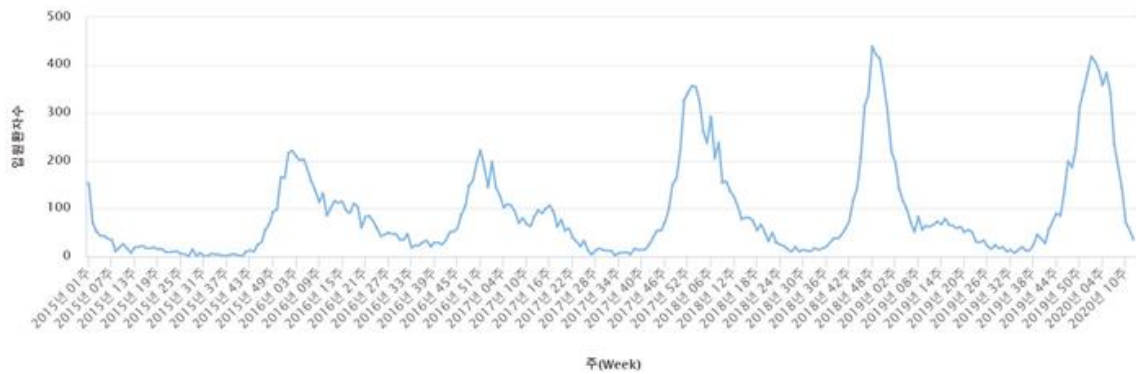


# NEWSLETTER

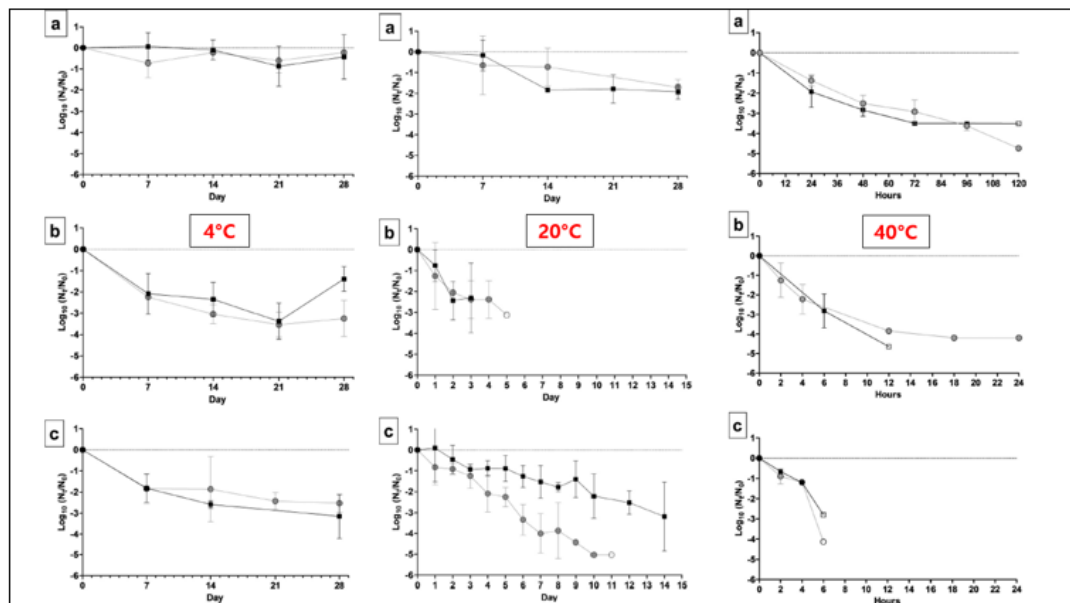
## 대한결핵 및 호흡기학회, 호흡기감염병 연구회

### 1. COVID-19의 계절적 변화

감염병/주요증상	급성호흡기감염증, 바이러스(사황 코로나바이러스 감염증)	조회기간	2015년 01주 ~ 2020년 13주, 주별
조회구분	-	시도/시군구	-



