

<sup>1</sup> 손준광<sup>1</sup>, 오인재<sup>2</sup>, 정종필<sup>2</sup>, 김수욱<sup>2</sup>, 주진영<sup>2</sup>, 임정환<sup>2</sup>, 조계중<sup>2</sup>, 채동렬<sup>2</sup>, 김규식<sup>2</sup>, 김유일<sup>2</sup>, 임성철<sup>2</sup>, 김영철<sup>2</sup>

## Two Cases of Iatrogenic Pneumothorax after Intra-Muscular Stimulation (IMS) Therapy

Jun Gwang Son, M.D.<sup>1</sup>, In Jae Oh, M.D.<sup>2</sup>, Jong Pil Jeong, M.D.<sup>2</sup>, Soo Ok Kim, M.D.<sup>2</sup>, Jin Yung Ju, M.D.<sup>2</sup>, Jung Hwan Lim, M.D.<sup>2</sup>, Gye Jung Cho, M.D.<sup>2</sup>, Dong Ryeol Chae, M.D.<sup>2</sup>, Kyu Sik Kim, M.D.<sup>2</sup>, Yu Il Kim, M.D.<sup>2</sup>, Sung Chul Lim, M.D.<sup>2</sup>, Young Chul Kim, M.D.<sup>2</sup>

<sup>1</sup>Department of Internal Medicine, Seonam University Medical School, <sup>2</sup>Department of Internal Medicine, Chonnam National University Medical School, Gwangju, Korea

Recently, intra-Muscular Stimulation (IMS) therapy is being increasingly used for musculoskeletal pain. This procedure is generally regarded as a safe procedure for the general public. Some cases of iatrogenic pneumothorax caused by acupuncture have been reported in the medical literature. However, a case of an IMS therapy associated pneumothorax has not reported. We experienced two cases of iatrogenic pneumothorax after IMS therapy. A 62 year-old man received IMS therapy on the right shoulder due to posterior neck pain. After IMS therapy, acute dyspnea and chest discomfort developed. The other patient was a 74 year-old woman who also received IMS therapy. This patient experienced a nonproductive cough and acute dyspnea after the treatment. As the popularity of this form of alternative medicine increases, we might expect to see more cases of iatrogenic pneumothorax. Physicians should be aware of the adverse events associated with IMS therapy. (*Tuberc Respir Dis* 2007;63:444-448)

**Key Words:** Iatrogenic pneumothorax, Intra-muscular stimulation (IMS) therapy

### 서 론

(Pneumothorax)

가

<sup>2</sup>.

<sup>1</sup>.

가

<sup>3</sup>.

가

가

가

가

Address for correspondence: In Jae Oh, M.D.  
Department of Internal Medicine, Chonnam National University Medical School and Hospital, 8, Hak-dong, Dong-gu, Gwangju 501-757, Korea  
Phone: 82-62-220-6296, Fax: 82-62-220-8578  
E-mail: droij@chonnam.ac.kr

Received: Sep. 10, 2007

Accepted: Oct. 22, 2007

2

## 증례

### 증례 1

환자: OO, 62

주소:

현병력:

3

과거력:

가족력:

사회력 및 직업력:

진찰 소견: 100/60 mmHg, 92 / , 21 / , 36.6°C

검사실 소견:

pH 7.479, PaCO<sub>2</sub> 32 mmHg, PaO<sub>2</sub> 64 mmHg, HCO<sub>3</sub><sup>-</sup> 17 mmol/L, O<sub>2</sub> saturation 88%

방사선 소견:

, 17%

(Figure 1).

치료 및 경과:

가 100%

(14F catheter)

. 4

가

12 가

가

(Figure 2).

### 증례 2

환자: OO, 74

주소:

현병력: 1

(Rt. Shoulder pain)

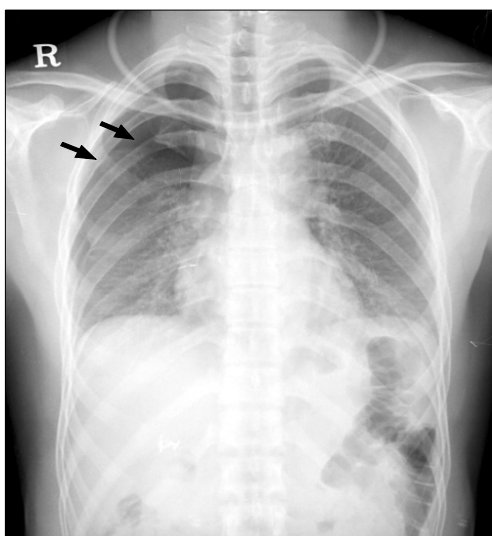
3

과거력:

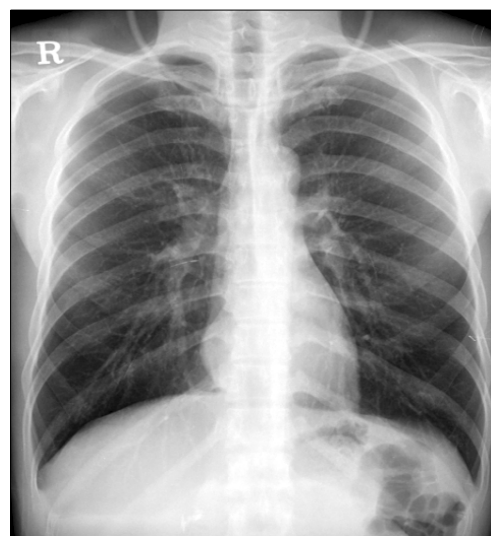
가족력:

사회력 및 직업력:

