

CT

1

. . . 2 . . 3

: CT

: 2003 6 2005 5
CT 1239 (1,275 CT)
가 500/ μ L 가 CT
가 CT
가 24%
CT 2.8% 45.7
31:5
가가 804/ μ L 1494/ μ L
($p < 0.05$).
, 가 18
, 9, 9 (n=56)
88% (n=49)가 10 mm 가 82% (n=46) 30%
(n=17)
CT 가 10 mm
가
가

CT (4-6).

가

CT 가

가 (7).

(1-4). CT (simple pulmonary eosinophilia)

CT (indeterminate 가

nodules) CT

1
2
3

2005 9 26

2005 12 26

2003 6

2005 5

CT 1,239

(1,275 CT)

47.5 (21 - 79) 가 998 , 가 241

. 911 26

328

CT 4 LightSpeed Plus (GE medical system, Milwaukee, U.S.A.) 120 kVp, 40 mAs, 1.5, 7.5 mm , 22.5 mm 7.5 mm

PACS (1,500 HU, - 600 HU) 가

(400 HU, 40 HU)

가 3 mm

10 mm 2

, 10 mm

CT

가 가 500/μL

가 CT

가 CT

7 CT 가 가 3 CT

가

CT 1,239 236 (19%)

153 (12.3%)

가 36

가 24%, CT 1275

2.8% 135

36

가 2 , 1

가 35

CT 50

(13 - 180) 32

4 가

45.7

31:5 . 4 , 22

, 10 가가

CT

216 (17.4%)

(Clonorchiasis sinensis), 가

(Metagonimus yokogawai), (Giardia lamblia),

(Endolimax nana), (Entamoeba histolytica), (Entamoeba coli)가

36 8 (22%),

1203 208 (17%)

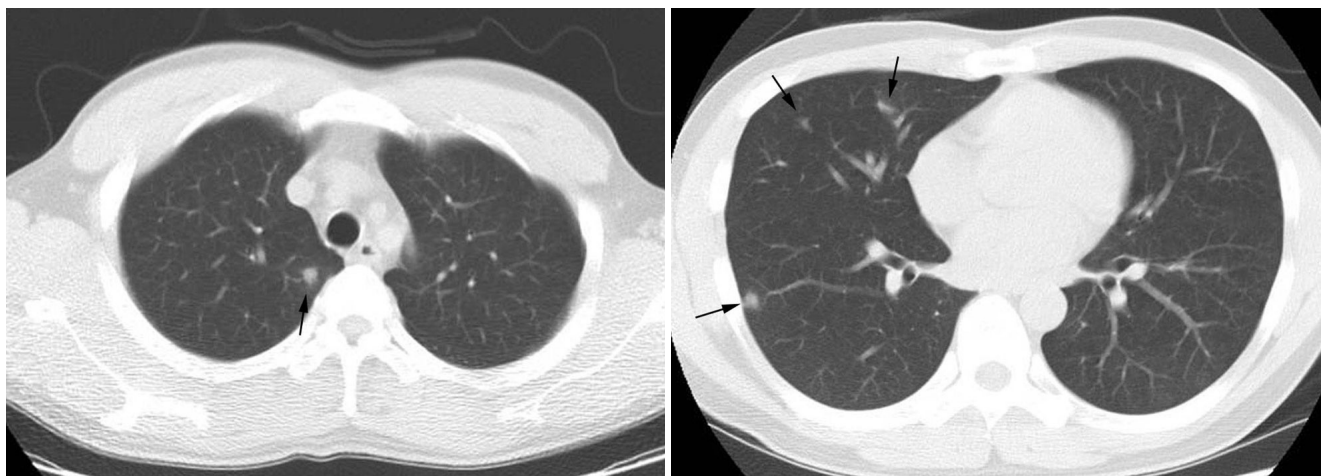


Fig. 1. A 43-year-old man with simple pulmonary eosinophilia. The laboratory findings show peripheral blood eosinophilia ($1546/\mu\text{L}$) and a positive stool test for *clonorchiasis sinensis*. Low-dose CT shows ill-defined nodules (arrows) in right lung (**A, B**). All lesions disappeared on the CT obtained 25 days later.

