

대한결핵 및 호흡기학회

제 202회 월례집담회

서울아산병원

호흡기내과

임상강사

이재승

Chief Complaint : 호흡곤란

Onset : 내원 1일 전

Present Illness :

67세 남자

내원 4일 전부터 기침이 시작되었으며

내원 1일 전 오전부터 거무스름한 소량의 객담을 3-4차례 뱉고 호흡곤란 증상 동반되어 약국에서 구입한 약을 복용하였으나 저녁에 잠을 잘 수 없을 정도로 호흡곤란 악화되어 외부병원 응급실 내원하여 폐렴 진단 하에 치료 중 본원 응급실로 전원 됨

P. M. Hx: DM/ HTN/Tbc/ Hepatitis (-/+/-/-)

alcoholic liver disease (+)

s/p partial nephrectomy d/t angiomyolipoma (rt)

(2006.9.18)

s/p inferior phrenic artery embolization d/t Mallory-Weiss syndrome(2008.10.04)

S. Hx : alcohol (+) : soju 1-2 bottles per day

smoking (-)

occupation – farmer (rice farming)

travel Hx (-)

residency – Yeosu

F. Hx: none

Review of systems

General fever/chill (-/-)

weight loss/easy fatigue (-/-)

HEENT **headache**/dizziness (+/-)

visual disturbance/discharge(-/-)

otorrhea/otalgia/hearing difficulty(-/-/)

rhinorrhea/nasal obstruction /P.N.D (-/-/-)

sore throat/hoarseness (-/-)

Respiratory **cough/sputum**/hemoptysis(+/+/-)

dyspnea (+)

Cardiovascular chest pain (-) palpitation(-)

Physical examination

V/S **BP 88/61 mmHg PR 133/m RR 32/m BT 36.0 °C**

General : **acute ill-looking appearance**

 alert mental status

HEENT : pinkish conjunctivae

 clear sclerae

 throat injection (-) tonsillar hypertrophy(-)

Chest : **coarse breathing sound with crackle on both lung**

 wheezing(-)

 regular heart beat without murmur

Abdomen soft and flat

 normoactive bowel sound

 no tender point

Back & extremity no CVAT

 no pretibial pitting edema

Initial laboratory data

- **CBC**

WBC 1100 /mm³ , Hb 14.8g/dL , PLT 95×10³/mm³

- **Chemical battery**

Ca/P (mg/dL) 7.4/4.9

glucose (g/dL) 133

BUN/Cr (mg/dL) 32/1.4

Protein/albumin (mg/dL) 4.8/2.6

AST/ALT (IU/L) 123/26

ALP/r-GT (IU/L) 30/47

T.bil (mg/dl) 0.65

CRP (mg/dL) 29.14 (0-0.6 mg/dL)

Procalcitonin 41.65 ng/mL (<0.5 ng/mL)

CK/CK-MB/Tn-I (ng/ml) 96/5.4/0.01 BNP 430 pg/mL (0-100 pg/ml)

