

HIV

□

□

1

	:	HIV							.
1	:	HIV	1990	5	1997	9			
		41	(38 , 3)		74				
		74			가 가	63			.
			(Pearson Chi - Square test)			17			
19	CT								
:		(73%)		(27%)	. 52	(70%)			
						(n=15),			
		(n=15),	(n=15),			(n=5),			
		(n=1)	. CD4+		가 가	55			
33	(60%)	50 /mm ³	. 41	28 (68%)	HIV				
		2 - 81	(39)	. 63		46	(73%)가		
			(n=26),	(n=17),					
		(n=9),	(n=10),	(n=8),	(n=2),	(n=1),			
		(n=1)	(n=9)		(n=8)(89%)				
		(p <0.05),							(p
<0.05).									
:	HIV		70%						,
		,	,						.

(AIDS) Retrovirus HIV AIDS 70%가 (3).

(HIV)가 CD4+ HIV AIDS 가

1981 AIDS 가 AIDS 가

1999 12 가 3 4 (1). 1985 가 가

1999 9 1,014 AIDS 가 AIDS

158 가 가 224

HIV 가 가

(2). 가 AIDS

HIV

HIV

11 HIV 30

HIV

14.2 (0.2 - 78.7)

74 (1.8 ; 1 - 6)

western blot HIV

1990 5 1997 9 1 41 24 1 , 17 2 - 6 .

41 (38 , 3 , 22 - 41 (74

61 , 40) (Table 1).

Table 1. Summary of 74 Admission Cases of HIV Positive 41 Patients

Case no. /Age/Sex	No. of Admission	Diagnosis at each Admission	Diagnostic Method at each Admission	CD4+ Count at each Admission	Interval between each Admission (Months)
1/42/M	1	PCP	A	48	
2/28/M	1	Pn(U)	B	60	
3/51/M	1	PCP + Pn(P. aeruginosa)	A	12	
4/28/F	5	N 1/N 1/N 1/Pn(U)	B/B/B/B/B	20/NA/3/4/NA	5.0/2.4/1.8/0.8
5/36/M	2	PCP/N 1	B/B	122/NA	<0.1
6/28/F	1	Tb	A	544	
7/22/M	1	Pn(S. pneumoniae)	C	291	
8/32/M	1	pn(MRSA)	A,E	NA	
9/40/M	1	Pn(U)	B	214	
10/52/M	2	N 1/N 1	B/B	600/120	<0.1
11/35/M	6	PCP/PCP/PCP/N 1/Tb/Pn(U)	D/B/A/B/A/B	37/30/NA/20/12/9	7.0/1.1/3.8/2.3/1.1
12/51/M	2	N 1/PCP	B/B	10/8	6.5
13/30/M	1	N 1	B	78	
14/39/M	1	PCP	A	9	
15/40/M	3	2Tb/Pn(P. aeruginosa)/Pn(G(-))	A/C/A	540/173/9	11.3/9.2
16/37/M	1	PCP + Tb	C	222	
17/36/M	1	2ndTb	A	652	
18/41/M	2	mTb/2Tb	C/B	16/95	1.4
19/32/M	1	Pn(K. pneumoniae + S. aureus)	A	145	
20/53/M	1	1Tb	C	2	
21/33/M	1	N 1	B	NA	
22/48/M	3	mTb/Tb/Tb	A/D/A	NA/6/NA	13.7/10.8
23/33/M	4	N 1/Pn(U)/Pn(U)/Pn(MRSA)	B/B/B/A	190/76/NA/110	2.5/2.9/2.2
24/52/M	1	N 1	B	NA	
25/41/M	2	Tb-MAC/Tb	C/B	60/17	19.9
26/39/M	3	N 1/1Tb/N 1	B/A/B	15/24/10	2.1/8.2
27/36/M	1	N 1	B	NA	
28/34/M	1	PCP	B	NA	
29/43/M	2	PCP/N 1	C/B	11/NA	1.9
30/33/M	1	N 1	B	NA	
31/43/M	3	PCP + Tb/PCP + Tb/PCP + Tb	C/A/B	20/10/NA	0.4/1.3
32/35/M	1	N 1	B	NA	
33/61/M	1	Adenoca	F	375	
34/43/M	2	PCP/N 1	C/B	150/6	23.7
35/38/M	1	Pn(Cryptococcus)	A,E	NA	
36/36/M	2	Pn(U)/N 1	B/B	86/NA	3.2
37/49/M	1	Tb + PCP	A	14	
38/39/M	1	N 1	B	19	
39/49/M	5	PCP/1Tb/N 1/PCP/PCP	D/A/B/A/B	14/NA/10/7/8	18.4/17.0/2.9/1.7
40/43/M	1	Pn(U)	B	17	
41/44/F	2	PCP/PCP	D/A	100/25	3.9