1494/ μ L 가가 CT
804 / μ L 가 가 CT

(t - test, $p < 0.05$).
14 , 3 , 가 4 , 15
, 가 가 (Fisher's exact test,
 $p < 0.05$).
CT , CT 18 가 2
(Fig. 1), 9 , 9 56 가 CT 2.8%,
(Fig. 2) (Table 1). 33 가 24% 가 가 500/ μ L
, 2.5 (1 - 11) 가 가 17
47% 7
mm (4 - 17 mm) 49 (88%)가 10 mm .
가 가 46 (82%), 가 2
가 8 (14%),
(Fig. 3) 17 (30%)
(Fig. 4) (Table 2).
가 25
(n=28), (n=24), (n=17),
(n=14), (n=7)

Table 1. CT Findings of Simple Pulmonary Eosinophilia Detected at Low-dose CT Screening for Lung Cancer

Patients	Lesions	Nodule (s)	GGO*	Nodule (s) + GGO*
n = 36		18	9	9

* GGO - Ground-glass opacity

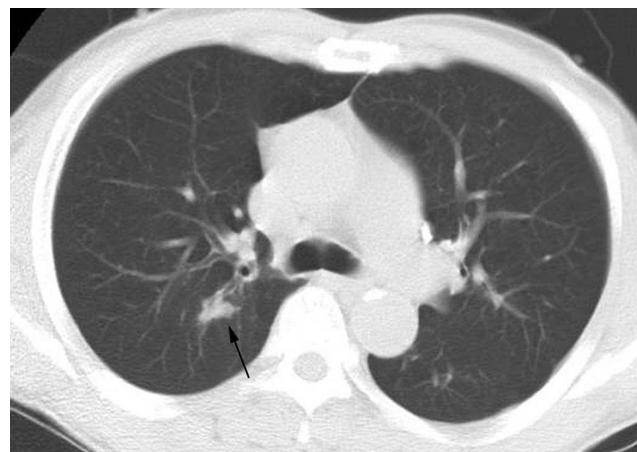
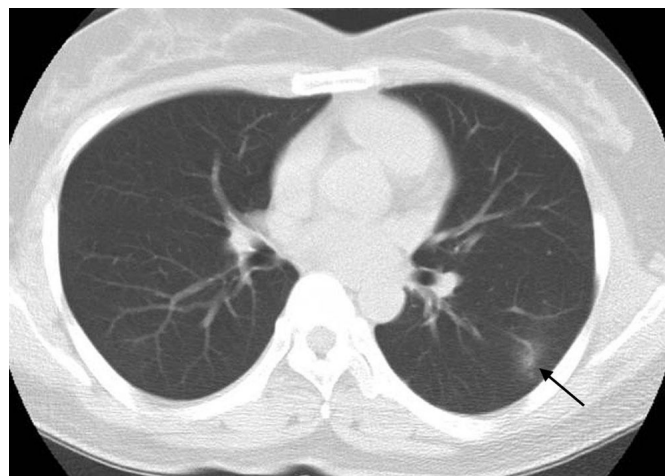
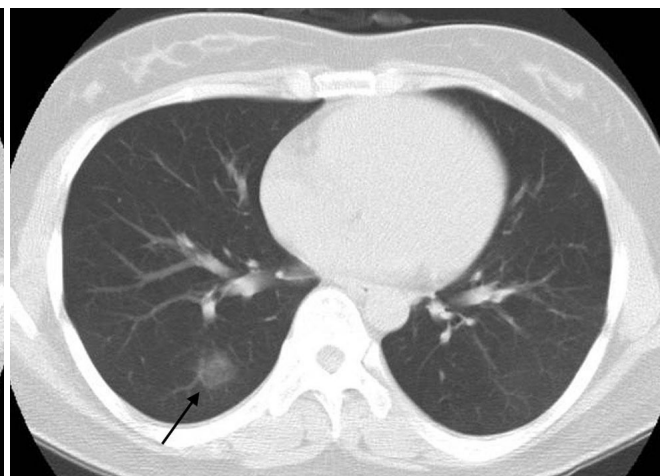


Fig. 3. A 55-year-old man with simple pulmonary eosinophilia (peripheral blood eosinophil: 795/ μ L). Low-dose CT shows about a 16mm sized irregular nodule (arrow) in the right upper lobe. The lesion was interpreted as lung cancer, but it disappeared on the follow-up CT obtained 28 days later.



A



B

Fig. 2. A 40-year-old woman with simple pulmonary eosinophilia. Her peripheral blood eosinophil count was 2167/ μ L. Low-dose CT shows areas of ground-glass opacity without central nodules in both lower lobes (arrows in **A** and **B**). The chest CT obtained 30 days later showed negative findings.

