

Case description:

A 20-year-old male was diagnosed with Stage III testicular cancer in Autumn of 2020. He began BEP (bleomycin-etoposide-platinum), of which he completed three cycles before developing pulmonary sequelae. Social history was notable for marijuana use and vaping, including during his active chemotherapy, to help with cancer-related nausea, anxiety, and anorexia.

Winter 2021, he visited the ED for dizziness, fatigue, and diarrhea, felt to be consistent with chemotherapy side effects, but CXR showed subtle bilateral opacities so was discharged on doxycycline. Four days later he felt better and received chemotherapy. Days later, he had pleuritic pain and was admitted for right apical pneumothorax and patchy multifocal airspace disease, infectious work up including BAL was negative so was started on steroids.

Weeks later was readmitted with worsening right pneumothorax, requiring chest tube placement in the ED, and admission to ICU due to progressive hypoxia and worsening lung infiltrates. His ICU course was complicated with left-sided pneumothorax. He was not a candidate for lung biopsy due to inability to tolerate single lung ventilation, not a transplant candidate due to recent malignancy. Progressively declining, hypotensive, with increased oxygen requirements after prolonged course on ventilator, goals of care were addressed with family, and he was compassionately extubated.

Discussion:

Bleomycin was likely the primary driver of pathology in this case but vaping likely has exacerbated pulmonary toxicity leading to the dramatic presentation and tragic end of this case. The patient's PFT prior to initiation of bleomycin did show a subtle air-trapping process, suggesting bleomycin was not an isolated insult. This case highlights the importance of avoiding additional pulmonary toxins while undergoing treatment with bleomycin.