Exogenous Lipoid Pneumonia after Ingestion of Shark Liver Oil: A Case Report

Jae Bum Yang, M.D., Hyeon Lim Seong M.D., Chan Sup Park, M.D.*, Yang Hee Park, M.D., Sang Sun Lee, M.D.

Department of Radiology, National Police Hospital

Exogenous lipoid pneumonia was first described in 1925 by Laughlen and a sizeable literature developed, reaching a peak in the 1940s. Two cases of exogenous lipoid pneumonia in children were reported domestically.

We wish to report a case of exogenous lipoid pneumonia presented with bilateral air-space consolidation in a 53-year-old man who had a long history of ingestion of shark liver oil. This report describes its radiological findings, along with a review of the literature.

Index Words: Lung, disease Lung, CT, 60.1211 Lung, lipoid pneumonia, 60.253

Introduction

Exogenous lipoid pneumonia is an uncommon disorder at present. Exogenous lipoid pneumonia which results from aspiration of oil presents a difficult diagnostic problem for both clinician and radiologist because it may mimic many diseases. In this report, lipoid pneumonia was suggested by chest radiograph and computed tomogram (CT), supported by a long history of shark liver oil ingestion. The diagnosis was confirmed by detecting oil droplets in the bronchial washings.

Case Report

A 53-year-old male was admitted to the National Police Hospital with fever, left chest pain and cough for 15 days. He had residuals neural clefiate of cerebral infarction with left hemiparesis. Physical examination revealed rales on both lower lung fields and tongue deviation to the left, representing facial palsy. In addition, he had slurred speech and decreased visual acuity for two years. Laboratory studies demonstrated anemia (hemoglobin, 10.0 g/dl) and leukocytosis (16.00x10^9/mm^3) with a lymphocyte count of 12%. The patient had a history of taking Squalen® (shark liver oil) for two years.

A chest radiograph demonstrated ill defined homogeneous haziness with air bronchograms in both lower lobes (Fig. 1). High resolution CT mainly showed mixed interstitial reticular density in portions of both lungs and diffuse air-space consolidations bilaterally without evidence of bronchial obstruction (Fig. 2). The density of the lesion was slightly lower than that muscle.

In respiratory secretion, sputum examination showed numerous lipoid laden alveolar macrophages of varying sizes, consistent with lipoid pneumonia (Fig. 3).

Discussion

Domestically two cases of exogenous lipoid pneumonia in children have been reported by Chang Gee Gang and Jeong Wan Yoo1,2. A history of usage...
of shark liver oil was obtained all.

Exogenous lipoid pneumonia is a chronic, acinar or interstitial, proliferative inflammatory disease resulting from aspiration of oil material. It has been encountered in patients who use mineral oil, such as liquid paraffin for constipation and in nose drops: animal oils, such as cod liver given to children; and vegetable oils, sesame oil used in medical suspensions(3-9). The incidence is higher in older pa-

Fig. 1. Chest radiograph shows ill defined homogeneous haziness predominantly in both lung fields with air bronchograms. And streaky density and calcifications in upper lobe represents inactive pulmonary tuberculosis.

Fig. 2. High resolution CT at the level of the inferior pulmonary vein shows diffuse air-space consolidations bilaterally and interstitial infiltrations with reticular and ground-glass density.

Fig. 3. Smear of lung sputum cytology shows multiple vacuolated macrophages with fat vacuoles (Papanicolaau stain. x400).

tients with underlying debility(10).

The mechanism of oil aspiration could be due to the inhibitory action of the shark liver oil to stimulate the cough reflex(6). Habitual consumption before retiring may result in pooling of the shark liver oil in the pharynx with subsequent aspiration during sleep(4-9). In addition, shark liver oil has been shown to inhibit ciliary action when present in large quantity, with resultant failure to clear aspirated material from the tracheobronchial tree(11). The clinical presentations range from occasional cough to severe respiratory difficulties.

The radiologic manifestations of exogenous lipoid pneumonia vary from a solitary lipoid granuloma or large consolidations simulating carcinoma to an extensive bronchopneumonia(12). CT scans can help by detecting fat in lung mass. The typical radiologic findings show a bilaterally diffuse perihilar or centrally ill defined nodular or confluent air-space consolidation which is usually more severe in the base(13-17). In most cases lower lobes are affected. In debilitated patients, because of their recumbent positions, involvement is likely to occur in the superior segment of a lower lobe or the posterior segment of an upper lobe(18). The differential diagnosis of lipid pneumonia includes pulmonary edema, tuberculosis, bacterial pneumonia, fungal infection, alveolar proteinosis, bronchioloalveolar carcinoma or metastatic cancer, pneumoconiosis, hypersensitivity pneumonitis and pulmonary fibrosis. Treatment consists of discontinuing the use of the oppending oil and rare-
ly is surgical removal necessary(17). Although past history of ingestion of oily substance can easily be forgotten by the patients, it is vital to establish the diagnosis for treatment. Exact diagnosis requires detection of the oil droplets either by sputum examination, aspiration biopsy, or by surgical resection(19).

REFERENCES

1. 강창기, 김호성, 김정탁. 지방성성 폐렴 1례, 소아과학 학회 1990;33 : 393-397
2. 유정환, 박환규, 손영모. 컴퓨터단충촬영으로 진단된 지방성 폐렴 1례, 대한의학협회지 1990;33 : 921-925
17. Godwin JD, Muller NL, Takasugi JE. Pulmonary alveolar proteinosis: CT findings. Radiology 1988; 169:609-613

스쿠알렌 복용후 발생한 외인성 지방성 폐렴

-1례 보고-

국립경찰병원 방사선과 인하대학교 의과대학 방사선과학교실*
양재범·성현림·박찬섭*·박양희·이상선

외인성 지방성 폐렴은 1925년 Laughlen에 의해 처음 보고되었고 1940년대에 활발한 보고가 있었으나 그후 감소하는 추세였다. 국내에서는 소아 환자에서 2례 보고되었다.

저작들은 최근에 복용하고 있는 수준 전파를 받기 때 영어로 연관된 스크알렌* (Shark liver oil) 복용한 후 방사선학적 양측성 기강 정렬(air-space consolidation)으로 발현하였으며 기관기경검사에서 지방성 droplet의 발견으로 지방성 폐렴으로 확진된 1례를 경험하였기에 문헌 고찰과 함께 보고하고자 한다.