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Pleural Calcification as a Manifestation of Paragonimiasis : A Report of Two Cases[1]

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Pleural involvement in paragonimiasis is relatively common, either unilateral or bilateral, and may occur without pulmonary parenchymal infiltrates. Common radiologic findings of pleural paragonimiasis are pleural effusion, pneumothorax, hydropneumothorax, empyema and pleural thickening. However, pleural calcification as a manifestation of paragonimiasis is a rare condition. We report two cases of paragonimiasis manifested only as pleural calcifications which were confirmed pathologically.

Index Words : Pleura, infection
Pleura, CT

Pleuropulmonary paragonimiasis is a disease caused by lung flukes, the trematode Paragonimus westermani or other species of Paragonimus, and pleural involvements are common in paragonimiasis (1-4). They are manifested as pleural effusion, pneumothorax, hydropneumothorax, empyema or pleural thickening (2, 5). Pleural involvement may be unilateral and occur without pulmonary infiltrates (2, 3, 6). But pleural calcification as a sole manifestation of paragonimiasis is a rare condition and to the best of our knowledge, this condition has not been reported previously. We recently experienced two cases of paragonimiasis manifested only as pleural calcifications on chest radiographs and chest CT scan which were confirmed pathologically.

CASE REPORT

Case 1

A 44-year-old woman was admitted for evaluation of pleural calcifications which were found incidentally in chest radiograph at routine screening. She was healthy and had no specific medical problem such as pulmonary tuberculosis, pneumonia, pleurisy or paragonimiasis. Chest radiograph showed two ovoid calcifications in right lower anterior and posterior hemithorax with minimally blunted right costophrenic sulcus, and no abnormal infiltrations in both lungs (Fig. 1a). CT scan showed a focal calcification in right lower anterior costal pleura and another ovoid calcification with central low density in right lower costal pleura(Fig. 1b). Decortication was done in right hemithorax, and the pathologic examination of operative specimen showed chronic fibrosing and granulomatous inflammation with dystrophic calcifications. These histologic findings were strongly suggestive of paragonimiasis.

Case 2

A 45-year-old woman had dull pain on left lower anterior chest since one and a half year ago. She had no specific past medical history including tuberculosis, pleurisy and paragonimiasis. Chest radiograph showed a half-moon-shaped calcification in left mid lateral hemithorax and there were no abnormal pulmonary infiltrations in both lung fields (Fig. 2a). CT scan showed a half-moon-shaped high density lesion in left mid lateral pleura with broad attachment to chest wall (Fig. 2b).

Empyemectomy was done in left hemithorax. Histologic examination of operative specimens revealed eggs of Paragonimus westermani (Fig. 2c) and areas of chronic inflammation.

DISCUSSION

Paragonimiasis is an endemic disease in certain areas of East and Southeast Asia where people eat raw fresh water crab, crayfish, or shrimp. Once ingested by

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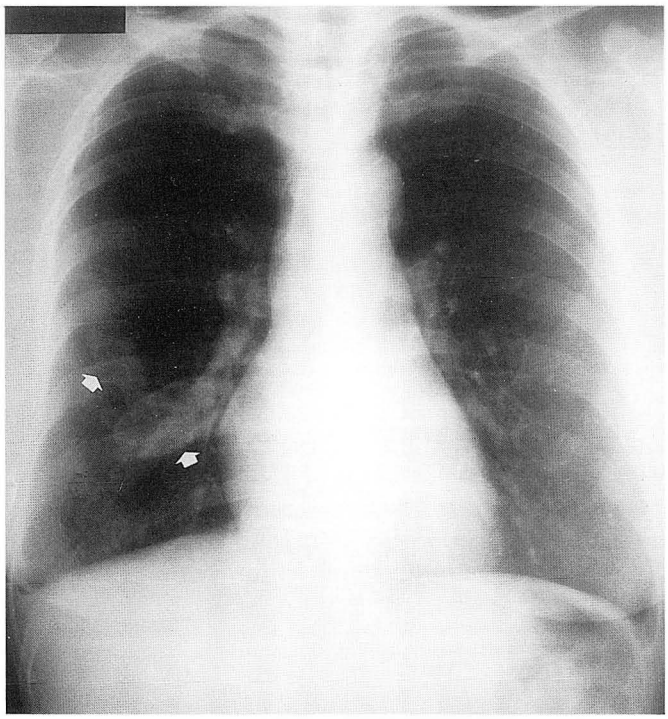

