## The Effect of Corticosteroid in Conservative Treatment of Patients with Hemoptysis

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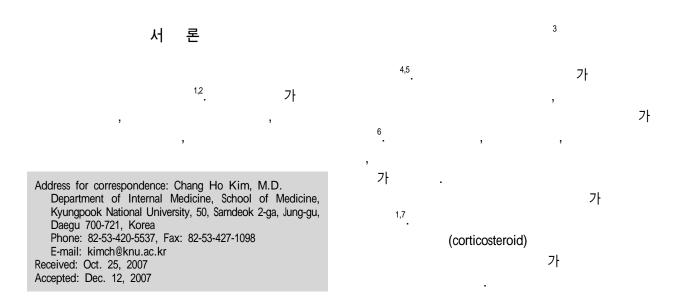
**Background:** This study examined the effect of corticosteroids as a short-term treatment for patients with hemoptysis that requires conservative treatment including bed rest, antitussives and antibiotics.

**Methods:** From February 2005 to August 2006, 78 consecutive patients who visited the emergency room because of hemoptysis were enrolled in the study. Patients with hemoptysis due to lung cancer, active pulmonary tuberculosis, and pneumonia were excluded. The 78 patients were divided randomly into a corticosteroid medication group (n=37) and a control group (n=41). The mean control time of hemoptysis, mean in-hospital days, and complications of treatment were investigated prospectively.

**Results:** For the etiology of hemoptysis, inactive pulmonary tuberculosis alone or its associated complications (bronchiectasis and/or aspergilloma) were the most common causes (51%); bronchiectasis alone and bronchitis were the next most common causative diseases (15%, respectively). The patients' characteristics and symptoms in the corticosteroid medication and control groups were similar. The steroid medication group showed a significantly lower mean control time of hemoptysis than the control group  $(4.0\pm2.7 \text{ days}, 6.1\pm4.8 \text{ days}, \text{ respectively})$  (p=0.022) and had a lower mean number of in-hospital days  $(5.8\pm3.4 \text{ days}, 7.9\pm4.8 \text{ days}, \text{ respectively})$  (p=0.036). There were no significant complications, such as hospital-acquired pneumonia or gastrointestinal bleeding, related to the use of corticosteroids.

**Conclusion:** The use of corticosteroids as a conservative treatment for hemoptysis due to bronchitis, bronchiectasis, inactive pulmonary tuberculosis and its related complications safely reduces the control time of hemoptysis as well as the number of in-hospital days. *(Tuberc Respir Dis 2007;63:486-490)* 

Key Words: Conservative treatment, Corticosteroid, Hemoptysis



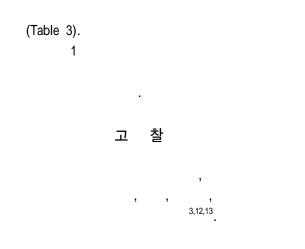
	(100%).		
8,9	·		
,	3. 통계 분석		
가 <sup>10,11</sup> .	SPSS 13.0 .		
	± (mean±SD) ,		
	(%) chi-square		
	unpaired t-test		
대상 및 방법	,		
1. 대상	, , χ <sup>2</sup>		
2005 2 2006 8	. p 0.05		
2000 2 2000 0	·		
,	결 과		
	1. 대상군의 임상적 특성		
,	78 ( 47 ) 1.5 : 1		
, 가	, 54.5±13.7 .		
	(37 ) (41 ) , ,		
·	, , 가		
2. 방법	,		
	(Table 1).		
,	2. 객혈의 원인질환		
•	, ,		
3 , levofloxacin			
750 mg amikacin 1 g 1 .	, 가 40		
2 ,	(51.3%) 가 ,		
4 31.25 mg 12 2 , 3	,		
20 mg 1 . 7	, (13.270) ,		
10 mg 1	가 8 ,		
. 2	(Table 2).		
(old blood)	3. 겉질스테로이드 치료성적		
(fresh blood) 5			
가 . , 1.	( 4.0±2.7		
(0%), 2. 25%	, 6.1±4.8 )(p=0.022),		
(25%), 3. 50% (50%), 4. 75% (75%), 5.	( 5.8±3.4 , 7.9±4.8 )(p=0.036).		
75% (75%), 5.			

