

Severe Hydrocarbon Pneumonitis, a Fatal Complication of Petroleum Aspiration: A Case Report

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This case report outlines a patient who ingested and aspirated petroleum, leading to acute respiratory distress syndrome (ARDS), chemical pneumonitis, and subsequent complications. Despite rigorous interventions, the patient's condition worsened, resulting in his death. This report highlights the challenges in managing such cases and underscores the importance of early recognition, aggressive treatment, and multidisciplinary care.

Introduction:

Severe hydrocarbon pneumonitis from petroleum ingestion is rare, with an incidence of less than 2%. Children are particularly vulnerable due to accidental ingestion of household items containing hydrocarbons. Occupational exposure and fuel siphoning, especially in developing countries, are other common risk factors. Hydrocarbon pneumonitis occurs when hydrocarbons are inhaled or ingested, disrupting lung surfactant function, leading to decreased pulmonary compliance, bronchial edema, and lung tissue damage.

Case Presentation:

This report presents a 28-year-old male who developed hydrocarbon pneumonitis after accidentally ingesting and aspirating petroleum while siphoning fuel. The patient experienced violent coughing and a significant drop in oxygen saturation. Upon arrival at the hospital, he was in severe respiratory distress and required urgent intubation and intensive care. Imaging revealed extensive lung damage, confirming severe hydrocarbon pneumonitis. Transfer to a facility with extracorporeal membrane oxygenation (ECMO) capabilities was hindered by his critical condition. The patient was managed symptomatically, with continuous monitoring and interventions such as chest tube insertions. Despite these efforts, his condition deteriorated further, leading to bilateral lung injury, multi-organ failure, and death.

Conclusion:

Supportive care is essential in managing hydrocarbon pneumonitis, with about 80% of cases resolving with symptomatic treatment. Early recognition and intervention are crucial to prevent severe complications like pneumothorax and ARDS, which occur in 10-15% of cases. Advanced therapies such as ECMO are considered for severe cases, required by 5-10% of patients with unresponsive respiratory distress. Generally, the prognosis is favorable, though severe complications can lead to a 10-30% mortality rate. Further research is needed to refine treatment strategies and preventive measures.