Respiratory Medicine Case Reports 22 (2017) 145–146

Contents lists available at ScienceDirect

Respiratory Medicine Case Reports

journal homepage: www.elsevier.com/locate/rmcr

Case report

An unusual case of recurrent chest infections

Taqua Dahab [a, *], Shahzaib Saleem [a], Dikshaini Gumani [a], Brian Casserly [a], Claire Sharkey [a], Frank Laghi [b], William Newmarch [b]

[a] Respiratory Department, University Hospital Limerick, Ireland
[b] University of Limerick, Ireland

ARTICLE INFO

Article history:
Received 23 April 2017
Received in revised form
29 July 2017
Accepted 2 August 2017

ABSTRACT

This case presentation relates to a 53 year old male, cachectic in appearance, who presented with progressively worsening dyspnoea, cough, intermittent haemoptysis and a history of nasal dryness ongoing over five months. The patient had received multiple courses of oral antibiotics for suspected community acquired pneumonia with no significant improvement. He was referred to our Respiratory Department for further evaluation of his symptoms. His HRCT showed right middle lobe consolidation with central cavitations. Furthermore, the transbronchial biopsy had been performed and the cytological examination revealed lipid laden macrophage with interstitial inflammatory changes. With return to the patient over the counter drug history, he described the frequent use of petroleum jelly to alleviate the symptoms of nasal dryness. This is the first report case of exogenous lipoid pneumonia presented with haemoptysis and cavitations in the HRCT.

© 2017 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

1. Case presentation

This case presentation relates to a 53 year old male, cachectic in appearance, who presented with progressively worsening dyspnoea, cough, intermittent haemoptysis and a history of nasal dryness ongoing over five months. The patient had received multiple courses of oral antibiotics for suspected community acquired pneumonia with no significant improvement. He was referred to our Respiratory Department for further evaluation of his symptoms.

On admission, the patient had a productive cough with mucoid sputum and shortness of breath on exertion. There were no overt signs of respiratory failure. Physical examination revealed reduced air entry on the right with bronchial breathing in the right middle zone.

Chest X-ray showed right middle lobe consolidation and intravenous antibiotics were commenced. High resolution CT (HRCT) was then requested for further evaluation (Fig. 1). As the clinical suspicion for malignancy was high, we proceeded to bronchoscopy and transbronchial biopsies were taken for cytology.

Cytology from transbronchial biopsy revealed lipid macrophages and interstitial inflammatory changes within the lung parenchyma (Figs. 2 and 3).

What diagnostic approach did we take next?

At this point we re-interviewed the patient, asking specifically about over-the-counter drug use. The patient described the frequent application of petroleum jelly to his nostrils in an attempt to relieve the ongoing symptoms of nasal dryness. The diagnosis of **exogenous lipoid pneumonia** was therefore made based on this history and the histopathological findings.

2. Treatment

The patient was advised to stop the offending agent i.e. petroleum jelly. CT Thorax was repeated after 3 months and showed marked improvement (Fig. 4). Follow up CT was essential to exclude the possibility of an endogenous lipoid pneumonia and/or underlying malignancy.

3. Discussion

Cholesterol pneumonitis (lipoid pneumonitis) is a rare and under-diagnosed disorder. It results from the accumulation of lipid in the lungs leading to a fibroblastic interstitial inflammatory process [1]. There are two main categories of lipoid pneumonitis:

* Corresponding author.
E-mail addresses: taqua_omer@yahoo.com (T. Dahab), shahzaibs@gmail.com (S. Saleem), drdgumani@yahoo.co.uk (D. Gumani), Brian.Casserly@hse.ie (B. Casserly), claire.sharkey@ucdconnect.ie (C. Sharkey).

http://dx.doi.org/10.1016/j.rmcr.2017.08.002
2213-0071/© 2017 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

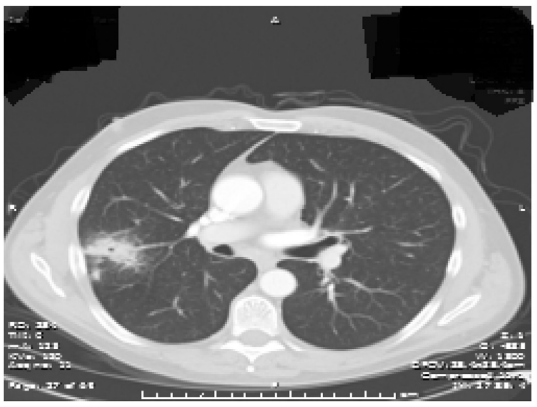

Fig. 1. Right middle consolidation with central clearance suggesting possible cavity.

