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### CASE REPORT

# Exogenous lipoid pneumonia caused by *Nigella sativa* oil – A case report

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#### **KEYWORDS**

Interstitial Lung Disease; Fibrosis; Chronic cough; Dyspnea Abstract Introduction: Exogenous lipoid pneumonia (ELP) is an uncommon and chronic infiltrative pulmonary process secondary to continued aspiration of exogenous lipids.

*Nigella sativa*, or the black cumin seed, is a herb used in traditional medicine in many Middle Eastern and Asian countries to treat a broad array of diseases.

*Objective:* The purpose of the present case report is to reveal the role of the abuse of *N. sativa* seed oil (black cumin seed oil), as an exceptional cause of ELP, which has not been, to our knowledge, previously documented.

*Case report:* A 50-year-old man was evaluated for a 6-month history of cough, sputum and progressively worsening dyspnea on exertion.

His medical history included long-term smoking. We questioned the patient specifically about use of any traditional herbal medicinal products. He acknowledged that he had been taking one table-spoon (15 ml) of *N. sativa* oil at bedtime since 8 months (8 bottles of 500 ml) for the purposes of tonification. Exogenous lipid pneumonia was suspected.

Physical examination found bilateral crackles of the lung bases. Lung function tests were normal. The chest radiograph showed thoracic distension and bilateral basal interstitial disease. Computed tomography (CT) of the chest was performed, and revealed infiltrative lung disease affecting the posterobasal segments of the right and left lower lobes, honeycomb fibrosis was seen at the bases of both lungs. Routine blood tests were normal. Sputum and blood culture were sterile.

We performed bronchoscopy with transbronchial biopsies and bronchoalveolar lavage. The color of the lavage liquid was blakish with fat globules on the fluid surface. It contained 220,000 cells/ml. Differential cell count showed 87% macrophages, 13% lymphocytes; stains and cultures for infectious agents were negative.

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The patient was advised to stop taking *N. sativa* oil. The only treatment that was instituted was N-acetylcysteine. A clinically significant change in symptoms and chest radiograph was observed. The patient has remained stable 18 months after the diagnosis.

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#### Introduction

Exogenous Lipoid Pneumonia (ELP) is a rare condition caused by inhalation or aspiration of plant, animal or mineral fats and may take an acute or chronic form. The majority of reported cases are related to the use of paraffin oil as laxative for chronic constipation, or in fire-eaters who use oily substances in their shows. Other lipid preparations for other therapeutic purposes may be involved. ELP has no specific clinical or radiological features. Its diagnosis requires a high degree of diagnostic suspicion. It should be considered each time an acute or chronic pneumonia associated with a history of exposure to a lipid substance occurs. We report here the first case published on exogenous lipid pneumonia secondary to *Nigella sativa* oil consumption in an tonification purpose.

#### Case report

A 50-year-old man was evaluated for a 6-month history of cough, sputum and progressively worsening dyspnea on exertion.

His medical history included long-term smoking. We questioned the patient specifically about use of any traditional herbal medicinal products. He acknowledged that he had been taking one tablespoon (15 ml) of *N. sativa* oil at bedtime since 8 months (8 bottles of 500 ml) for the purpose of tonification. His history showed no other comorbidities. Exogenous lipid pneumonia was suspected.



Figure 1 Radio thorax face montrant une distension pulmonaire et un discret syndrome interstitiel des bases.

Physical examination found bilateral crackles of the lung bases. Lung function tests were normal. The chest radiograph showed thoracic distension and bilateral basal interstitial disease (Fig. 1). Computed tomography (CT) of the chest was performed, and revealed infiltrative lung disease affecting the posterobasal segments of the right and left lower lobes, honeycomb fibrosis was seen at the bases of both lungs (Fig. 2). Routine blood tests were normal. Sputum and blood culture were sterile.

We performed bronchoscopy with transbronchial biopsies and bronchoalveolar lavage. The color of the lavage liquid was blakish with fat globules on the fluid surface. It contained 220,000 cells/ml. Differential cell count showed 87% macrophages, 13% lymphocytes; stains and cultures for infectious agents were negative.

The histological study of biopsies showed alveolar inflammation predominantly macrophage.

The patient was advised to stop taking *N. sativa* Oil. He received only N-acetylcysteine. Subsequent monitoring objectified clinical and radiological improvement. The patient has remained stable for 18 months after the diagnosis.

We diagnosed this case as Exogenous Lipoid Pneumonia *N*. *sativa*. We then advised the patient not to consume the oil and quit smoking.

#### Discussion

First described in 1925 by Laughlen [1], ELP is an uncommon condition caused by inhalation of oils. Acute ELP is secondary to accidental aspiration of a large quantity of lipid material over a short period of time, whereas the chronic form results from longterm recurrent inhalation exposure to oil products [2], such as paraffin oil to treat chronic constipation, as well as nose drops to treat chronic rhinitis. Animal oils are also



**Figure 2** TDM thoracique montrant un discret rayon de miel et des verres dépolis des 2 bases.

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