

Propylthiouracil

:

1

2

Propylthiouracil

가

5

propylthiouracil

36

가

(BAL)

perinuclear - antineutrophil cytoplasmic antibody (p - propylthiouracil

ANCA) antiperoxidase antibody

Propylthi -

(pulmonary trunk)

ouracil (PTU) antibody (ANCA)

antineutrophil cytoplasmic

3.3 cm C).

(Fig. 1B,

가 (1, 2).

(diffuse alveolar

thyroperoxidase perinuclear - antineutrophil cytoplasmic antibody (P - ANCA, 1:160)

hemorrhage)

(2, 3),

가

C - ANCA anti - GBM antibody

(4).

PTU

PTU

(PTU - induced diffuse alveolar hemorrhage)

(hemoglobin)

9.0 g/dL

3

7.6 g/dL

가

5

11.9 g/dL,

8

12.7

g/dL

가

PTU

(PTU - induced diffuse alveolar

hemorrhage)

PTU

33

가

6

2001

PTU

(Fig. 2).

(Fig. 1A). BAL (pulmonary (CT)

ANCA - Stankus (5)

(PTU - induced vasculitis)

(bronchoalveolar lavage) alveolar hemorrhage)

1992

(6 -

(ground glass opacity)

CT

PTU

1

(7).

Gunton

1
2

(7) (37%), (30%), (67%), (48%), (26%), (scleritis), (2, 3), (diffuse alveolar), ANCA -, CT, crazy - paving pattern, 가, CT, 가, PTU, PTU -

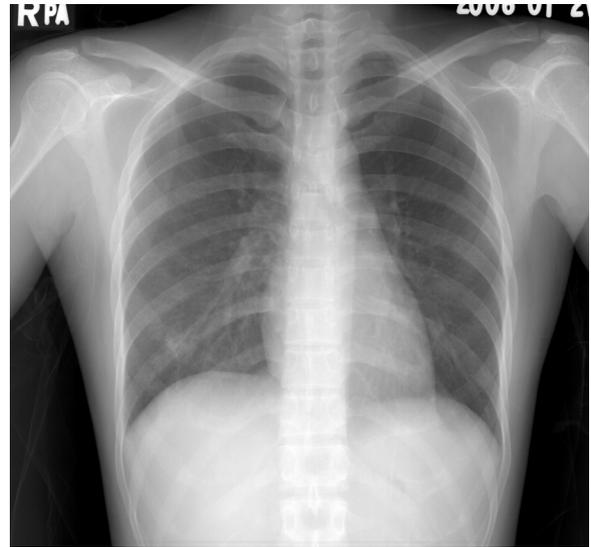
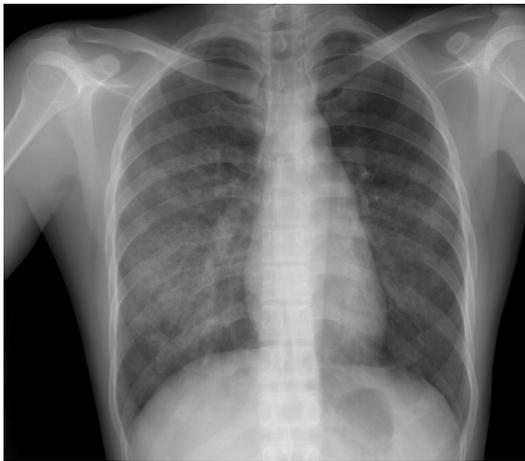


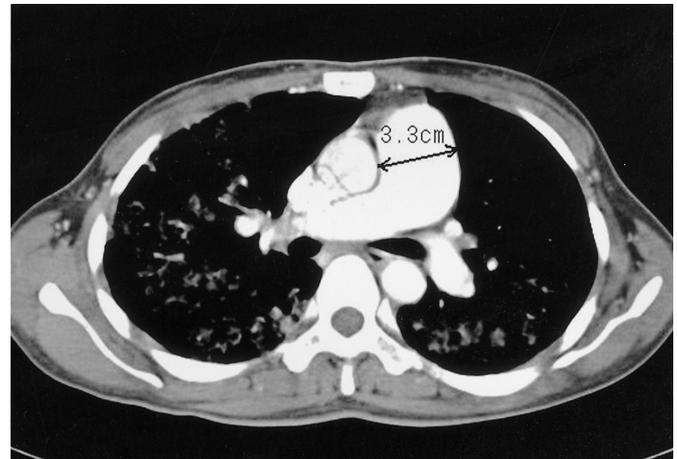
Fig. 2. A 33-year-old woman with Propylthiouracil-induced diffuse alveolar hemorrhage. On the 5th day after admission, follow up chest radiograph shows nearly complete resolution of the infiltration in both lungs.



