

(Smoke Inhalation)

1

:
 : 72 . 72
 (portable)
 . 5 .
 : 72 .
 : 16 (22%) . 15 ,
 (subglottic trachea) 1 .
 (10/15), (8/15), (6/15)
 가 9 , 가 5 ,
 가 1 .
 . 24 가 13 , 24-48 가
 2 , 48-72 가 1 . 16 5
 :
 가 .

(smoke inhalation) 가 (6-7).
 1/3 , 가 (8),
 65 % (1-4). . Xenon-133 (9)
 (lung water measurement) (7)
 (trache- ,
 obronchitis), ,
 , , , ,
 (5). (10-11),
 . 24 가
 , 2-5 . (12-13).
 가 가

: (Smoke Inhalation)

72
(history of closed space
fire)
가 2 ,
가 2 , COHb
1.5% 가 2 ,
sputum) 가 1
1
47% 2 3
72
5
가
Hg 10 mm
(cardiothoracic ratio) 가
24

72
16 (22%) 15
1
(small patchy consolidations) 10 ,
bronchial cuffing) 8 (Fig. 1),
fuzziness) 6 (Fig. 2A).

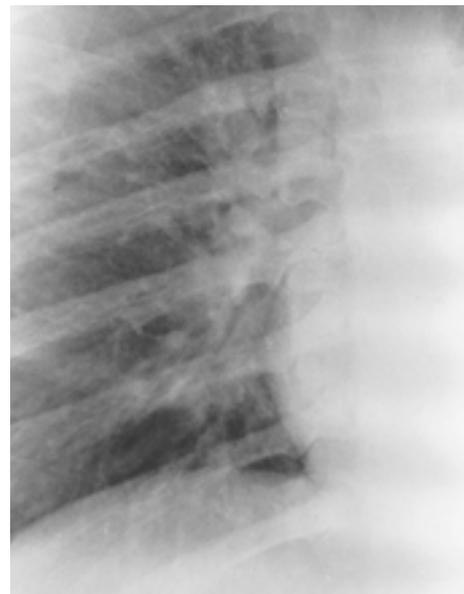
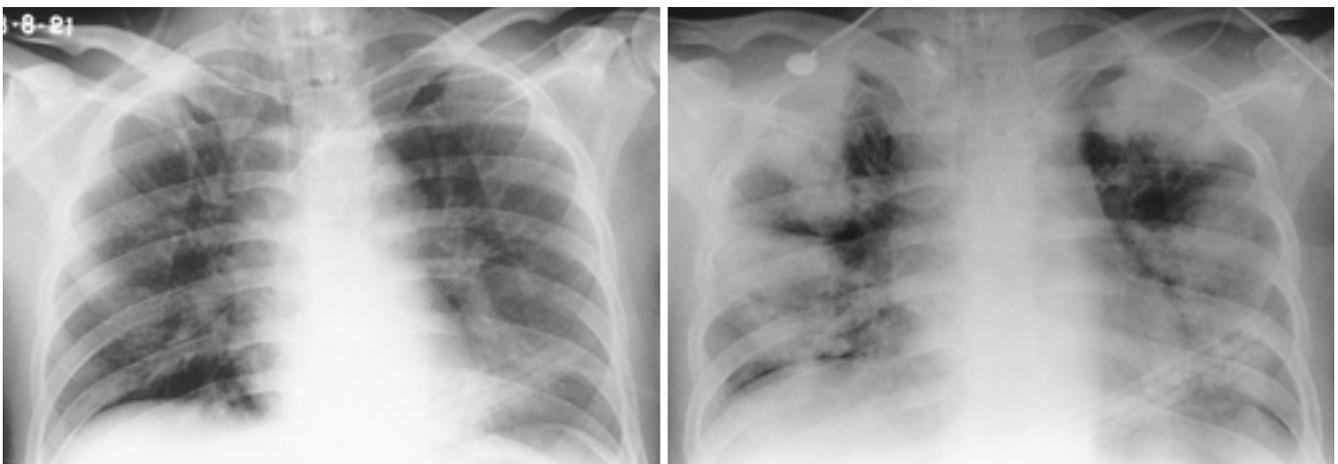


Fig. 1. A 23-year-old woman with inhalation injury and no cutaneous burn. A close-up view of the right lung taken 2 hours after inhalation injury shows peribronchial cuffing at right perihilar and right lower lung. Air-borne pneumonia complicated after two days (not shown).