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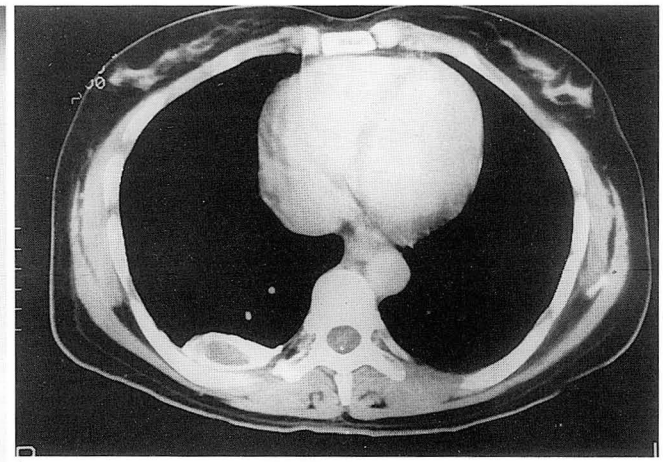

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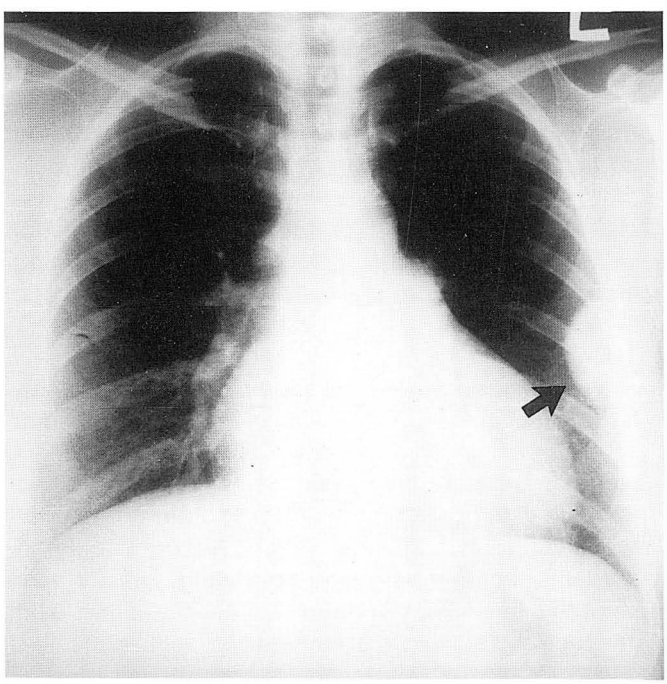
Fig. 1. Pleural paragonimiasis in a 44-year-old woman.
a. Chest radiograph shows two ovoid calcifications in right costal pleura (arrows).
b. Chest CT scan shows pleural calcification with central low density in right posterior hemithorax.



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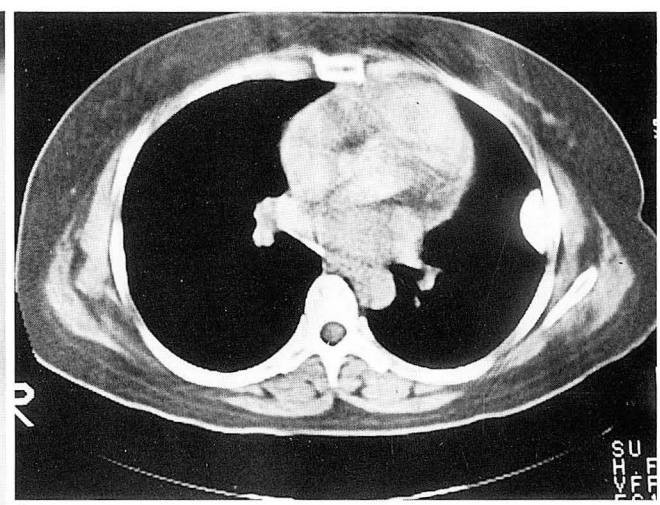