Initial laboratory data

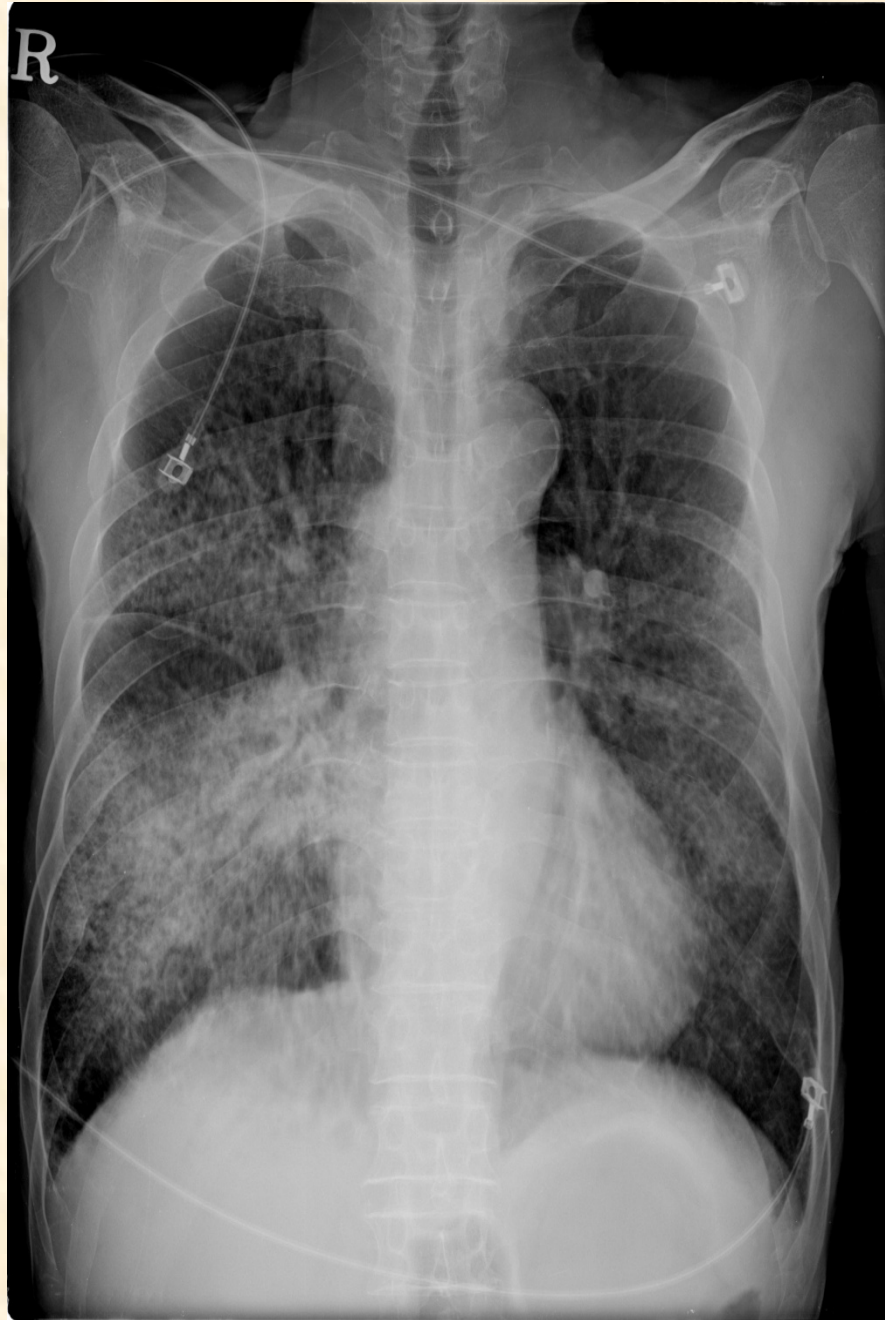
Electrolyte battery: Na/K/Cl/HCO₃ (mEq/L) 138/3.6/105/**18.1**

Coagulation battery

PT (INR) 57.1% (1.38 INR) aPTT 50.1 (sec) D-dimer 3.44 ug/ml

ABGA : 7.36-34 mmHg-42 mmHg-19mmEq/L-75% (room air)
lactic acid 5.9 mmol/L

Chest X ray



Initial problem list

#1 h/o partial nephrectomy d/t angiomyolipoma

#2 h/o embolization d/t M-W syndrome

#3 alcoholic liver disease

#4 cough, sputum , dyspnea

#5 tachypnea, tachycardia, hypotension

#6 bicytopenia, elevated CRP/procalcitonin, hypoxemia with metabolic acidosis

#7 bilateral infiltrate on chest X ray

A : #4-7. septic shock d/t community-acquired pneumonia (CAP)

Plan : diagnostic - sputum OB/AFB/Culture, blood culture
pneumococcal and legionella urinary Ag test
mycoplasma Ab test

therapeutic – empirical antibiotics

(piperacillin/tazobactam+ciprofloxacin)

septic shock management(intubation, fluid, vasopressor)