A **B**
Fig. 2. A 29-year-old man with inhalation injury and 75% cutaneous burn.
A. Supine chest radiograph taken 4 hours after inhalation injury shows perivascular fuzziness, randomly distributed in both lungs.
B. One day after A chest radiograph shows peripherally distributed, bilateral air-space consolidations by ARDS.



Fig. 3. A 30-year-old man with inhalation injury and 25 % cutaneous burn. Supine chest radiograph taken postburn 26 hours shows mixed alveolar and interstitial edema, distributed predominantly in both upper lobes and both perihilar regions. Lesion cleared up after three days (not shown).

(Fig. 3), 가 5 , 가 9
 가 1 .
 6 , 6 , 3 , 가
 8 , 6 , 가 1 가
 가 12 , 3 .
 24
 가 12 , 24 - 48 2 , 48 - 72 1
 24
 2가 2 - 3
 가 10 , 2 - 3
 가 5 (Fig. 2B).
 3 , 3 , 2 , 2 , 9
 3 , 2 , 1 , (12), Lee (4)
 1 (3) 21
 3
 4 - 24
 3
 14 % (3/21)
 Putamen (3)
 가 Texidor (11), Lee (4)
 (14).
 22% (16/72)
 (steam Putamen (3)
 inhalation) Texidor (11)
 63% (35/56)

가
 가
 (13).
 (ventilation - perfusion imbalance)
 표
 "early
 ARDS"
 (6).
 aldehydes
 가
 가
 COHb
 (12).
 COHb
 가
 COHb 가
 Xenon - 133 (lung water
 measurement)
 Putamen (3), Texidor
 . Putamen
 6 , 4
 3
 4 - 24
 3
 14 % (3/21)
 Putamen (3)
 가 Texidor (11), Lee (4)
 22% (16/72)
 (steam Putamen (3)
 inhalation) Texidor (11)
 63% (35/56)

: (Smoke Inhalation)

(4).

Lee (4)

. Texidor (11)
Texidor (11)
60%

24
11
Texidor (12) 35 31
24 4 24 - 48

(21/35) 가

(aspiration pneumonia)

가 26% (9/35),
가 14% (5/35)
56% (9/16)

24 가 13
, 24 - 48 2 1 48 - 72

가

가 31% (5/16),
가 6% (1/16) Texidor (11)

, Peitzman (7)

가

, Putamen

Lee (4) 1
(33/45)

73% (3)

Lee (4)

COHb

COHb

88% (29/33) 가
39% (13/33),

가 50%
(5, 12, 15, 16).

가 가

21% (7/33),
(3/33)

Lee (4) 가

16 5 (31%)

1

(portable)

Texidor (12) Lee (4)
27가

Mellins (6) 가
가

(rate of emptying)
(toxic particles)
가 가

(4).

(12).

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Plain Chest Radiographic Findings of Smoke Inhalation¹

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Purpose: To evaluate the plain chest radiographic findings of smoke inhalation.

Materials and Methods: Our study included 72 burn patients who had suffered smoke inhalation. On admission, all underwent serial portable chest AP radiography. We retrospectively reviewed the plain chest radiographs taken between admission and postburn day five, evaluating the pattern, distribution, and time onset of direct injury to the respiratory system by smoke inhalation. The lesions were also assessed for change.

Results: In 16 of 72 patients (22%), abnormal findings of direct injury to the respiratory system by smoke inhalation were revealed by the radiographs. Abnormal findings were 15 pulmonary lesions and one subglottic tracheal narrowing. Findings of pulmonary lesions were multiple small patchy consolidations (10/15), peribronchial cuffing (8/15), and perivascular fuzziness (6/15). Patterns of pulmonary lesions were mixed alveolar and interstitial lesion (n = 9), interstitial lesion (n = 5), and alveolar lesion (n = 1). No interlobular septal thickening was observed. Pulmonary edema was distributed predominantly in the upper lung zone and perihilar region, with asymmetry. Its time of onset was within 24 hours in 13 cases, 24 - 48 hours in two cases, and 48 - 72 hours in one. Five of 16 patients progressed to ARDS.

Conclusion: Chest radiographs showed that pulmonary lesions caused by inhalation injury were due to pulmonary edema, which the pattern of which was commonly mixed alveolar and interstitial.

Index words : Lung, radiography
Lung, edema
Lung, injuries

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4th Asian Pacific Congress of Cardiovascular & Interventional Radiology (APCCVIR)

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Confirmation of acceptance of presentation	15 May 2000
Deadline for Hotel and Tour Reservation	7 June 2000
Deadline for written pre - registration	1 July 2000

4. .