How we treat
Cruise Ship `Diamond Princess` with 3700 passengers

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In Japan COVID-19 1\textsuperscript{st} case was January 16 and then, we have made efforts not to spread Corona Virus.
Japanese death rate and spreading speed is very low. Still now Japanese medical system is not collapsed.
How we treat Cruise Ship `Diamond Princess` with 3700 passengers (700 Corona + pts) and why EMS system was not collapsed in Yokohama.
February 3 the cruise ship arrived Yokohama port Quarantine for 14 days began

2600 passengers
1000 Crew
Total 3700

Novel Corona virus PCR was examined
PCR(+) passengers were transferred to the hospitals
The number of PCR(+) passengers was increased day by day.
Feb 10 60 passengers were transported
EMS collapse? By 700 passengers

PCR(+) 700 passengers

We afraid of EMS collapse

regular EMS patients (Trauma, ACS・・・ etc)

Yokohama City Emergency Hospital
EMS crisis in Italy

EMs collapse in Italy
All patients go to Emergency hospital.
Medical team on board divided to 3 groups

3700 passengers
700 PCR (+) patients

Medical Judgement

Medical team on board divided the PCR(+) patients to 3 groups

need urgent treatment
Dyspnea, Spo2 ≤ 94%, ACS, cerebral Infarction
Intubation

to Emergency Center in Yokohama (as soon as possible via Fire Ambulance)

need medical treatment
O2 supply

hospitals in Kanagawa prefecture (within 2 hour)

PCR (+) without any symptom
distant hospital (3 hour and more by bus)
We focus balancing with regular EMS system

Parallel with accepting patients from regular ambulance is very important.
GENERAL PASSENGERS BEGAN disembarking on February 19.
The total number of transported cases by the evening of February 18 was 512 (approximate).

| (Transportation due to the need for emergency medical care) To medical facilities in Yokohama City | 64 |
| Medical facilities in Kanagawa Prefecture | 102 |
| Medical facilities outside of Kanagawa Prefecture | 346 |

Ichiro Takeuchi. COVID-19 First Stage in Japan -How we treat `Diamond Princess Cruise Ship` with 3700 passengers? Acute Medicine and Surgery 2020. on line publication
COVID-19 patients  20 pts

● Severe COVID-19 patients
  ECMO  3 pts
  Ventilator  6 pts

● Severe Disease with corona (+)
  ACS with corona(+) （immediate PCI）
  Perforation with corona (+) （Emergency surgery operation）
  Cerebral Infarction with corona(+) （immediate catheter）
Low Death rate in the Cruse Ship

Death rate in Italy 9.3%
Spain 6.2%
Japan 3.7%
Cruse Ship only 1.1%

Johns Hopkins Univ COVID-19 CCSE・厚労省高山先生作成
Lesson from Cruise Ship

To avoid Emergency Medical Care System collapse

If all PCR (+) patients go to the hospital, it would be overshoot.

Corona (+) Slight illness patients should be in their home.
Corona (+) serious illness pts to Emergency hospital → need Oxygen on bed
Corona (+) Super severe illness pts to Emergency Center → need ventilator and ECMO

Balancing with accepting regular EMS is important.
Letter to the Editor

COVID-19 first stage in Japan – how we treat ‘Diamond Princess Cruise Ship’ with 3700 passengers?

Dear Editor

We report the current situation regarding the case of multiple patients who tested positive via polymerase chain reaction (PCR) for the novel coronavirus infection and were transported from the Diamond Princess cruise ship, from the viewpoint of medical facilities in Yokohama City to serve as a reference for future development of emergency medical care systems in each region. Please note that the following numbers are preliminary (unconfirmed) and may change based on the counts determined by related organizations in the future.

The Medical Control Council recognizes the importance of verifying the overall situation once the crisis has settled down. Please refer to reports from each organization to gain administrative perspectives. The present report is merely one of the documents that could be used to review regional emergency medical systems when large numbers of coronavirus disease (COVID-19) patients are observed in each region.

BEGINNING OF THE QUARANTINE

THE DIAMOND PRINCESS cruise ship (British regist...
Treatment
ECMO Case (Yokohama City university hospital)

<table>
<thead>
<tr>
<th>ECMO</th>
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<td>20case</td>
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<td>On going ECMO</td>
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<td>13case</td>
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<tr>
<td>Death</td>
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Medical Treatment

Japanese TV program
Medical Treatment

- Avigan
- Favipiravi
- Remdesivir
- Lopinavir/ritonavir
- Ciclesonide
IL-6 inhibitors (tocilizumab)?

Now we are checking COVID-19 cytokine level including IL-6, IL-10 and IFN-α β.
Vaccine BCG may provide immune boost against coronavirus, herpes, and other viral infections.
Thank you for your attention!
Ichiro Takeuchi
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