HD#1

#4 septic shock d/t CAP

O: BP 80/57mmHg

ABGA 6.93-57 mmHg-53.0 mmHg-12.0 mEq/L- 60%

BE -21.8 mEq/L (FiO2 100%)

22:37 **cardiac arrest -> CPR**

22:44 ventricular fibrillation 으로 defibrillation 시행함

22:48 2차 defibrillation 시행함

22:50 Return of spontaneous circulation

Echo: **global hypokinesia**, severe LV, RV dysfunction,

EF 10%

HD#1

A: septic shock with ARDS d/t CAP

combined biventricular failure d/t stress-induced
cardiomyopathy

P: septic shock management

ECMO apply

therapeutic hypothermia

HD#2

#4 septic shock with ARDS d/t CAP

#5 s/p CPR d/t cardiac arrest

O: **ABGA (ECMO, PEEP 8, FiO2 30%)**

7.31 -37 mmHg-164.0mmHg-19.0

mEq/L- 99% (BE -7.0mEq/L)

Legionella-urine Ag test (-)

Pneumococci-urine Ag test(-)

Cold Agglutinin Test <1:4

M. Pneumoniae Ab < 1.40

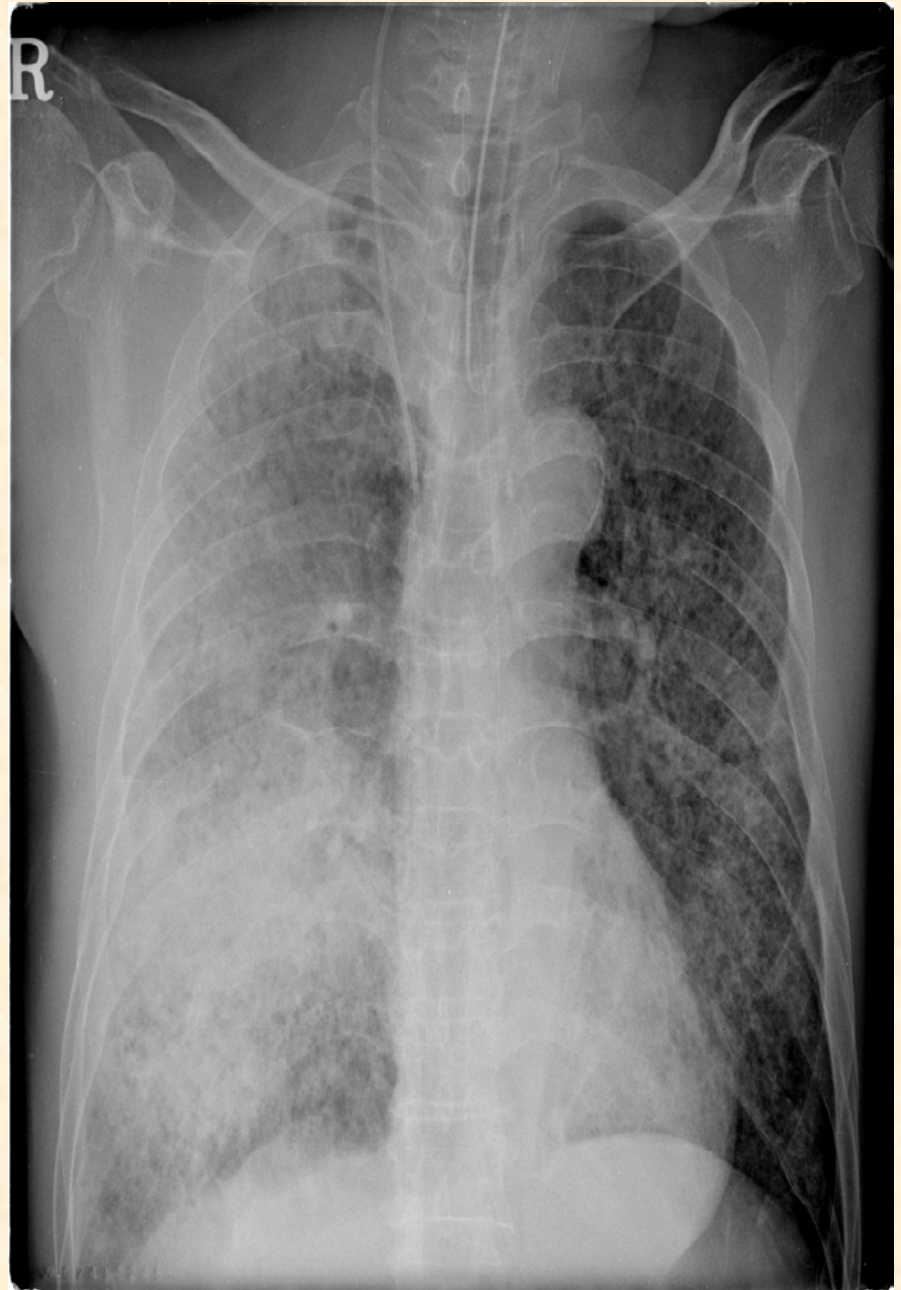
blood culture : no growth

sputum culture : normal flora

A: **septic shock with ARDS d/t CAP**

P: **BAL**

Continue empirical antibiotics &
ECMO



HD#3

#4 septic shock with ARDS d/t CAP

O: BAL fluid

cell analysis : RBC 1500

WBC 200 (**poly 75%** lymph 6% alveolar
macrophage 19%)