Table 2. Characteristics of Nodules in Simple Pulmonary Eosinophilia

Nodules (n = 56)			
Margin			with halo
well-defined	ill-defined	irregular	
8 (14)	46 (82)	2 (4)	17 (30)

Note. - Numbers in parenthesis are percentages.

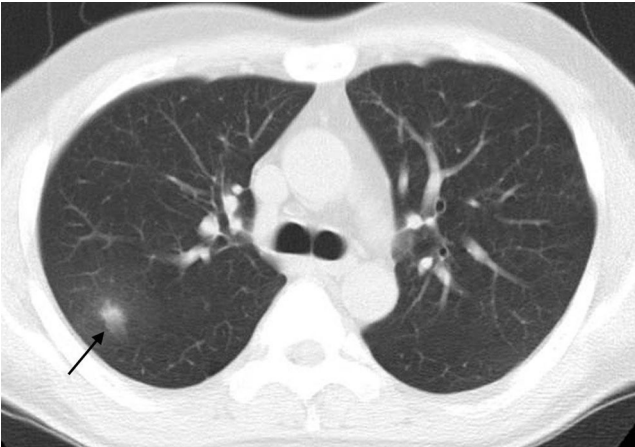


Fig. 4. A 43-year-old man with simple pulmonary eosinophilia (peripheral blood eosinophil count: 772/ μ L). Low-dose CT shows the ill-defined single nodule with a ground-glass opacity halo (arrow) in the RUL. The lesion resolved completely on the CT obtained 75 days later.

가 (8).
가 CT
(BAL fluid) 가 (9).
(9, 10).
가 가
(10).
50 CT 가
Johkoh (11) CT
CT
CT

CT
36 27
가
2
(10, 11)
30%
CT
(cytokine)
(8)
가
10
가
가
9
CT
25%
가
(12).
가
가
가
1/3
가 (7, 9).
8
8
3.7%
36 가 31 CT
가
가
가
가
가
10 mm 가 CT

가가

가

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Simple Pulmonary Eosinophilia Detected at Low-dose CT for Lung Cancer Screening¹

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Purpose: The aim of this study was to evaluate the frequency, radiologic findings and clinical significance of the simple pulmonary eosinophilia (SPE) that was diagnosed among the asymptomatic patients who underwent low-dose CT scans for the early detection of lung cancer.

Materials and Methods: From June 2003 to May 2005, 1,239 asymptomatic patients (1,275 examinations) who visited the health promotion center in our hospital and who underwent low-dose CT were enrolled in this study. SPE was defined as the presence of > 500 eosinophils per microliter of peripheral blood and the presence of abnormal parenchymal lesions such as nodules, airspace consolidation or areas of ground-glass attenuation (GGA) on CT, and there was spontaneous resolution or migration of the lesions on the follow-up examination. We analyzed the CT findings of SPE and we investigated the relationship between the occurrence of SPE and the season, smoking and the presence of parasite infestation.

Results: 36 patients were finally diagnosed as having SPE; this was 24% of the 153 patients who were diagnosed with parasite infestation and 2.8% of the total low-dose CT scans. These 36 patients consisted of 31 men and 5 women with a mean age 45.7 years. There was no significant relationship between SPE and the presence of parasite infestation, smoking or gender. Among the patients with peripheral blood eosinophilia, the eosinophil count was significantly higher in the patients with SPE than that in the patients without pulmonary infiltration ($p < 0.05$). SPE more frequently occurred in winter and spring than in summer and autumn ($p < 0.05$). The CT findings were single or multiple nodules in 18 patients, nodules and focal GGA in 9 patients and GGA only in 9 patients. Most of the nodules were less than 10 mm (88%, 49/56) in diameter and they showed an ill-defined margin (82%, $n = 46$); 30% of the nodules ($n = 17$) showed a halo around them.

Conclusion: Simple pulmonary eosinophilia can be suggested as the cause if single or multiple ill-defined nodules or focal GGA are found on the low-dose CT performed in asymptomatic patients with peripheral blood eosinophilia. Short interval follow-up should be recommended to avoid invasive procedures or unnecessary aggressive treatment due to mistaking these lesions as lung cancer or metastatic malignancy.

Index words : Lung neoplasms, CT
Lung neoplasms, diagnosis
Cancer screening

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