



Smoke inhalation injury: diagnosis and respiratory management

[Article in Japanese]

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Smoke inhalation is a significant comorbid factor following major thermal injury. Smoke exposure is only a trigger for the sequence of events responsible for the development of inhalation injury. Noxious chemicals generated by incomplete combustion injure the exposed bronchoepithelium and stimulate the release of chemical mediators that cause a progressive inflammatory process. Airway inflammation and pulmonary edema impair gas exchange and increase the susceptibility to pulmonary infection. Earlier diagnosis and treatment of inhalation injury is an important element to improve the clinical course of severe burn patients. The American Burn Association, however, recently concluded that there are insufficient data to support a treatment standard for the diagnosis of inhalation injury. At present, the diagnosis of inhalation injury is supported by the combination of history, physical examination, bronchoscopy, and laboratory findings. For accurate diagnosis of inhalation injury, helical CT scanning and examination to detect activated leukocytes in bronchoalveolar lavage fluid may be warranted. In the respiratory management of inhalation injury, repeated removal of pseudomembrane by fiberoptic bronchoscopy and the use of adequate PEEP to avoid airway obstruction are essential. High-frequency percussive ventilation can be a suitable mode of ventilation for inhalation injury.

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