Culture : insignificant growth

Respiratory virus Ag test

-> Influenza virus Ag positive

A: septic shock with ARDS d/t Influenza pneumonia

P: RT-PCR test for H1N1 influenza

Add Oseltamivir

HD#4

#4 septic shock with ARDS d/t influenza pneumonia

#5 s/p CPR d/t cardiac arrest

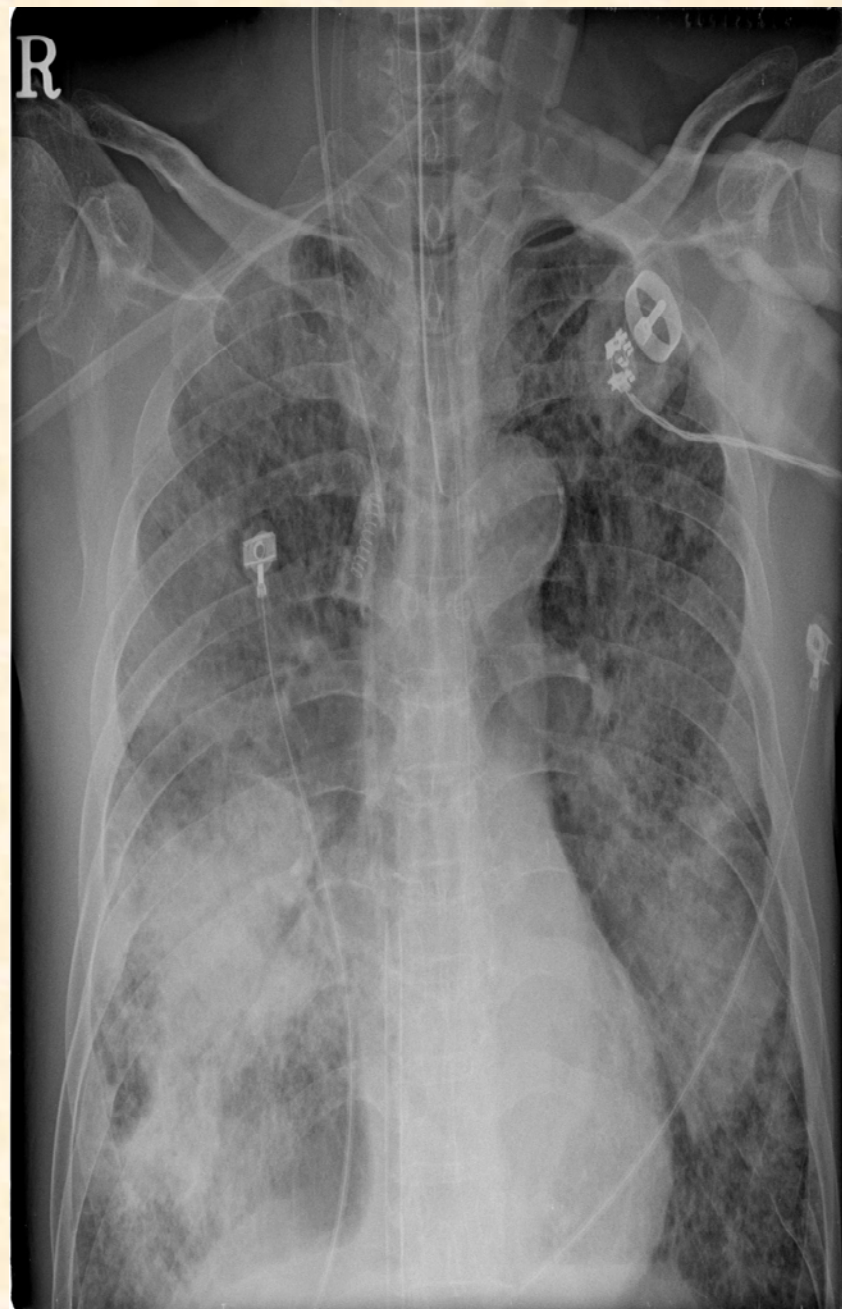
O) RT-PCR for H1N1 influenza-positive

Echocardiography f/u

-> EF 53% near normal LV systolic function

A) septic shock with ARDS d/t H1N1 influenza pneumonia

P: continue empirical antibiotics & oseltamivir



HD#5

#4 septic shock with ARDS d/t H1N1
influenza pneumonia

O: Urine output ↓

BUN/Cr 50/2.0 mg/dL

A: **septic shock with ARDS & ARF d/t
H1N1 influenza pneumonia**

O: **start Steroid** according to Meduri
protocol ([JAMA 1998;280:159-165](#))

CRRT start



HD#11

#4 septic shock with ARDS & ARF d/t

H1N1 influenza pneumonia

O: BP drop 및 saturation ↓

BAL culture : Carbapenem-resistant *Acinetobacter baumannii*

A: **rt. pneumothorax**

P: **chest tube insertion**

antibiotics change

(meropenem + ciprofloxacin

+colistin + vancomycin)