PCP : Pneumocystis carinii pneumonia, Tb : Tuberculosis, Pn : Pneumonia, Adenoca : Adenocarcinoma, (U) : Unidentified organism, 1st Tb : Primary tuberculosis, 2nd Tb : Postprimary tuberculosis, Tb-MAC : Mycobacterium avium-intracellulare complex, P. aeruginosa : Pseudomonas aeruginosa, S. pneumoniae : Streptococcus pneumoniae, G(-) : Gram negative organism, MRSA : Methicillin resistant staphylococcus aureus, K. pneumoniae : Klebsiella pneumoniae, S. aureus : Staphylococcus aureus, N 1 : Normal. A : Sputum, B : CXR and Clinial, C : CT(HRCT) and Sputum, D : CT(HRCT), E : Blood Culture, F : Fine Needle Aspiration Biopsy, NA : Not Available

, AIDS
CD4+ , HIV
AIDS HIV
74
가 가 11 63
1 1
(consolidation),
(nodule), (mass), (interstitial opacities),
(cyst) (cavity), , (pleural
effusion),
Pearson Chi - Square test
가 ,
가 가 3 cm
, 3 cm 가 (4).
가 1 mm 1 cm
,
가 가
, , ,
(5). 17
19 CT(5) CT(14)

19 , 13 , (night sweating) 3
가 21 , 8 ,
3 , 2 , ,
4 , 3 , 2 , 1
5 , 3 , 3
HIV 41
20 (49%), 14
(34%), 11
(27%), 6 (15%),
AIDS (wasting syndrome)
4 (10%), AIDS
(major depression) 3 (7%)
(cryptococcal meningitis)
2 , (Mycobacterium avium - intra -
cellulare complex), (Kaposi 's sarcoma),
(neurocysticercosis), ,
AIDS (dementia)가 1
HIV 41 74
15 (20%), 15 (20%)가
5 (7%)
1 (1%)
1 (1%)
21 12 (57%) methenamine silver
9 CT
20 12

30 (73%) 가 1
가 9 (22%)
2 AIDS 3
가 2 (5%)
(Fig. 1). HIV 2
, 1 , 1 가
37 (90%) . 41
2 (5%)
HIV AIDS
39 (95%)
25 , 16
, 가 9 , 6
(37%) 가 , 17 (41%) 가 , 9 (22%)
가 21 ,

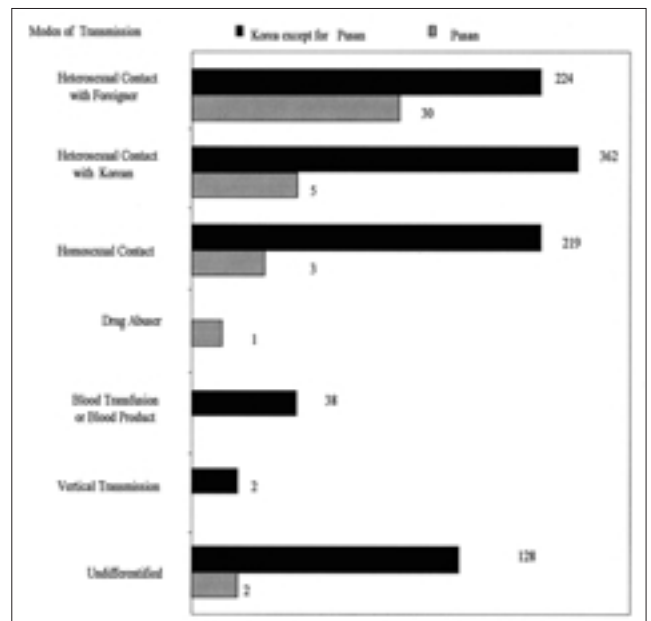


Fig. 1. Difference of the modes of transmission between Korea except for Pusan and Pusan servitude.
Vertical transmission 2 : Korea except for Pusan
Drug abuser 1 : Pusan