### 일반 Coronavirus 생존

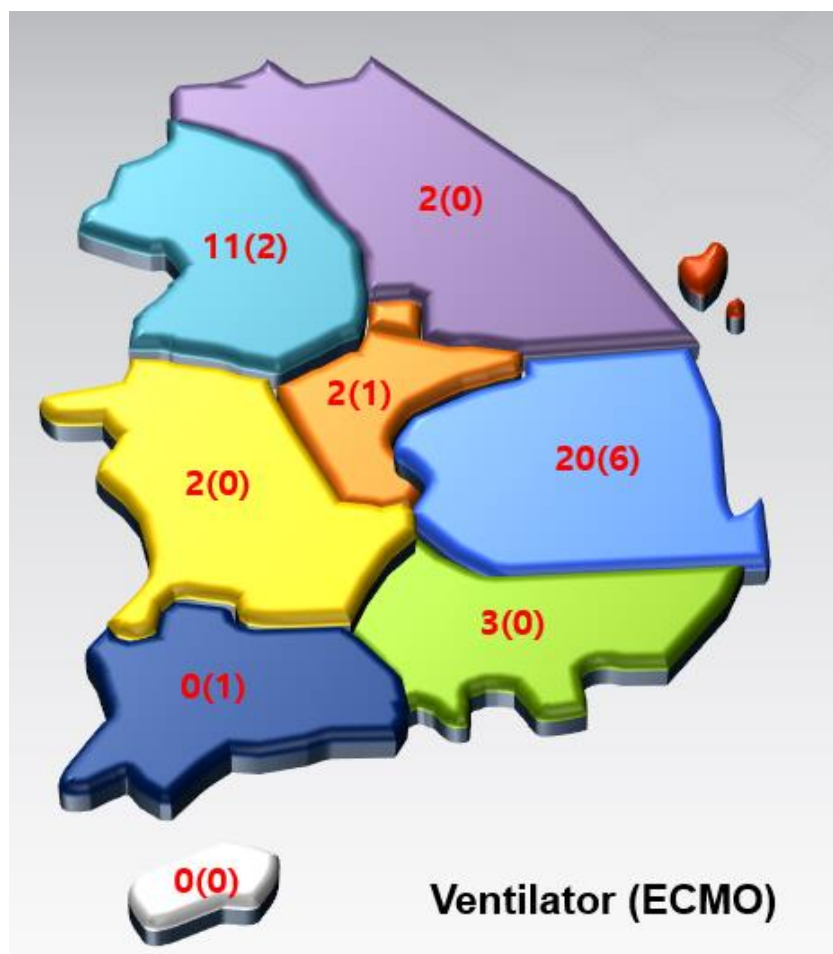


(a) 습도 20% (b) 습도 50% (c) 습도 80%, ● Coronavirus group 1, ○ Coronavirus group 2<sup>4</sup>

Appl Environ Microbiol 2010;76: 2712-7<sup>4</sup>

- 일반적인 Coronavirus는 10월부터 시작하여 1월에 정점을 보임.
- 일반적인 Coronavirus는 대부분의 사람들이 면역력을 가지고 있음.
- 일반적인 Coronavirus인 경우도 변이를 일으키며 peak 입원 환자수는 변화가 있음.
- COVID-19인 경우 면역력을 가진 사람이 별로 없어 추후 다시 유행이 있을 경우 폭발적인 환자의 증가를 보일 수 있음.

## 2. 중증 환자 현황 (2020년 3월 28일 기준)



### 3. COVID-19 저널 Review

Lancet. 2020 Mar 11. pii: S0140-6736(20)30566-3. doi: 10.1016/S0140-6736(20)30566-3.