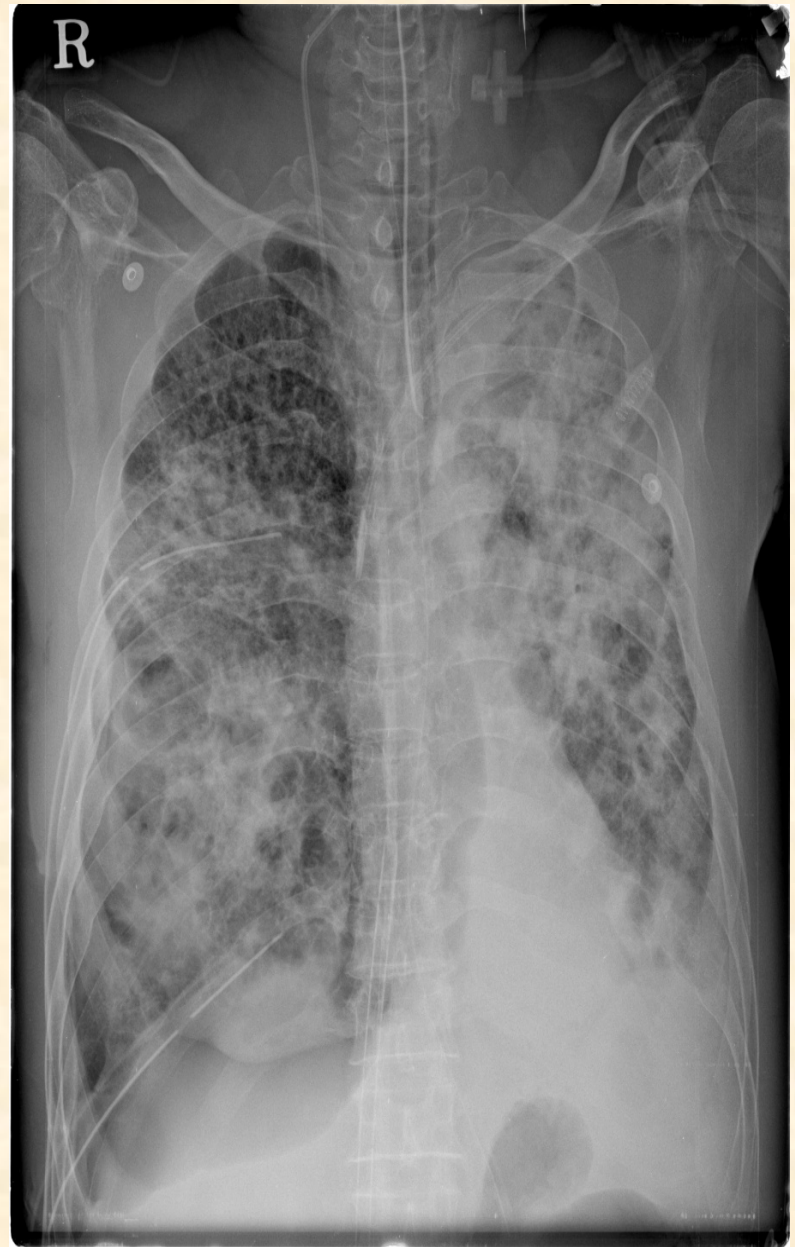
HD#13

#4 Septic shock with ARDS & ARF d/t H1N1 influenza pneumonia with combined bacterial pneumonia

O) RT-PCR for H1N1 influenza: negative

A) Septic shock with ARDS & ARF d/t H1N1 influenza pneumonia with combined bacterial pneumonia

P) Meropenem + vancomycin + ciprofloxacin + colistin + Oseltamivir



HD#17

#4 septic shock with ARDS & ARF d/t
H1N1 influenza pneumonia with
combined bacterial pneumonia

- O) BFS에서 다량의 prulent secretion
계속됨
aspergillus Ag, blood (+)
aspergillus Ag, bronchial Asp. (+)
- A) **invasive pulmonary aspergillosis**
- P) **voriconazole**



HD#19

#4 septic shock with ARDS & ARF d/t H1N1 influenza pneumonia with combined bacterial & fungal pneumonia

O: BAL RT-PCR for H1N1 influenza : positive

**A: septic shock with ARDS & ARF d/t H1N1 influenza pneumonia with combined bacterial & fungal pneumonia
(r/o pneumonia d/t H1N1 influenza resistant to oseltamivir)**