(60%) , 8 ty)(n=9) 26 가 , 17 , 9 , 10 , 8 , 2 , 가 1 1 16 1 (Table 2). 9 8 (MRSA:methicillin resistant staphylococcus aureus) 2 , (Pseudomonas aeruginosa) 3 , (Klebsiella pneumoniae) (Staphylococcus aureus) 1 , (Streptococcal pneumoniae) 1 , (disseminated cryptococcosis) 1 1 CD4+ 74 55 33 (60%) 50 /mm³ (mean) CD4+ 1 375 /mm³, 12 165(2-544) /mm³, 11 108(6-291) /mm³, 4 67(10-222) /mm³, 13 44(7-150) /mm³, 1 12 /mm³ (Fig. 2). HIV AIDS 40 (1-81) . 41 28 (68%) 16 (39%) 12 (29%) 2 HIV 39 (2-81) 9 HIV AIDS 13 (1-48) , HIV 19 51 (3-81) . 13 1 (1) 74 가 가 63 17 (27%) 12 (19%) 5 (8%) CT 2 (68%) 46 (73%) 43 14 , 14 , 13 , 5 , 1 , 3 (5%) 1 , 1 , 1 가 . 46 (n=17) (ground glass opaci-

HIV 가 , 17 , 9 , 10 , 8 , 2 , 가 1 (Table 2). 9 8 , 1 17 7 , 3 , 3 . 1 1 (pyogenic small airway disease) . 1 17 (10 , 2 , 5) 7 , 6 , 2 , 1 1 7 1 6 7 4 6 4 2 (Fig. 3). 10 4 , 3 1 , 1 1 가 .

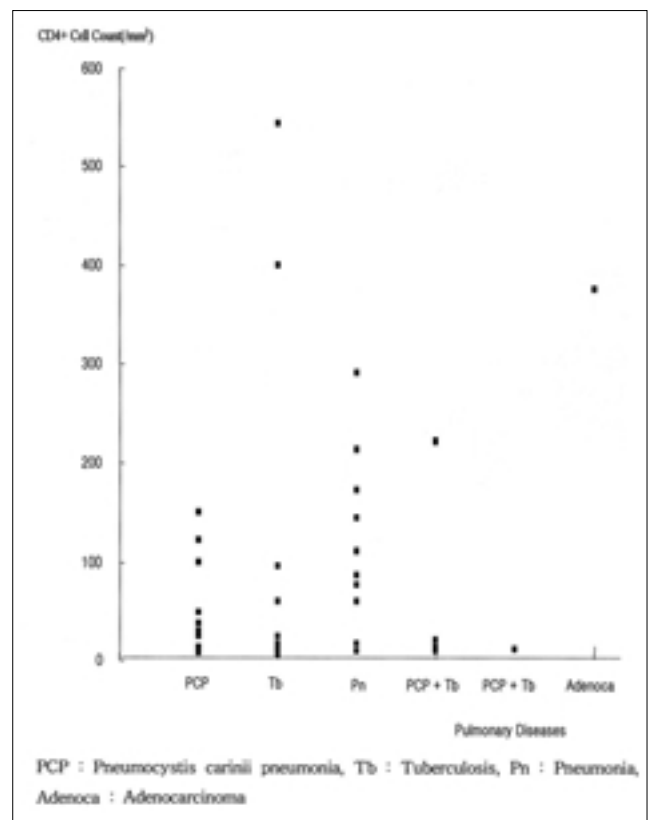


Fig. 2. 33 CD4+ count distributions according to thoracic diseases in 55 available admissions cases of HIV-positive patients.

8 (4 , 4) 4 (2) CT CT
 (1 , 3) , 1 , 1 CT(5) CT(14) 19
 , 1 5
 1
 6 , 6 , 7
 , 가 1 , 2 , (cen -
 trilobular nodule) 6 , 가 1 .