Table 1. Characteristics of the patients

	Control group (n=41)	Steroid group (n=37)	p-value				
Age	56.1±13.6	52.8±13.8	0.301				
Sex			0.098				
Male	28 (68.3)	19 (51.4)					
Female	13 (31.7)	18 (48.6)					
Smoking	23 (56.1)	17 (45.9)	0.252				
Comorbidity	6 (14.6)	9 (24.3)	0.213				
IHD*	2 (4.9)	2 (5.4)					
$DM^{\dagger}$	1 (2.4)	3 (8.1)					
LC <sup>†</sup>	2 (4.9)	2 (5.4)					
Renal failure	1 (2.4)	2 (5.4)					
SAPS II <sup>§</sup>	$22.3 \pm 5.7$	$21.1 \pm 4.4$	0.298				
ABGA							
рН	$7.46 \pm 0.02$	$7.46 \pm 0.03$	0.798				
PaCO2 mmHg	$38.3 \pm 5.0$	$37.4 \pm 3.6$	0.393				
PaO2 mmHg	$85.7 \pm 19.8$	$88.5 \pm 14.6$	0.500				
HCO <sub>3</sub> mmol/L	$27.5 \pm 2.6$	$27.2 \pm 2.1$	0.613				
Bleeding diasthesis							
Platelet $10^3/\mu$ l	$280.4 \pm 103.9$	$251.2 \pm 79.1$	0.171				
PT sec.	12.1±1.2	11.9±1	0.492				
PTT sec.	$26.3 \pm 4.6$	$26.8 \pm 4.6$	0.631				
Volume of hemoptysis	3		0.200				
<50 ml	20 (48.8)	12 (32.4)					
50~200 ml	13 (31.7)	19 (51.4)					
> 200 ml	8 (19.5)	6 (16.2)					
BAE case	8 (19.5)	5 (13.5)	0.344				

Values are mean  $\pm \, \text{SD}$  or frequency with percentage in parenthesis.

<sup>\*</sup>Ischemic heart disease, \*Diabetes mellitus, \*Liver cirrhosis, \*Simplified acute physiology score, \*Bronchial artery embolization



56.1%,

Table 2. Cause of hemoptysis

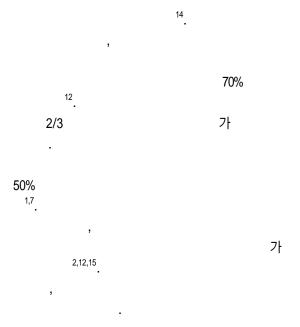
	Control group (n=41)	Steroid group (n=37)	p-value
Inactive tuberculosis Only +Bronchiectasis +Aspergilloma +Bronchiectasis+Aspergilloma	23 (56.1) 7 (17.1) 12 (29.3) 1 (2.4) 3 (7.3)	17 (45.9) 6 (16.2) 7 (18.9) 1 (2.7) 3 (8.1)	0.370
Bronchiectasis Bronchitis	8 (19.5) 8 (19.5)	7 (18.9) 7 (18.9)	1,000 1,000
Unknown	2 (4.9)	6 (16.2)	0.141

Values are mean  $\pm \, \text{SD}$  or frequency with percentage in parenthesis.

Table 3. Outcome of treatment

	Control group (n=41)	Steroid group (n=37)	p-value
Control of hemoptysis, days Hospital stay, days Recurrent hemoptysis Nosocomial pneumonia Surgical resection	6.1±4.8 7.9±4.8 2 (4.9) 0 (0.0) 0 (0.0)	4.0±2.7 5.8±3.4 2 (5.7) 0 (0.0) 1 (2.7)	0.022 0.036 0.873 1.000 0.295

Values are mean  $\pm\,\text{SD}$  or frequency with percentage in parenthesis.



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45.9%

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<sup>3</sup>. Wang <sup>16</sup>
              (plastic bronchitis)
                                                                 가
                                                               가
                                  가
                                                      가
                                                                                 3
                                                                                                      가
                                                                                             가
            (pleiotropy)
                                                                                                  가
                                                                      가
                 2
                                                                           요
                                         가
                                                        연구배경:
                                    가
                                                         방 법: 2005
                                                                     2
                                                                              2006 8
                                              lev-
ofloxacin amikacin
                             . levofloxacin
                                             ami-
                                                                     (37)
kacin
         가
                                     가
                                      20
                          가
                                                        결 과:
                                                      가
                                                               가 가
                                                                             (51%),
                                                                         15%
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(4.0±2.7 vs. 6.1±4.8 ) (5.8±3.4 vs. 7.9±4.8 ) ( p=0.022, p=0.036).

결 론:

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