

Wegener's granulomatosis cyclophosphamide 1

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=Abstract=

Cyclophosphamide - Induced lung toxicity in a patient with Wegener's granulomatosis

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Lung toxicity associated with cyclophosphamide use is a rare but serious side effect, that may result in a fatal course. However no such cases have been reported in Korea, so clinicians would not be alert to this adverse effect. We recently experienced a woman with Wegener's granulomatosis and idiopathic pulmonary fibrosis. This patient had been administered 12 grams of cyclophosphamide for 4 months. At that time of admission, She felt aggravating dyspnea on exertion for 2 weeks. Her chest x-ray and high resolution CT revealed aggravated reticular opacities and ground glass appearances. Dyspnea was improved and ground glass appearances on HRCT was disappeared after discontinuation of cyclophosphamide. We diagnosed this case as cyclophosphamide-induced pneumonitis and report it with a brief review of the literature.(Korean J Med 61:439-443, 2001)

Key Words : Cyclophosphamide; Drug toxicity; Lung

Cyclophosphamide
Wegener's granulomatosis
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cyclophosphamide
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(delayed toxicity) cyclophosphamide prednisone 10 mg , cyclophosphamide
 가 100 mg .
 cyclophosphamide
 가 , 가 , 2
 가 .
 Wegener's granulomatosis : 16 1
 cyclophosphamide , . 10
 (high resolution computed tomography, HRCT) 가 :
 , cyclophosphamide 70 / , 29 / , 36.6
 cyclophosphamide

: , , 64
 : 2
 : 4 , 1
 , ,
 (1)
 , p-ANCA ,
 ESR 가 (108 mm/hr),
 Wegener's granulomatosis . Pre-
 dnisone 30 mg, cyclophosphamide 100 mg

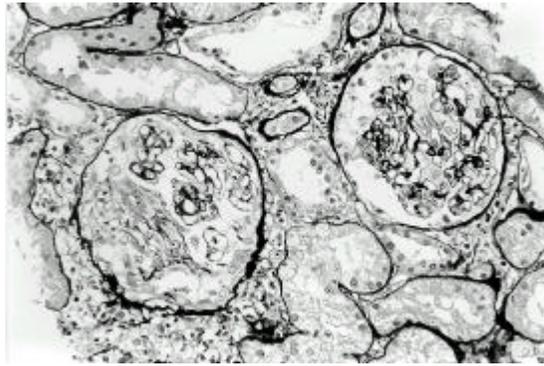


Figure 1. Light microscopic findings of kidney biopsy show a focal segmental necrotizing glomerulonephritis with cellular crescents. PAS-Methenamine silver (x200)

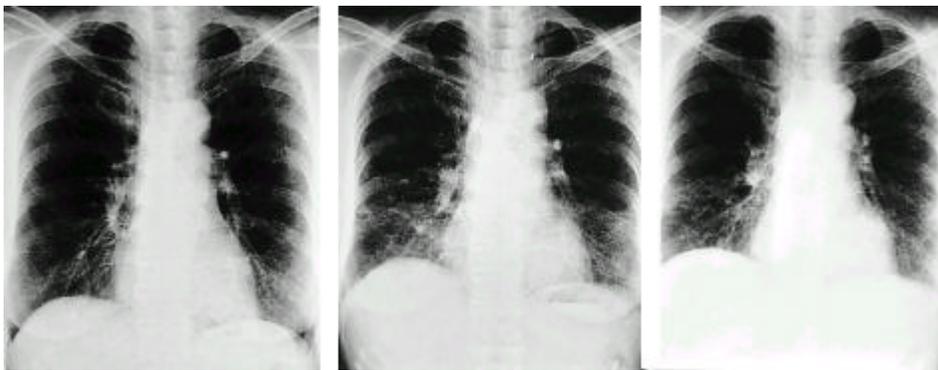


Figure 2A

Figure 2B

Figure 2C

Figure 2. A) Baseline chest radiograph reveals subtle reticular opacities in both lower lung zones. B) Chest radiograph obtained after cyclophosphamide treatment for four months, shows increased reticular opacities and Kerley's lines in both lung fields. C) Reticular opacities are improved on chest radiograph obtained after 2 weeks of quitting cyclophosphamide.

HRCT

11.9 g/dL, (3C)

4,100/mm³, 157,000/mm³ 가

34 mm/hr 126 mg/dL, prednisone 10 mg, sulfamethoxazole 800 mg, trimethoprim 160 mg

7.0 g/dL, 3.5 g/dL, alkaline phosphatase 154 IU/L, AST 35 IU/L, ALT 17 IU/L . BUN/Cr 16.6/1.6 mg/dL

p-ANCA cyclophosphamide

FVC 1.68L (69%), 1967 Andre ¹⁾ 1%

FEV₁ 1.53L (78%) FEV₁/FVC 91% ²⁾, mice 100 mg/kg cyclophosphamide 가

6.88 mL/min/mmHg 36% ³⁾. Cyclophosphamide

: 4 X (1

2A) 8 , Cyclophosphamide

3A) (subpleural) (honey- 2가 ⁴⁾.

combing) 1-6 ,

X 가 , HRCT 1-2

(3B) , Cyclophosphamide

: 가 가 가

cyclophosphamide

cyclophosphamide cyclophosphamide

20 , cyclophosphamide

X (2C) 가 가

Wegener's granulomatosis

sulfamethoxazole 800 mg, trimethoprim 160 mg cyclophosphamide 4 ,

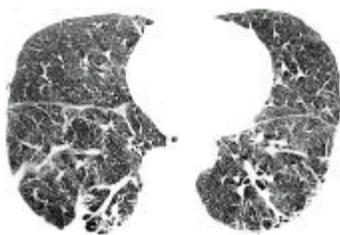


Figure 3A



Figure 3B

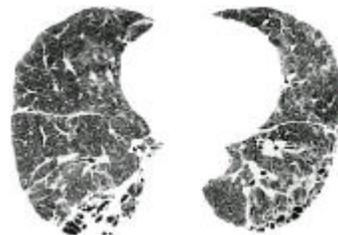


Figure 3C

Figure 3. A) Her baseline HRCT scan through lower lung zones reveals fine honeycombing with subpleural distribution in both lower lobes. B) HRCT scan obtained after cyclophosphamide treatment for four months, at the same level as A, shows newly developed ground glass opacities of patch distribution in addition to honeycombing in both lung zones. C) The ground glass opacities are disappeared but area of honeycombing is increased on HRCT scan obtained after 2 weeks quitting cyclophosphamide.

level 가 cytokine
 Cyclophosphamide 가^{8, 9)}
 X- Cyclophosphamide
 HRCT 가
 5) Cyclophosphamide 가
 cyclophosphamide¹⁰⁾ Cyclophosphamide
 가
 6) cyclophosphamide X- cyclophosphamide¹¹⁾
 가 X- cyclophosphamide Wegener's granulo-
 matosis가 azathioprin
 4 HRCT sulfamethoxazole-trimethoprim^{12, 13)}
 , Wegener's granulo-
 matosis ESR, ANCA
 Wegener's granulo-
 matosis 가 가 가
 cyclophosphamide Wegener's granulomatosis cyclophosphamide
 가 HRCT
 cyclophosphamide
 cyclophosphamide
 X- cyclophosphamide

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TGF- β 1

TGF- β 1 mRNA

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