Table 2. Pattern Approach of Chest Radiographs in Available 63 Admission Cases of HIV-Positive Patients

	PCP(n=14)	Tb(n=13)	Pn(n=14)	Adenoca(n=1)	PCP + Tb (n=5)	PCP + Pn (n=1)	No Dx (n=3)
Normal	2	2	1				
Consolidation	2	6	7		1	1	
Focal	1	4	3		1	1	
Multifocal	1	1					
Lobar		1	4				
Nodules		5	3				
Single			3				
Multiple		5			1		
Well-defined		3					
Ill-defined		2	3		1		
Mass				1			
Interstitial opacities	15	3	5		2		1
Reticular	5	2	1				1
Reticulonodular	2	1	4		1		
Diffuse GGO	8*				1		
Cyst & cavitation	2						
Lymphadenopathy		4**	1	1	3**		1
Pleural effusion		1	4		1	1	1
Unilateral		1	1			1	1
Bilateral			3		1		
Other findings			pericardial effusion		pneumomediastinum		

PCP : Pneumocystis carinii pneumonia, Tb : Tuberculosis, Pn : Pneumonia, Adenoca : Adenocarcinoma, No Dx : No Diagnosis, GGO : Ground glass opacity, ** : Pearson Chi-Square test($p < 0.05$)

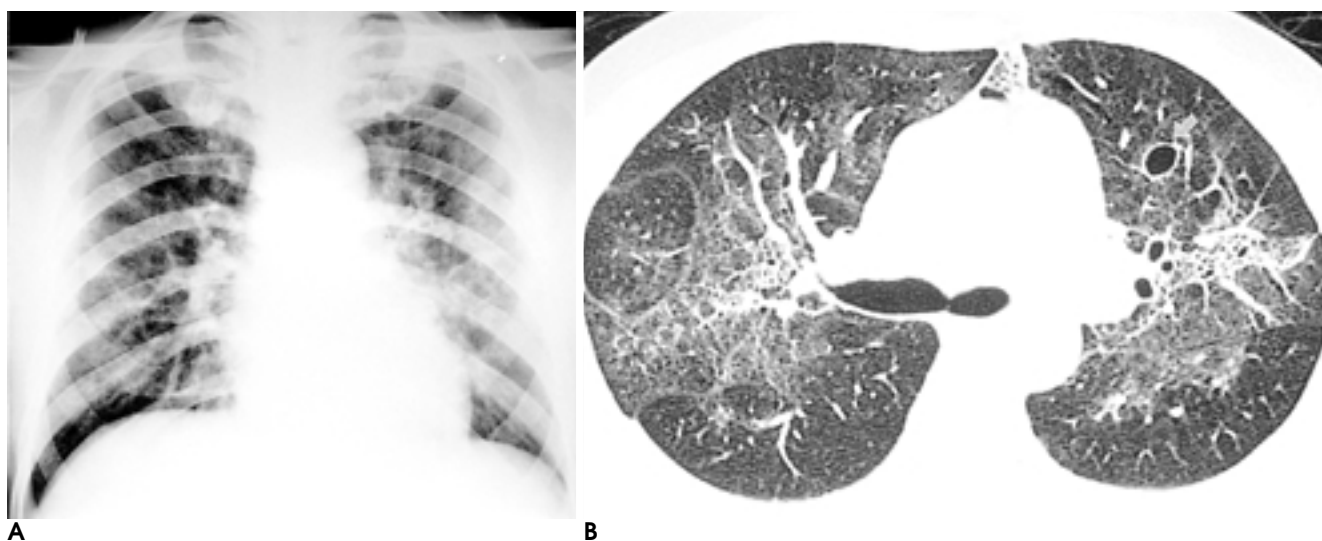


Fig. 3. Pneumocystis carinii pneumonia with 150 CD4+ cells/mm³ in a 41-year-old man.

A. Plain radiograph shows bilateral ground-glass opacities in both lung.

B. HRCT shows bilateral ground-glass attenuation with central lung predominance. A thin-walled lung cyst (arrow) is seen well in left upper lung.

가 5 , 1 , 6 가 1), 2 , 1 ,
 1 , 1 , 1 가 2 (Fig. 4), 2 , 1 ,
 . 1 , 1 .
 7 CT 1
 6 (4 , 2 , 1 ,
 3), 4 , 4 (1 ,
 (interlobular septal thickening) 3 1 , 2) 3 (2 ,
 1 , (halo) 가 1 1), 1 , 1
 , 1 , 1 . 1
 5 (2 , 2 , .
 1) 2 (1 , 1 V Y

