

## Kérdések, tapasztalatok: paradigma váltás?

Ruszkai Zoltán



TM **K E T L A K**

KORONAVÍRUS

ELLENI TRANSZLÁCIÓS

LAKOSSÁGTÁMOGATÓ

AKCIÓ- ÉS KUTATÓCSOPORT

None to declare

Az előadásban látható és esetleg azonosítható személyek írásos beleegyezésüket adták a megjelenéshez

Az előadásban érzékeny adat nem kerül feltüntetésre

# Eddigi tapasztalataink

Súlyosabb állapotúak a betegeink?

Inva  
[N=4200]

APACHE II Score [N=4353]

Esetleg később észleljük őket?

Cstat (ml/vízcm)

~ 20 - 30

<https://www.merriam-webster.com/dictionary>



## Definition of *intensive care*

- 1 : the continuous monitoring and treatment of critically ill or injured patients using special medical facilities, equipment, and services



## Intensive care

Intensive care units (ICUs) are specialist hospital wards that provide **treatment and monitoring** for people who are very ill.

They're staffed with **specially trained healthcare professionals** and contain **sophisticated monitoring equipment.**



## What is meant by “intensive” or “critical” care

Intensive care is the medical speciality that supports patients whose lives are in immediate danger

To maintain or replace the function of organs, patients admitted into ICUs require complex treatments and constant surveillance (24h/24 and 7/7). To ensure this specific level of care, the ICU has a team of highly qualified staff and special medical equipment.

Without treatment and adapted monitoring and surveillance, the consequences of these kinds of illness can be detrimental to our health and the situation life-threatening.

# Az „intenzíves ágy”

Az intenzív terápia egy  
ELLÁTÁSI FORMA

Korai észlelés, és folyamatos monitorozás

High Dependency Unit (SzubITO) kialakítása?

PREDICTING THE NEED FOR INVASIVE MECHANICAL VENTILATION IN PATIENTS WITH  
CORONAVIRUS DISEASE 2019MUHTADI ALNABABTEH MUHAMMAD HASHMI GAIL DRESCHER KARTHIK VEDANTAM MISHAAL TALISH  
NEERJA DESAI AND EMIL OWEISDOI: <https://doi.org/10.1016/j.chest.2020.09.009>TnI pozitivitás  
felvételkor

Preliminary version of a novel risk score to predict the need for invasive mechanical ventilation (IMV) in patients with COVID-19

**METHODS:** Retrospective analysis of patients >18 years-of-age with COVID-19 admitted to a tertiary-care center. Demographic, laboratory, and clinical information were recorded in a standard data-collection format.

**RESULTS:** The cohort included 265 subjects (mean age 59.3 ± 16.4 years, 55.1% male) and 54 (20.4%) required invasive MV. Significant between-group univariate results based on the need for invasive MV, were used in multiple-regression analysis. Admission heart rate (HR) (OR 1.032 [CI 1.013-1.015]; p<0.001), SpO<sub>2</sub>/FiO<sub>2</sub> (S/F) ratio (OR .619 [CI .463-.829]; p=0.001), and any positive initial troponin (TnI) (OR 4.18 [CI 1.93-9.036]; p<0.001) independently predicted the need for invasive MV. The best cutoff points for the variables HR and S/F ratio were also determined: HR >101.5 BPM (AUC 0.686, 68.5% sensitivity & 66.4% specificity) and S/F ratio <4.4 (AUC 0.714, 72.2% sensitivity & 61.6% specificity). The overall model showed good calibration (Hosmer-Lemeshow = 6.3; p=0.39) and predictive ability (AUC = .80). Patients with a single, positive variable had an invasive MV risk = 15.4%, but this increased to 29% with 2 variables and 60.5% (p<0.001) with the presence of all 3.

**CONCLUSIONS:** This pilot study provides insight into early factors related to patient acuity and the use of medical resources. Thresholds for 3 common clinical variables – HR, S/F ratio and TnI – predicted the need for invasive MV with good accuracy and provide an easily-applied scoring system to determine risk.

SpO<sub>2</sub>/FiO<sub>2</sub> < 4.4

HR &gt; 101.5/min



**Authors**

Waleed Alhazzani<sup>1,2</sup>, Morten Hylander Møller<sup>3,4</sup>, Yaseen M. Arabi<sup>5</sup>, Mark Loeb<sup>1,2</sup>, Michelle Ng Gong<sup>6</sup>, Eddy Fan<sup>7</sup>, Simon Oczkowski<sup>1,2</sup>, Mitchell M. Levy<sup>8,9</sup>, Lennie Derde<sup>10,11</sup>, Amy Dzierba<sup>12</sup>, Bin Du<sup>13</sup>, Michael Aboodi<sup>6</sup>, Hannah Wunsch<sup>14,15</sup>, Maurizio Cecconi<sup>16,17</sup>, Younsuck Koh<sup>18</sup>, Daniel S. Chertow<sup>19</sup>, Kathryn Maitland<sup>20</sup>, Faye Alshamsi<sup>21</sup>, Emilie Belley-Cote<sup>1,22</sup>, Massimiliano Greco<sup>16,17</sup>, Matthew Laundy<sup>23</sup>, Jill S. Morgan<sup>24</sup>, Jozef Kesecioglu<sup>10</sup>, Allison McGeer<sup>25</sup>, Leonard Mermel<sup>8</sup>, Manoj J. Mammen<sup>26</sup>, Paul E. Alexander<sup>2,27</sup>, Amy Arrington<sup>28</sup>, John Centofanti<sup>29</sup>, Giuseppe Citerio<sup>30,31</sup>, Bandar Bawzi<sup>32</sup>, Ziad A. Memish<sup>33</sup>, Naomi Hammond<sup>34,35</sup>, Frederick G. Hayden<sup>36</sup>, Laura Evans<sup>37</sup>, Andrew Rhodes<sup>38</sup>

In a cohort of Middle East Respiratory Syndrome (MERS) patients, NIPPV was not associated with

**Patients with confirmed COVID-19 and 24h data received**

**Indicators of acute severity**

**Admitted from 1 Sep  
(N=4501)**

**Admitted up to 31 Aug  
(N=10,914)**

Invasively ventilated within first 24h \*, n (%)  
[N=4200]

959 (22.8)

5854 (54.3)

**APACHE II Score [N=4353]**

Mean (SD)

14.4 (5.3)

15.1 (5.3)

Median (IQR)

14 (11, 17)

15 (11, 18)

intubation can be facilitated in the event of decompensation [19, 80]. However, when resources become stretched, there may be insufficient ability to provide invasive ventilation, and even a moderate chance of success with NIPPV may justify its use.

NEM

FiO2 = 21%  
SpO2 < 93%  
SpO2 / FiO2 < 4.4  
RR > 30/perc  
HR > 101 / perc

**SBO**

1. NC @ 6 LPM

3. NC + Non-rebreather

5. Noninvasive ventilation

IGEN



SpO2 < 93%  
SpO2 / FiO2 < 4.4  
RR > 30/perc  
HR > 101 / perc

**SBO**

2. Venturi mask up to 50%

IGEN



4. HFNC

6. Intubation

HDU  
COVID  
ITO

SpO2 < 93%  
SpO2 / FiO2 < 4.4  
RR > 30/perc  
HR > 101 / perc

\*Awake proning/repositioning can be utilized prior to intubation to improve respiratory status

IGEN

**ITO konzílium**

NEM

NEM

IGEN