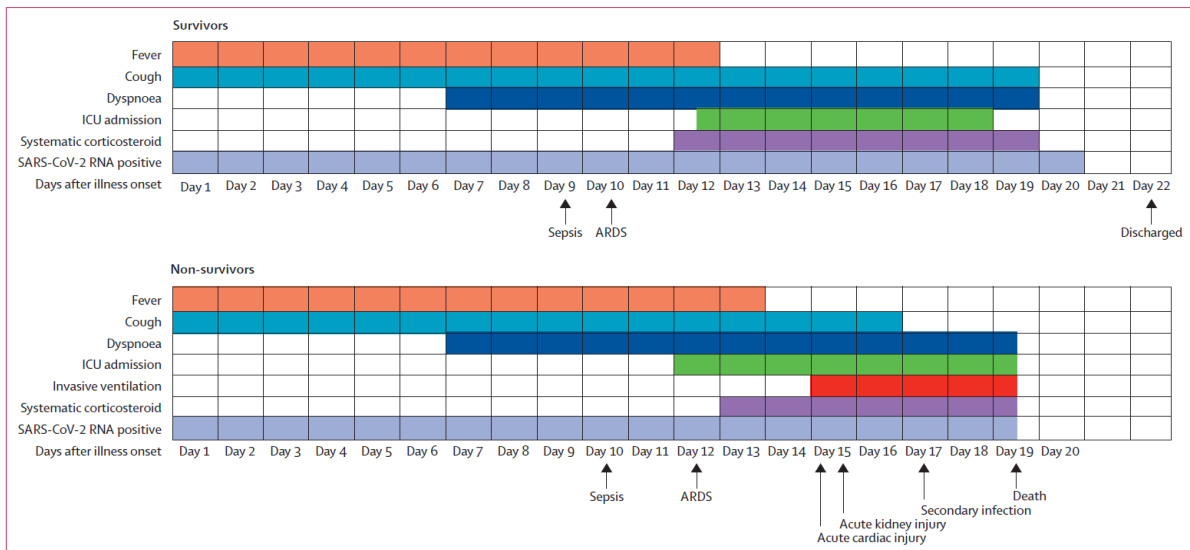


Figure 1: Clinical courses of major symptoms and outcomes and duration of viral shedding from illness onset in patients hospitalised with COVID-19  
Figure shows median duration of symptoms and onset of complications and outcomes. ICU=intensive care unit. SARS-CoV-2=severe acute respiratory syndrome coronavirus 2. ARDS=acute respiratory distress syndrome. COVID-19=coronavirus disease 2019.