P: oseltamivir resistance influenza test

HD#21

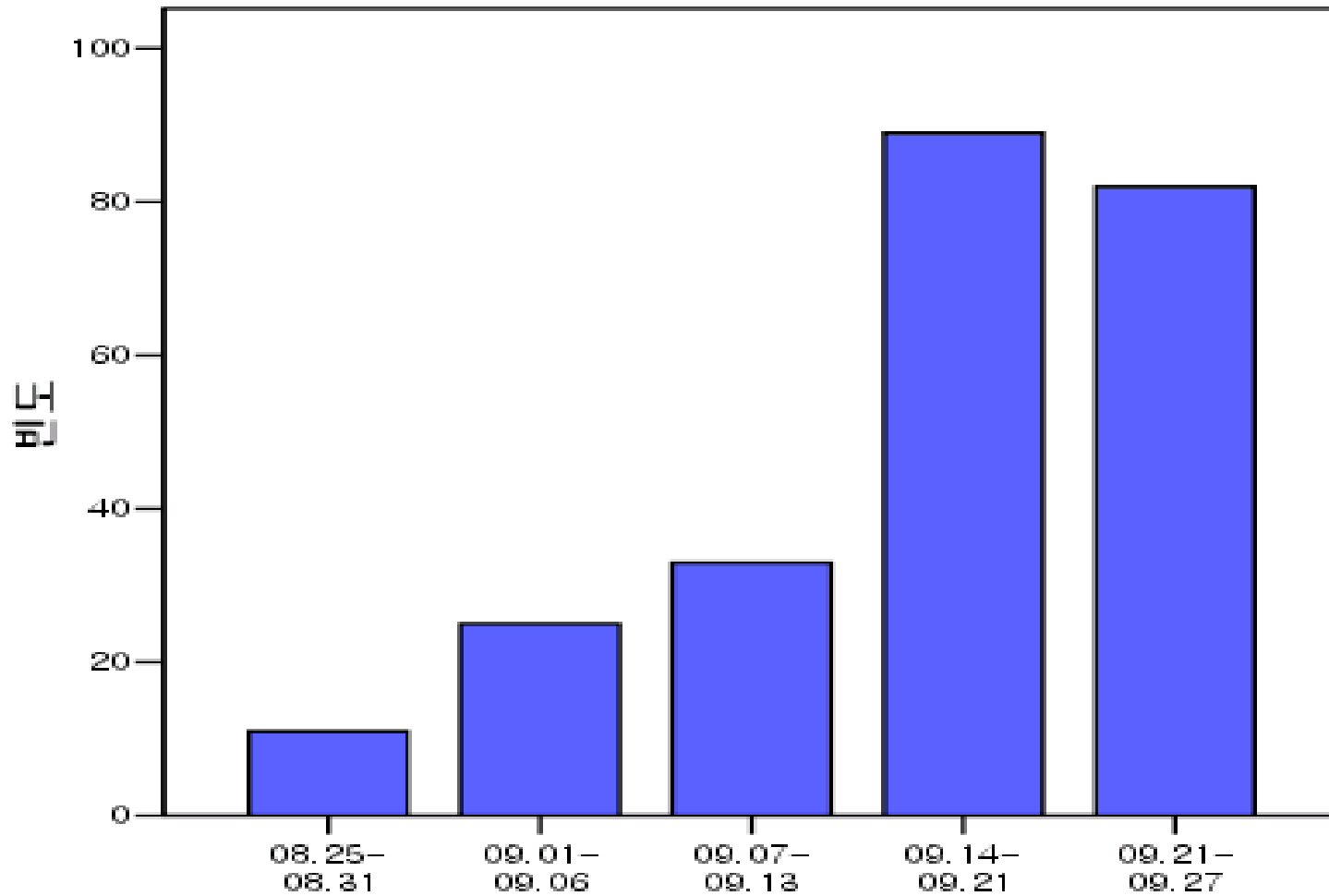
#4 Septic shock with ARDS & ARF d/t H1N1 influenza pneumonia with combined bacterial & fungal pneumonia

O: 병에 대한 지속적인 치료에도 불구하고 상태 악화되어 윤리 위원회의 결정에 따라 ECMO remove함.