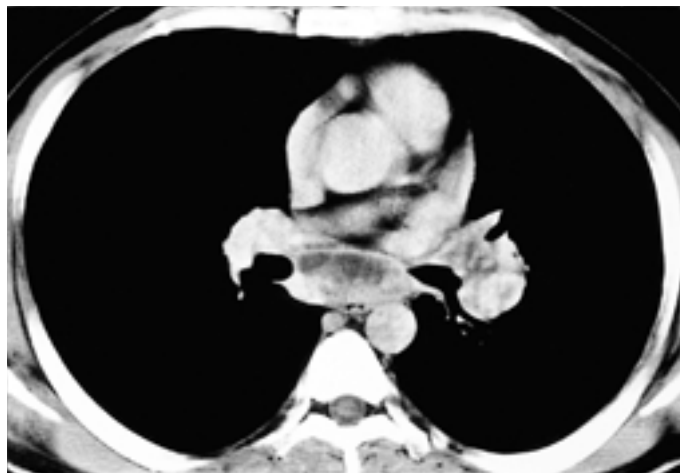
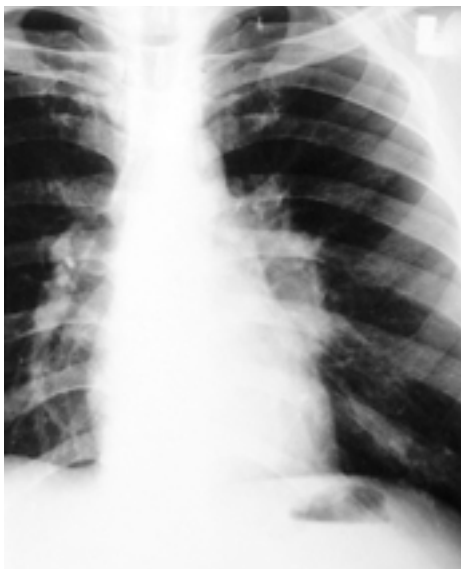


Fig. 4. Primary tuberculosis with 20 CD4+ cells/mm³ in 43-year old man.
A. Plain radiograph shows left hilar enlargement.
B. CT shows the enlarged subcarinal and left hilar lymph node with central low attenuation.

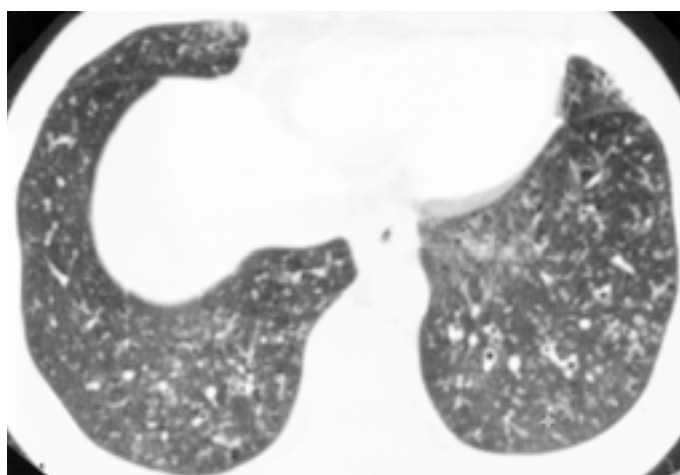
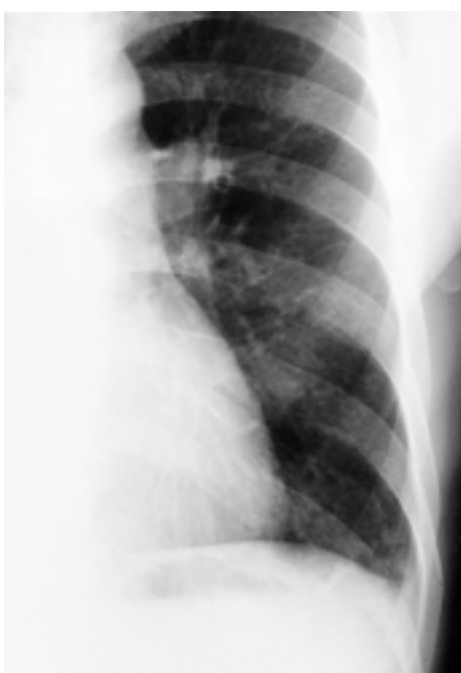
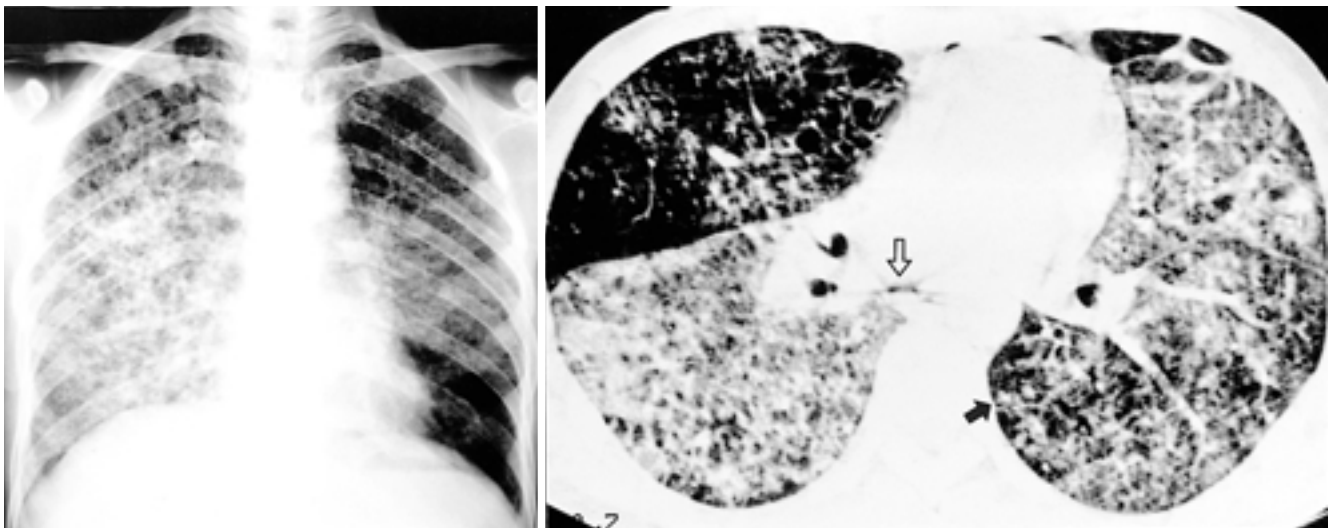