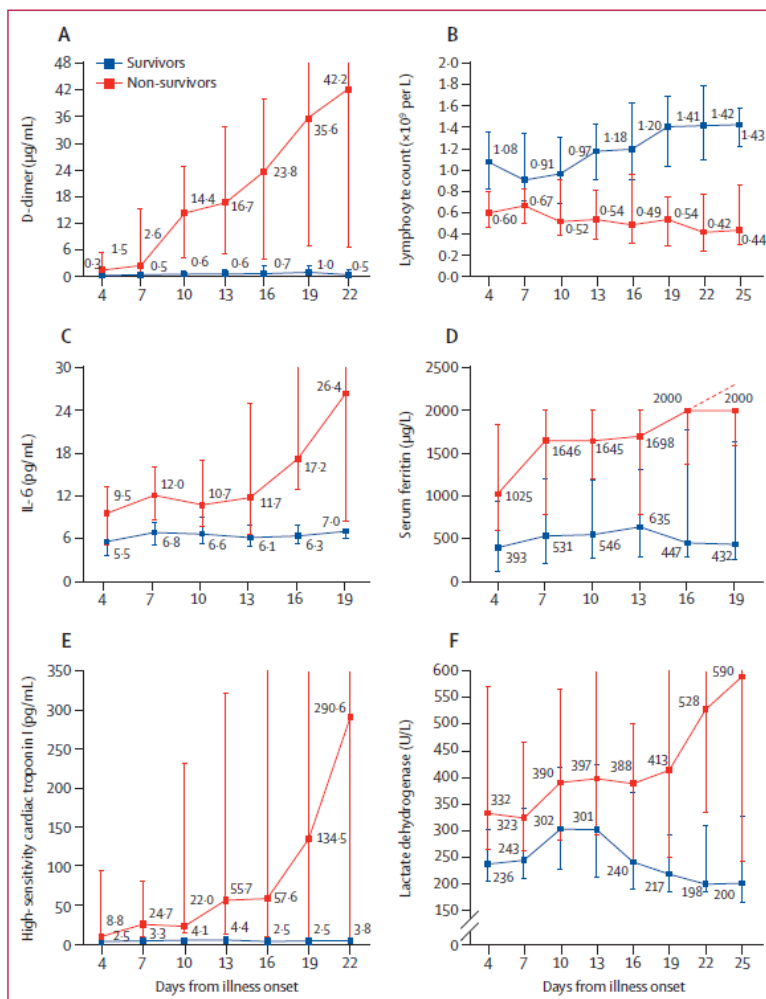


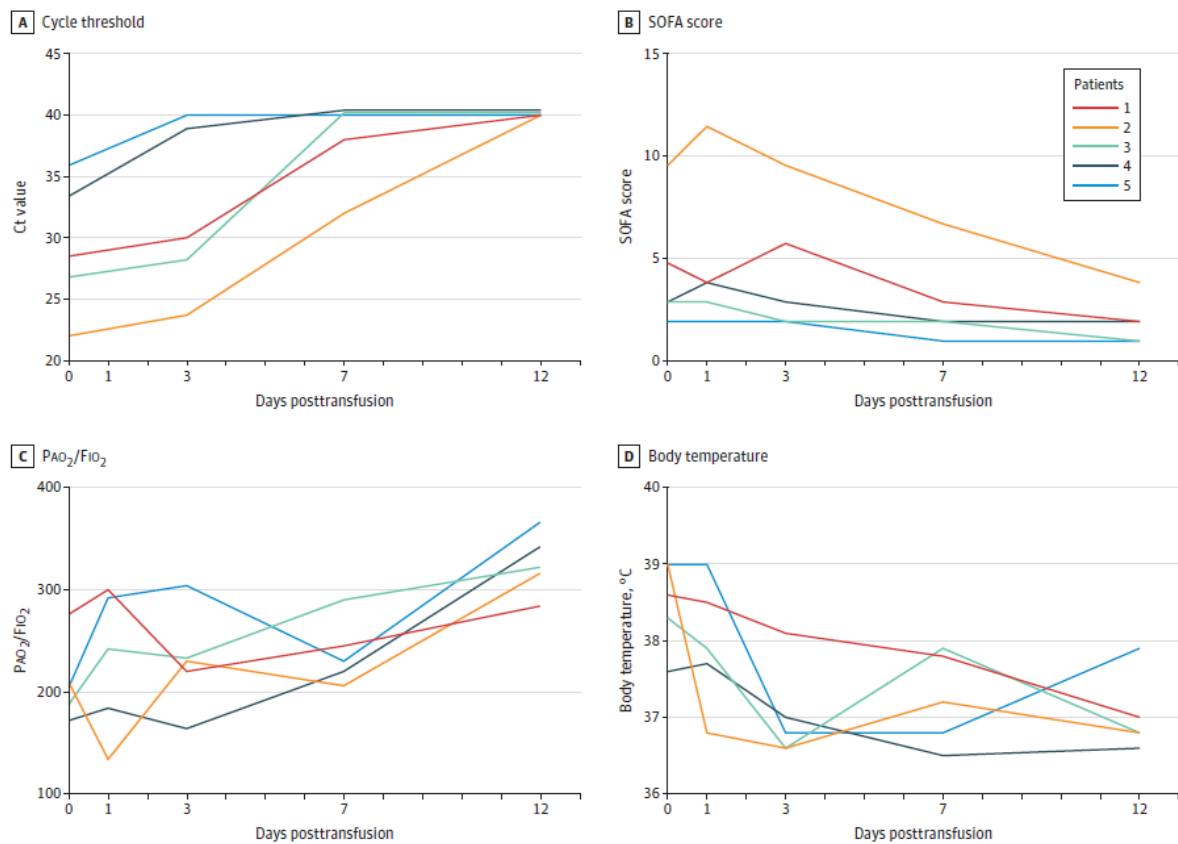
Figure 2: Temporal changes in laboratory markers from illness onset in patients hospitalised with COVID-19

1. In-Hospital death  
Older age (OR 1.1)  
SOFA score (OR: 5.65)  
D-dimer > 1 µg/mL  
(OR: 18.42).
2. Duration of viral shedding  
8-37 days.
3. The median duration of viral shedding  
Survivors: 20 · 0 days  
Non-survivors: continued until death.
4. 입원 시 위험인자를 가진 환자에 대한 집중치료 제공이 필요하고, 언제까지 isolation 할지 추가 연구가 필요함.

Table 1. Clinical Characteristics of SARS-CoV-2-Infected Patients Who Received Convalescent Plasma

