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Popcorn lung and bronchiolitis obliterans: A critical appraisal

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Purpose To perform a critical review of a series of journal articles and Health Hazard Evaluation Reports (HHER) by the National Institute for Occupational Safety and Health (NIOSH), where they have described the incidence of fixed obstructive pulmonary disease in a population of workers exposed to butter flavorings.

Methods The clinical presentations, diagnostic modalities frequently employed and a review of the pertinent clinical literature are discussed for constrictive bronchiolitis and bronchiolitis obliterans with intraluminal polyps; two distinct forms of bronchiolitis obliterans (BO). An analysis of the NIOSH reports and scientific articles is provided, followed by suggestions for evaluating this public and occupational health concern moving forward.

Findings Cases of lung disease in the food flavorings industry discussed in the literature have not been sufficiently documented to allow the conclusion that BO has been caused by diacetyl or butter flavoring. Further research is required to establish the causative agent(s).

Conclusion The diagnosis of bronchiolitis obliterans should be reserved for those individuals who have diagnostic lung biopsy findings, obtained and interpreted by clinicians who are experienced with this complex disorder.

Keywords: Bronchiolitis obliterans, Butter flavoring, Diacetyl, Lung biopsy, Popcorn lung