Fig. 5. Pyogenic small airway disease associated with pseudomonas sepsis in 40-year-old man. The cell count of CD4+ lymphocyte was 173 cells/mm³ at that time.
A. Plain radiograph shows fine nodular opacities in left lower lobe.
B. HRCT shows multiple centrilobular nodules, V- or Y- shaped branching opacities, bronchial dilatation in both lower lung.



A
Fig. 6. Combined infection of PCP and tuberculosis with 222 CD4+ cells/mm³ in 37-year-old man.
A. Plain radiograph shows reticulonodular opacities with bilateral diffuse ground glass opacities in both lung.
B. HRCT shows multiple centrilobular nodules (arrow) and diffuse ground glass attenuation in both lung. Pneumomediastinum (open arrow) is also seen.

가 , , 85%, 35%,
(Fig. 5). 12%, 7%
3
2 (1 ,
1), (central low attenuation) 가 HIV
2 , 2 (1 , CD4+
1), 2 , 1 , 가 200 /mm³ CD4+
1 가 1 14% (11) 1992
(Fig. 6). (10)
1
3 cm 가 가 CD4+ 가 50 /mm³ 가 60%
가 HIV
(90%)
HIV , 41 28 (68%) HIV
(37%) 가 (6). HIV 가
30 (74%) (2) 41
Shah (12) CD4+ 가 200 /mm³
가 200 /mm³ 가
HIV , CD4+ , 가 50 /mm³ 가
가 (7), 1989 가 McGuinness (13)
가 (8, 9). CD4+ 가 200 /mm³
(10) AIDS

