

Reminder of important clinical lesson

Hydrocarbon pneumonitis masquerading as acute lung injury

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Hydrocarbon pneumonitis is an acute, intense pneumonitis resulting from aspiration/inhalation of volatile hydrocarbon compounds with low viscosity and surface tension. The authors describe the case of a 24-year-old male who aspirated diesel while siphoning it from heavy duty crane, developed bilateral pneumonitis and responded to 2-day therapy with non-invasive continuous positive airway pressure ventilation.

BACKGROUND

Hydrocarbon pneumonitis, resulting from aspiration of diesel/petrol or other hydrocarbons can present as acute onset breathlessness. Most of the cases involve siphoning of the fuel tank in our country, which is a common practice. If not recognised early, the condition may be fatal.¹

CASE PRESENTATION

A 24-year-old, heavy duty crane operator presented in the emergency department with acute onset breathlessness at rest, present since 8 h. He denied having had fever, trauma, intoxications, lower limb swelling/tenderness and smoking and left-sided chest pain. There was no history of heart disease. On enquiry, he revealed to have siphoned the diesel tank of his heavy duty crane which he operated,

suspecting it to have air trapped in the tank. Dyspnoea followed after that. On examination, the patient was afebrile, pulse rate was 108/min, regular, blood pressure was 100/70 and respiratory rate of 32/min with nasal flaring. Jugular venous pressure was not raised. Air entry was reduced with occasional crepitations in bilateral lung bases.

INVESTIGATIONS

Arterial blood gases (ABG) showed hypoxemia with pH - 7.34, partial pressure of carbon dioxide - 45, partial pressure of oxygen - 51 and saturation of oxygen - 84% on room air. ECG showed sinus tachycardia; complete haemogram did not reveal any abnormality. Liver/renal function tests were normal. Chest x-ray revealed bilateral lower zone pneumonitis (figure 1).

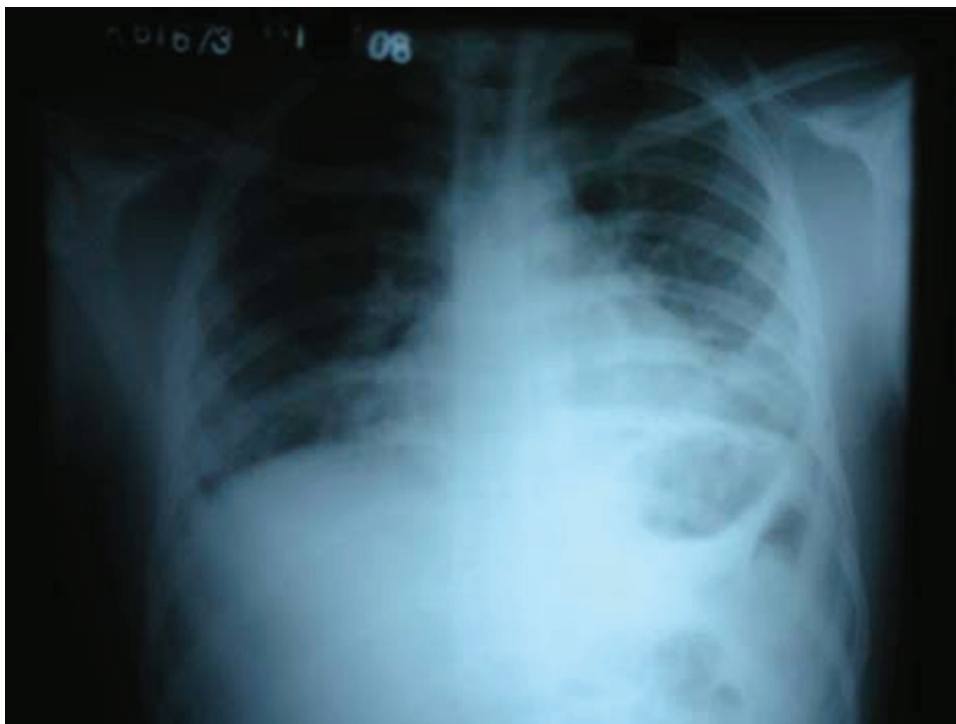


Figure 1 Chest x-ray plate posteroanterior view showing bilateral lower zone consolidation.

DIFFERENTIAL DIAGNOSIS

- ▶ Pulmonary embolism
- ▶ Spontaneous (primary) pneumothorax
- ▶ Flash pulmonary oedema
- ▶ Foreign body aspiration.

TREATMENT

The patient was on non-invasive continuous positive airway pressure (CPAP) ventilation in view of increasing work of breathing and ABG showing acute lung injury. The patient was in medical intensive care unit for 4 days, where he was on CPAP for 2 days.

OUTCOME AND FOLLOW-UP

The patient was discharged after 4 days of hospital stay. He developed no complications during his stay.

DISCUSSION

Hydrocarbon pneumonitis is an acute, intense pneumonitis resulting from aspiration/inhalation of volatile hydrocarbon compounds with low viscosity and surface tension, most of which are members of the paraffin, naphthalene and aromatic classes.² The entity may be more common than reported, as the practice of diesel/petrol siphoning is quite common in India. Aspiration of diesel/petrol may occur accidentally while siphoning from fuel tanks.^{3–7} Right middle lobes are commonly affected in siphoning of petrol/diesel.^{4–7} The incidence of involvement of both lower zones though most common radiologically,⁸ is exceedingly rare clinically with few anecdotal reports.¹ The clinical presentation of hydrocarbon pneumonitis is often non-specific and includes breathlessness, cough, chest pain and haemoptysis.⁴ Acute forms usually have a good outcome and regress favourably in a few days with conservative supportive measures; however, there have also been cases described of severe cavitary pneumonia and adult respiratory distress syndrome.⁹ In the case described by Khanna *et al*,¹ the patient had a fatal cardiac arrest following bilateral lower zone involvement. Cardiac arrhythmias and cardiomyopathies have been described in standard textbooks¹⁰; our patient, however, was discharged without developing any complications. Role of steroids

and antibiotics is controversial in the face of paucity of data.¹¹ Our case highlights the fact that acute onset bilateral pneumonitis can occur following diesel/petrol siphoning which is a common practice in our country. Early recognition of the condition and timely supportive treatment may be beneficial and life saving.

Learning points

- ▶ Pneumonitis developing due to siphoning of petrol/diesel is very prevalent and often overlooked in developing countries due to various reasons.
- ▶ Hydrocarbon pneumonitis is an important differential diagnosis for acute onset respiratory distress.
- ▶ Condition though benign, may prove fatal if not managed adequately.
- ▶ Early recognition and prompt treatment in intensive care set-up can be life saving.

Competing interests None.

Patient consent Obtained.

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