	Patient				
	1	2	3	4	5
Sex	Male	Male	Female	Female	Male
Age, y	70s	60s	50s	30s	60s
Weight, kg	55	85	60	41.5	87
Smoking	No	No	No	No	No
Blood type	B	B	B	A	B
Coexisting chronic diseases	None	Hypertension; mitral insufficiency	None	None	None
Disease presentation and course					
Estimated incubation period, d <sup>a</sup>	1	7	3	7	15
Interval between symptom onset and admission, d	2	4	2	2	3
Interval between admission and plasma transfusion, d	22	10	20	19	20
Complications prior to plasma transfusion	Bacterial pneumonia; severe ARDS; MODS	Bacterial pneumonia; fungal pneumonia; severe ARDS; myocardial damage	Severe ARDS	Severe ARDS	Severe ARDS
Most severe disease classification	Critical	Critical	Critical	Critical	Critical
Treatments					
Steroids	Methylprednisolone	Methylprednisolone	Methylprednisolone	Methylprednisolone	Methylprednisolone
Antivirals	Lopinavir/ritonavir; interferon alfa-1b; favipiravir	Lopinavir/ritonavir; arbidol; darunavir	Lopinavir/ritonavir; interferon alfa-1b;	Interferon alfa-1b; favipiravir	Lopinavir/ritonavir; interferon alfa-1b

Figure 1. Temporal Changes of Cycle Threshold Value, PAO<sub>2</sub>/FIO<sub>2</sub>, SOFA Score, and Body Temperature in Patients Receiving Convalescent Plasma Transfusion



A, Change in cycle threshold (Ct) value in nasopharyngeal swabs of infected patients at day 0, day 3, day 7, and day 12 after the plasma transfusion. A Ct value of 40 was defined as undetectable. B, Change in Sequential Organ Failure Assessment (SOFA) score of the patients with convalescent plasma treatment

(range 0-24, with higher scores indicating more severe illness; see footnote to Table 2 for more complete definition). C, Change in PAO<sub>2</sub>/FIO<sub>2</sub> ratio of the treated patients from day 0 to day 12 after treatment. D, Change in body temperature of the 5 patients following plasma transfusion.

Table 3. Characteristics and Antibody Titer of Convalescent Plasma Donors

	Donors <sup>a</sup>				
	1	2	3	4	5
Blood type	B	B	B	A	B
Donated plasma volume, mL	400	400	400	400	400
Interval between symptom onset and discharge, d	11	11	13	13	11
Interval between discharge and plasma donation, d	11	11	13	11	12
RBD-specific IgG ELISA titer <sup>b</sup>	16 200	1800	1800	5400	16 200
RBD-specific IgM ELISA titer <sup>c</sup>	16 200	1800	5400	5400	5400
Neutralizing antibody titer <sup>d</sup>	240	80	120	240	480

Abbreviation: RBD, receptor binding domain.

<sup>a</sup> Donors-patients were matched by number (donor 1 gave plasma to patient 1, etc).

<sup>b</sup> ELISA end point dilution titers (IgG antibody). The expected titer of negative control from a healthy person is  $\leq 200$ .

<sup>c</sup> ELISA end point dilution titers (IgM antibody). The expected titer of negative control from a healthy person is  $\leq 200$ .

<sup>d</sup> Neutralization end point dilution titers. The expected titer of negative control from a healthy person is  $\leq 10$ .

In this preliminary uncontrolled case series of 5 critically ill patients with COVID-19 and ARDS, administration of convalescent plasma containing neutralizing antibody was followed by improvement in their clinical status.

#### 4. 학회 공지

- (1) **심평원 자료 공개:** 코로나 19에 대한 심평원 자료가 공개되었습니다. 심평원 자료로 코로나 19를 분석할 만한 좋은 주제를 가지고 있으면 학회로 메일 주십시오.
- (2) **병원기반형 중증 호흡기 감염병 감시체계:** 병원기반형 중증 호흡기 감염병 감시체계가 5월부터 13개 병원에서 42개 병원으로 확대되었습니다. 많은 협조 부탁드립니다.
- (3) **코로나 19에 대한 임상연구:** 보건복지부, 질병관리본부, 과학기술부, 식약처 등 정부 당국과 여러 유관학회에서 향후 코로나 19 연구를 진행함에 있어 제한이 되는 문제들을 해결하기 위한 협의체를 결성하였습니다. 호흡기학회에서도 많은 의견을 개진 하였습니다. 추후 변화되는 상황은 다시 공지해 드리겠습니다.
- (4) **미래에 대한 대비:** 코로나 19가 종식되면 좋겠으나 계절적 영향으로 잠시 주춤했다가 올해 겨울부터 다시 시작될 수 있습니다. 이에 대해 학회에서 많은 준비를 하고 있으니 학회원들도 이에 대한 의견이 있으시면 언제든지 학회로 연락 주십시오.