: HIV
 가 CT가
 CD4+
 12 165 (2 - 544) /mm³, 11
 108 (6 - 291) /mm³, 13 44 (7 - 150)
 /mm³ 가
 17 5 (29%) CT
 1 2 , 2 ,
 HIV CT
 가
 Cohen (24) 가 AIDS
 CD4+ 가 3 - 4 10%
 HIV 14 2 (14%)가
 . Haramati (14)
 , CT
 Hoover (15) CD4+ 가 200 /mm³ (patchy) (geographic)
 (6, 13, 25), Philip (26)
 /mm³ CD4+ 가 200
 26 9 가
 8 (89%)가
 (p<0.05), 가 CT
 17 7 가 CT 7 6 (86%)
 CD4+ 2 ,
 가 (12, 16, 17), 1 , 1
 Greenberg (18) CD4+ 가 200 /mm³ 3 CT
 CT ,
 CD4+ 가 200 /mm³ 가
 17 6 (35%) 가
 , 7 (41%) 가
 7 4 , AIDS
 6 4 가 (27, 28).
 가, 가 AIDS 가
 . AIDS
 Braun (19)
 1 가
 . Haramati (20) (3, 29).
 10 7 CD4+ 가 200 /mm³
 (70%)가 (p<0.05).
 , CD4+ 가 200 /mm³
 (21),
 8 4 (50%)가 (28, 30).
 . Hartman (22) , Greenberg (18)
 ,
 2 2
 10% 가 AIDS
 139 AIDS Kang (23) 6 - 21% 가
 96% CT 가 가
 86% 가 가 (18, 29), 18 2 (9%)

가 가 HIV
(9, 31, 32).
(32). (Haemophilus influenza),
가 HIV
(32, 33), Magnenat (32)
55%
45%
14 7 (54%), 5 (38%)
Magnenat (32)
AIDS 가
(34), (11).
가
(11, 34).
CT가
1 가
가
(35). (10) (36)
20%
(37), 41
13 (32%)
가
HIV
,
AIDS
(38) 가
, 가 가 60%
(94%)
(scar)
CT 3cm
1 가
, AIDS
가
가

가
가
가
AIDS
HIV 가 가
AIDS 가 가
가
HIV
70%
AIDS
CT
(charac -
terization)
1. World Health Organization (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS). Global summary of the HIV/AIDS epidemic, end 1999. *December 1999 Update on the global HIV/AIDS epidemic*.
2. 1999 9
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HIV-Positive Patients in Pusan Servitude: Clinical and Chest Radiographic Findings¹

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Purpose: To analyze the clinical and chest radiologic findings of HIV-positive patients in Pusan servitude.

Materials and Methods: We reviewed the medical records of 74 admission cases of 41 HIV-positive patients (38 men and 3 women), confirmed in NIH and admitted to our hospital between May 1990 and September 1997. We evaluated the clinical findings including the pulmonary disease diagnosed at each admission, and using the pattern approach assessed the radiographic findings in 63 cases available among 74 admission cases. For statistical analysis the Pearson Chi-Square test was used, and the chest CT findings available in 19 cases among 17 patients were also evaluated.

Results: In all cases the mode of transmission was sexual contact, and they were more frequently contacted with foreigners (73%) than Koreans (27%). During the follow-up period, pulmonary diseases were diagnosed in 52 (70%) of 74 admission cases. The diagnoses were pneumocystis carinii pneumonia (PCP, n = 15), pneumonia (n = 15), pulmonary tuberculosis (n = 15), combined infection with PCP and pulmonary tuberculosis (n = 5), and combined infection with PCP and bacterial pneumonia (n = 1). The count of CD4+ lymphocyte in 33 of 55 available admission cases was less than 50 cells/mm³. In 28 patients (68%) who died, the time between confirmation of HIV-positive status to death ranged from 2 to 81 (mean, 39) months. Chest radiographs of 46 available admission cases (73%) showed the following abnormal findings: interstitial opacities (n = 26), consolidation (n = 17), single or multiple nodules (n = 9), hilar or mediastinal lymph node enlargement (n = 10), pleural effusion (n = 8), cyst (n = 2), mass (n = 1), and pericardial effusion (n = 1). Diffuse ground glass opacity was observed in eight (89%) of nine PCP cases ($p < 0.05$), and in cases of pulmonary tuberculosis, hilar or mediastinal lymph node enlargement was frequent ($p < 0.05$).

Conclusion: Pulmonary diseases in HIV-positive patients in Pusan servitude were diagnosed during follow-up in 70% of cases. The majority of these diseases were infectious, and the incidence of PCP, pulmonary tuberculosis and pneumonia were similar. Diffuse ground glass opacity was more frequent in PCP, and mediastinal or hilar lymph node enlargement in pulmonary tuberculosis.

Index words : Acquired immunodeficiency syndrome (AIDS)

Lung, CT

Lung, infection

Thorax, radiography

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