A



B



C

Fig. 1. A 33-year-old woman with Propylthiouracil-induced diffuse alveolar hemorrhage.
A. Chest radiograph shows diffuse increased opacities in both lungs, more prominent in right.
B. High Resolution CT scan obtained at level of inferior pulmonary vein reveals diffuse ground glass opacity with crazy-paving pattern and consolidation in both lungs.
C. Contrast enhanced chest CT at level of intrapericardial pulmonary artery shows enlargement of the main pulmonary artery (3.3 cm in diameter).

- BAL , p-
ANCA , anti -peroxidase antibody 가
PTU 가
- PTU
cyclophosphamide
가 (3). PTU
- Dhillon SS, Singh D, Doe N, Qadri AM, Ricciardi S, Schwarz MI. Diffuse alveolar hemorrhage and pulmonary capillaritis due to propylthiouracil. *Chest* 1999;116:1485-1488
 - Yamauchi K, Sata M, Machiya J, Osaka D, Wada T, Abe S, et al. Antineutrophil cytoplasmic antibody positive alveolar haemorrhage during propylthiouracil therapy for hyperthyroidism. *Respirology* 2003;8:532-535
 - Fujii A, Arimura Y, Minoshima S, Kobayashi M, Yoshihara K, Tanaka U, et al. MPO-ANCA related vasculitis with pulmonary hemorrhage during propylthiouracil (PTU) therapy. *Ryunachi* 1997;37:788-793
 - Propylthiouracil . *Tuberc Respir Dis* 2005; 1 : 58:78-82
 - Stankus SJ, Johnson NT. Propylthiouracil-induced hypersensitivity vasculitis presenting as respiratory failure. *Chest* 1992;102:1595-1596
 - Ohtsuka M, Yamashita Y, Doi M, Hasegawa S. Propylthiouracil-induced alveolar haemorrhage associated with antineutrophil cytoplasmic antibody. *Eur Respir J* 1997;10:1405-1407
 - Gunton JE, Stiel J, Clifton-Bligh P, Wilmshurst E, McElduff A. Prevalence of positive anti-neutrophil cytoplasmic antibody (ANCA) in patients receiving anti-thyroid medication. *Eur J Endocrinol* 2000;142:587-590
 - Noh JY, Asari T, Hamada N, Makino F, Ishikawa N, Abe Y, et al. Frequency of appearance of myeloperoxidase-antineutrophil cytoplasmic antibody (MPO-ANCA) in Graves' disease patients treated with propylthiouracil and the relationship between MPO-ANCA and clinical manifestations. *Clin Endocrinol* 2001;54:651-654
 - Vanek C, Samuels MH. Central nervous system vasculitis caused by propylthiouracil therapy: a case report and literature review. *Thyroid* 2005;15:80-84
 - Chastain MA, Russo GG, Boh EE, Chastain JB, Falabella A, Millikan LE. Propylthiouracil hypersensitivity: report of two patients with vasculitis and review of the literature. *J Am Acad Dermatol* 1999;41:757-764

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Propylthiouracil-induced Diffuse Pulmonary Hemorrhage: A Case Report with the Clinical and Radiologic Findings¹

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Propylthiouracil (PTU) is a drug that's used to manage hyperthyroidism and it can, on rare occasions, induce antineutrophil cytoplasmic antibody-associated vasculitis that involves multiple organ systems and it can also cause extremely rare isolated or diffuse pulmonary hemorrhage. We report here on a case of a patient who developed diffuse pulmonary hemorrhage after she had been taking PTU for five years. The patient is a 33-year-old woman who presented with hemoptysis. Simple chest radiographs and the chest CT showed bilateral ground-glass opacity, consolidation and pulmonary arterial hypertension. The bronchoalveolar lavage fluid revealed alveolar hemorrhage. The laboratory values showed increased perinuclear-antineutrophil cytoplasmic antibody (p-ANCA) and anti-peroxidase antibody titers.

Index words : Pulmonary hemorrhage, CT
Hyperthyroidism
Vasculitis
Drug, Side effects

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