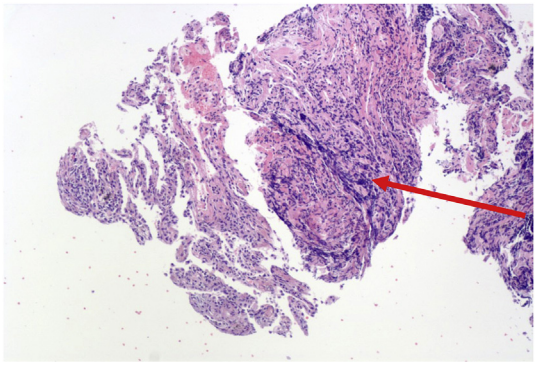

Fig. 2. Medium power cytological examination showed lipid macrophages (the red arrow) and interstitial inflammatory changes within the lung parenchyma. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

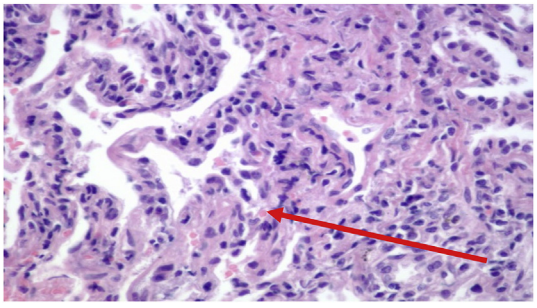

Fig. 3. High power cytological examination showed lipid macrophages within the lung interstitial tissue (the red arrow). (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

exogenous and endogenous. Exogenous lipoid pneumonitis is caused by aspiration or inhalation of oily substances and fat-like materials. Endogenous lipoid pneumonia represents the minority of cases and occurs when lipid containing matter is released from degenerated alveolar cells in the setting of impaired clearance e.g. bronchiectasis, malignancy, glycogen storage disorders, lung abscesses [2].

This case highlights that a patient with lipoid pneumonitis can present with symptoms and radiological findings similar to lung cancer and reinforces the fundamental importance of taking a thorough history. Our patient had a history of nasal dryness preceeding his respiratory symptoms. The frequent application of petroleum jelly to his nostrils to alleviate this dryness resulted in the gradual aspiration of the oily substance and lipid accumulation within the right interstitial lung tissue. As a result of this, the patient developed a cough with occasional haemoptysis and shortness of breath.

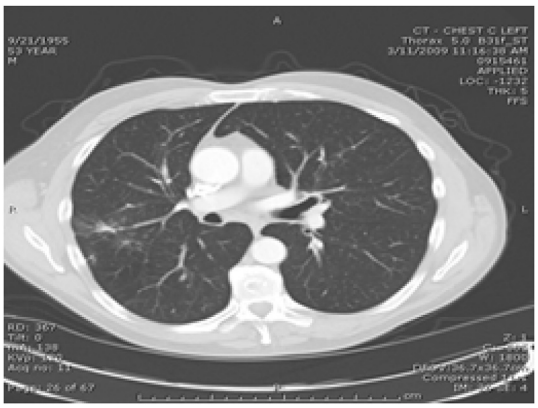

Fig. 4. CT Thorax demonstrated improvement in the right middle lobe consolidation three months after stopping the petroleum jelly.

There are a number of case reports available which describe exogenous lipoid pneumonitis caused by a variety of substances and circumstances, including sesame oil pulling, inhalation of insecticides and in fire-eaters. However, in all of these case reports, the patients presented with dry cough only, without haemoptysis [3–5]. The radiological findings in lipoid pneumonitis are usually reported as non-specific and can mimic many other respiratory diseases e.g. malignancy, tuberculosis, organizing pneumonia [6]. Findings on HRCT can include consolidation, ground glass opacities, linear/nodular opacities, masses and “crazy-paving” patterns [7].

Most of the case reports available have been managed by cessation of the offending agent. Occasional additional use of steroids, in an attempt to counteract the inflammatory response to lipid macrophage activity, has also been reported [3–5].

References

[1] K. Ikehara, M. Suzuki, T. Tsuburai, Y. Ishigatsubo, Lipoid pneumonia, Lancet 359 (2002) 1300, http://dx.doi.org/10.1016/S0140-6736(02)08269-7.
[2] S.L. Betancourt, S. Martinez-Jimenez, S.E. Rossi, M.T. Truong, J. Carrillo, J.J. Erasmus, Lipoid pneumonia: spectrum of clinical and radiologic manifestations, Am. J. Roentgenol. (2010). http://doi.org/10.2214/AJR.09.3040.
[3] M. Kuroyama, H. Kagawa, S. Kitada, R. Maekura, M. Mori, H. Hirano, Exogenous lipoid pneumonia caused by repeated sesame oil pulling: a report of two cases, BMC Pulm. Med. 15 (135) (2015). http://doi.org/10.1186/s12890-015-0134-8.
[4] I. K, K. T, M. Y, H. M, S. S, J. M, …, H. H, Exogenous lipoid pneumonia induced by aspiration of insecticide, J. Thorac. Imaging 27 (1) (2012) W18–W20. http://doi.org/10.1097/RTI.0b013e3182294a02.
[5] M. Pielaszkiewicz-Wydra, B. Homola-Piekarska, E. Szcześniak, M. Ciołek-Zdun, A. Fall, Exogenous lipoid pneumonia - a case report of a fire-eater, Pol. J. Radiol. 77 (4) (2012) 60–64. http://doi.org/10.12659/PJR.883631.
[6] E. Marchiori, G. Zanetti, C.M. Mano, B. Hochhegger, Exogenous lipoid pneumonia. Clinical and radiological manifestations, Respir. Med. (2011). http://doi.org/10.1016/j.rmed.2010.12.001.
[7] S.E. Baron, L.B. Haramati, V.T. Rivera, Radiological and clinical findings in acute and chronic exogenous lipoid pneumonia, J. Thorac. Imaging 18 (4) (2003) 217–224. http://doi.org/10.1097/00005382-200310000-00002.