진찰 소견: 140/90 mmHg, 75 /



**Figure 1.** This chest radiograph shows iatrogenic pneumothorax in right-side lung after IMS therapy.



**Figure 2.** Chest PA view after mini-tube aspiration shows expanded lung.

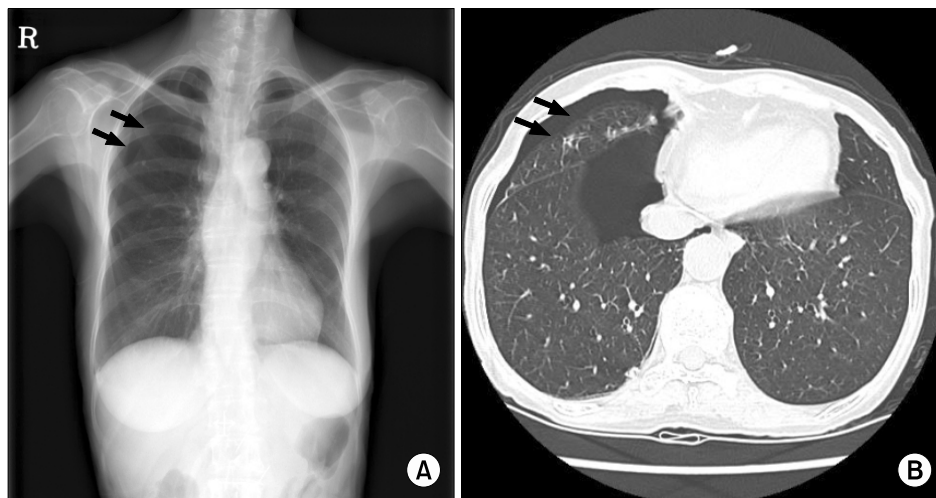


Figure 3. Chest PA view (A) & chest CT (B) shows right-side pneumothorax.

, 19 / , 36.8°C<sup>2</sup>.

검사실 소견:  
pH 7.354, PaCO<sub>2</sub> 38 mmHg, PaO<sub>2</sub> 78 mmHg,  
HCO<sub>3</sub><sup>-</sup> 19 mmol/L, O<sub>2</sub> saturation 86% .

방사선 소견:  
11% (Figure 3).  
치료 및 경과:  
100% . 2  
, 6  
가 .  
고 찰  
가  
(primary  
spontaneous pneumothorax)  
(traumatic pneumothorax)<sup>1</sup>.  
1 10 7.4 ,  
1.2  
25%  
(iatrogenic pneumothorax)

(transbronchial lung biopsy, TBLB),  
(percutaneous needle aspiration or lung biopsy),  
(subclavian vein catheter can-  
ulation), (thoracentesis), (pleural bi-  
opsy), (positive pressure ventilation)  
가  
가  
3,4 .  
5,  
가 .  
가 ,  
가  
1983 (Chan Gunn)  
,  
6-8 .

. Chernick Avery<sup>12</sup>

가 100% 가 6

가 90%, 가 40%

64% . 가

(needle aspira-  
tion) , (intercostal  
space) 가 16 guage

three way stopcock  
가

4

가

(conventio-

가 (tactile fremitus)  
resonance of percussion test)

(hyper-

가 (normal method) 가

Rogla<sup>13</sup> Pancione<sup>14</sup>

(lateral decubitus) 1.

가 가

가

가 %

1.  
(percentage of pneumothorax) 100-(Lung<sup>3</sup>/Hemithor-  
ax<sup>3</sup>)×100 ,

17%, 11%

가 가

가 가

40%

가

Kircher Swartzel<sup>11</sup> 24

1.25% 가

## 요 약

2

## 참 고 문 헌

1. Richard WL. Pneumothorax. In: John FM, Jay A Nadel, editors. Textbook of respiratory medicine. 2nd ed. Philadelphia: Saunders; 1998. p. 2193-210.
2. Despars JA, Sassoon CS, Light RW. Significance of iatrogenic pneumothoraces. Chest 1994;105:1147-50.
3. Berger R. Iatrogenous pneumothorax. Chest 1994;105: 980-2.
4. Melton LJ 3rd, Hepper NG, Offord KP. Incidence of spontaneous pneumothorax in Olmsted County, Minnesota: 1950 to 1974. Am Rev Respir Dis 1979;120: 1379-82.
5. Eo EK, Shin JS, Choi OK. Pneumothorax following by acupuncture. J Korean Soc Emerg Med 1996;7:429-33.
6. Gunn CC. The Gunn approach to the treatment of chronic pain. Seoul: Koonja; 2000. p.3-29.
7. Gunn CC. Neuropathic pain: a new theory for chronic pain of intrinsic origin. Ann R Coll Physicians Surg Can 1989;22:327-30.
8. Bonica JJ. The management of pain. 3rd ed. Philadelphia: Lippincott Williams & Wilkins; 2001. p. 522-9.
9. Levy H, Kallenbach JM, Feldman C, Pincus P, Hurwitz M. Delayed pneumothorax after transbronchial lung biopsy. Thorax 1986;41:647-8.
10. Plaus WJ. Delayed pneumothorax after subclavian vein catheterization. JPEN J Parenter Enteral Nutr 1990;14: 414-5.
11. Kircher LT Jr, Swartzel RL. Spontaneous pneumothorax and its treatment. JAMA 1954;155:24-9.
12. Chernick V, Avery ME. Spontaneous alveolar rupture at birth. Pediatrics 1963;32:816-24.
13. Roggla M, Wagner A, Brunner C, Roggla G. The management of pneumothorax with the thoracic vent versus conventional intercostals tube drainage. Wien Klin Wochenschr 1996;108:330-3.
14. Pancione L. The treatment of iatrogenic pneumothorax with small-gauge catheters. The author's personal experience in 30 cases. Radiol Med (Torino) 2000;100: 42-7.