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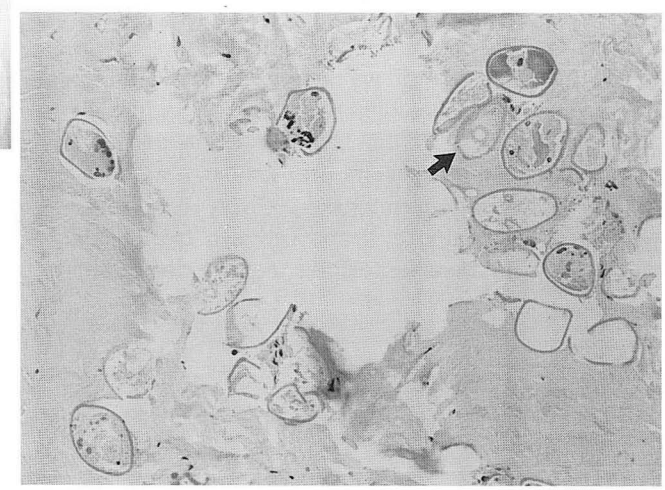

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Fig. 2. Pleural paragonimiasis in a 45-year-old woman.
a. Chest radiograph shows a half-moon-shaped calcification in left mid lateral costal pleura (arrow).
b. Chest CT scan shows same calcification as in chest radiograph.
c. Photomicrograph of specimen shows characteristic eggs of Paragonimus westermani (arrow) and necrotic materials in the peripheral portion of empyema sac (H&E, ×200).

man, the larva penetrates the bowel and migrates through the liver, diaphragm and pleura into the lung where they mature into adult flukes. If the larva remains in the pleural space, they will not mature into adult flukes(2). Pleural involvements are common in paragonimiasis. Im et al(1) reported that 43 of 71 (61 %) patients with paragonimiasis had pleural lesions and none of them had pleural calcifications. Pleural effusion is either unilateral or bilateral, small to massive exudates and may occur without parenchymal infiltrates (1-4, 6). Clinically paragonimiasis can be mistaken for tuberculosis. In cases of pleurisy, residual pleural fibrosis is unusual in paragonimiasis even with a long duration of the disease, whereas it is usual in tuberculosis (1). Pleural calcification is most often the result of a previous hemothorax, pyothorax, tuberculous effusion, a manifestation of pleural disease caused by asbestos exposure. Pleural calcification as a sole manifestation of paragonimiasis is a rare condition. We speculate that pleural calcifications in our cases may be derived from subclinical chronic empyema caused by paragonimiasis. Diagnosis of paragonimiasis is made by detecting eggs in sputum, stool, fluid from bronchoscopic lavage, biopsy specimens or by a positive anti-paragonimus antibody test. Pleural biopsy show chronic inflammation, occasionally with plasma cell and eosinophil infiltration, without granuloma, and usually ova are not seen in pleural fluid(2). In our cases diagnosis was made by pathologic confirmation from operative specimens, and one of them showed eggs in the specimen.

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석회성 흉막 병변으로만 발현된 폐흡충증:2예 보고[1]

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이미란 · 강은영 · 채양석[2] · 설혜영

폐흡충증에 의한 흉막질환은 비교적 흔히 관찰되는 것으로서 흉막 삼출액, 기흉, 수기흉, 농흉, 흉막 비후 등으로 나타나며 이는 폐질환 없이도 나타날 수 있다. 그러나 석회성 흉막병변으로만 나타나는 경우는 매우 드물며 이는 결핵성 흉막염과의 감별을 요한다. 최근 수술로서 확진된 흉막의 석회성 병변으로만 나타난 폐흡충증 2예를 경험하였기에 보고하는 바이다.

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