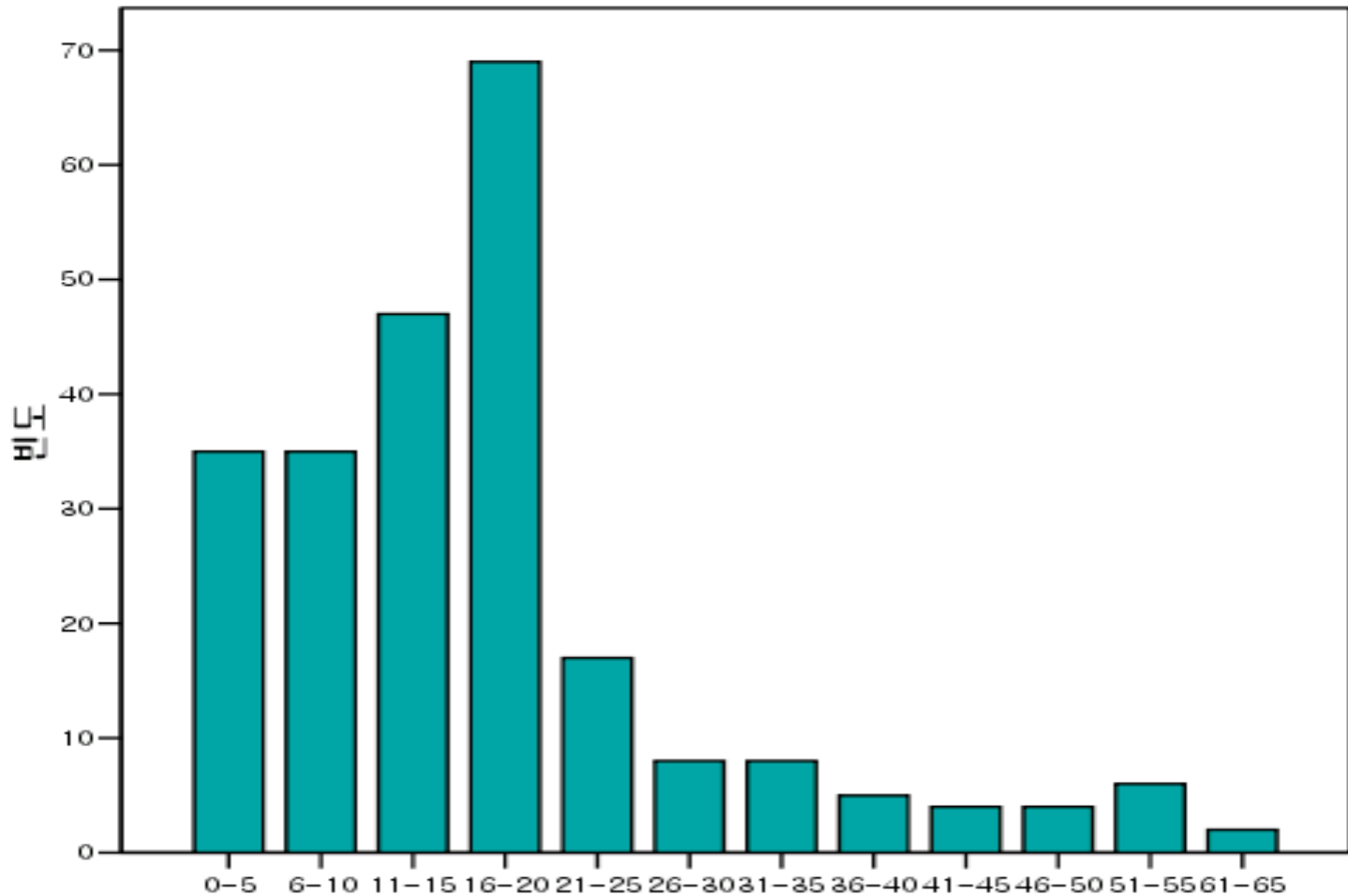
13:05 환자 사망함



신종인플루엔자 AMC 현황



신종인플루엔자 AMC 현황



신종인플루엔자 양성 폐렴 환자

Sex	Age	Symptom duration(d)	Underlying disease	WBC	CRP	PaO2	Co-infection
F	16	1	none	6900	4.85	58	
M	16	1	none	9800	7.46	62	
M	18	6	none	6000	0.31		
M	19	4	none	2300	2.17	79	
M	23	4	none	7500	0.63		Tuberculosis
F	42	6	none	6800	0.11	55	Pneumococcus
F	45	1	BE	9900	9.77	82	Pseudomonas
F	50	1	CML	6300	7.36	59	
F	72	4	BE	8000	4.28	83	