

# ГРДС – що нового в 2019 р.?

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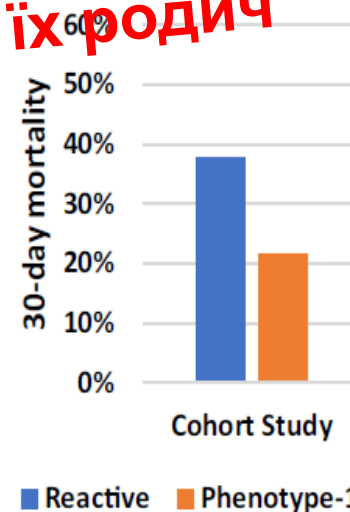
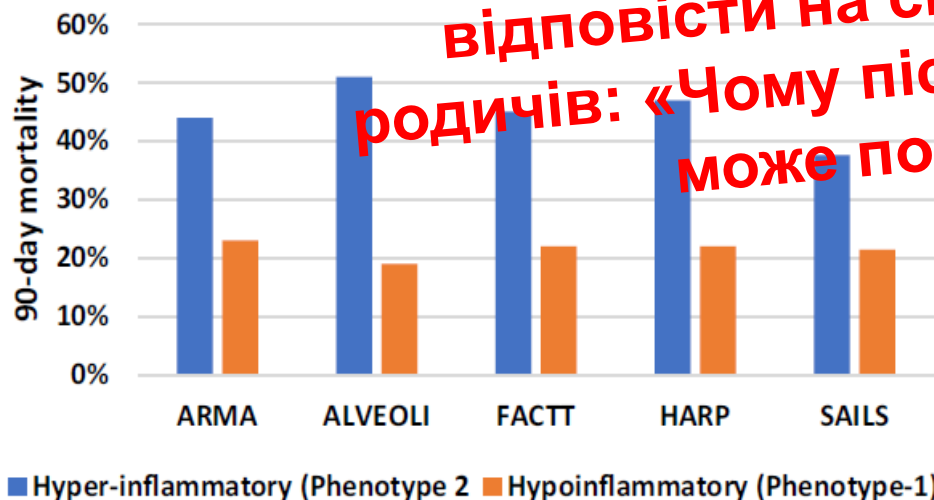


# Acute respiratory distress syndrome (ARDS) phenotyping

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M. Shankar-Hari<sup>1,2\*</sup>, E. Fan<sup>3,4</sup> and N. D. Ferguson<sup>3,4</sup>

Встановлення фенотипу дозволяє  
відповісти на складні питання  
родичів: «Чому після грипу їх родич  
може померти?»

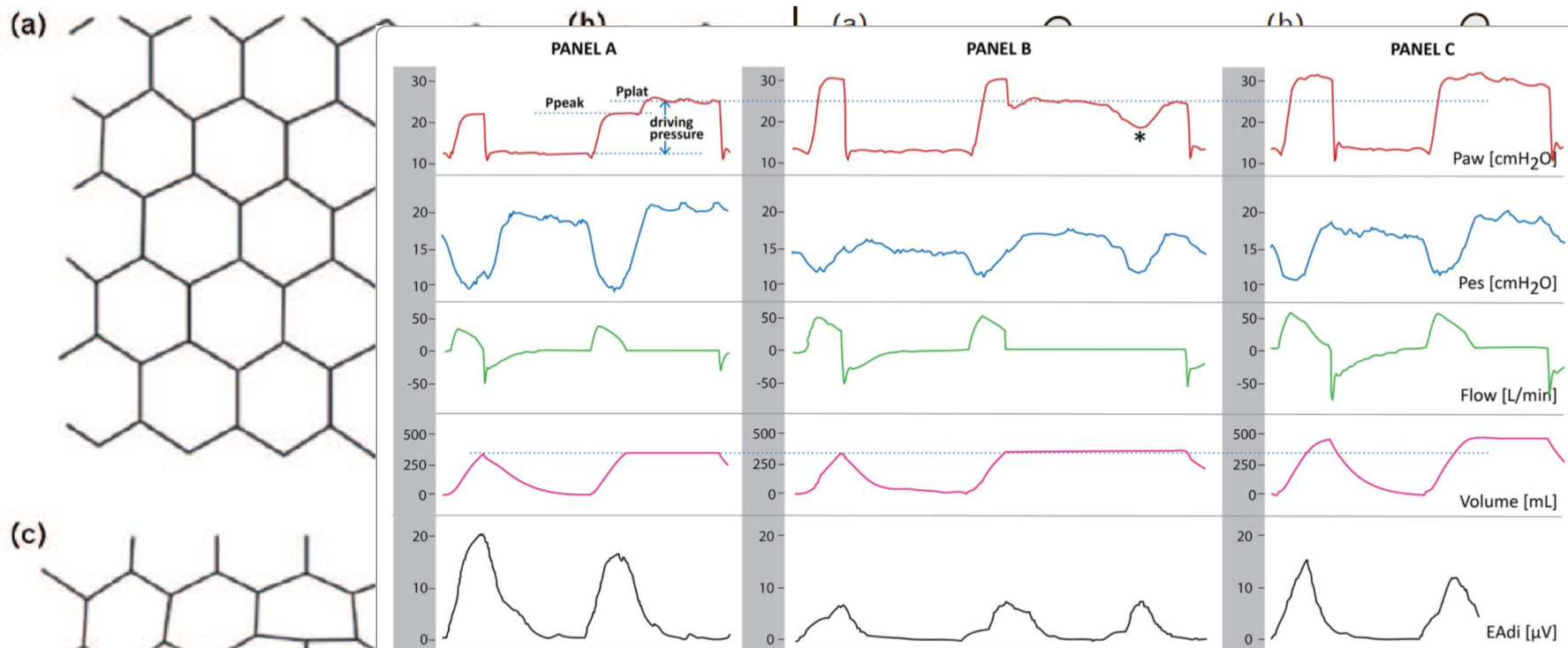


	ARMA N=473	ALVEOLI N=549	FACTT N=1000	HARP N=539	SAILS N=745
% Hyper-inflammatory	32.8%	26.5%	27.2%	34.5%	37.2%
Phenotype discriminant markers	sTNFR-1; IL-6; vasopressor use	sTNFR-1; IL-6; vasopressor use	sTNFR-1; IL-8; bicarbonate	sTNFR-1; IL-6; low platelets; vasopressor	sTNFR-1; IL-8; bicarbonate

	Cohort Study N=700
% Reactive phenotype	51.9%
Phenotype discriminant markers	IL-6; IFN-γ; ANG1/2; PAI-1

# Plateau and driving pressure in the presence of spontaneous breathing

Giacomo Bellani<sup>1,2\*</sup> , Alice Grassi<sup>1</sup>, Simone Sosio<sup>1</sup> and Giuseppe Foti<sup>1,2</sup>



**Fig. 1** The figure shows three inspiratory holds obtained under different conditions during pressure support ventilation. In panel B a baseline condition is depicted. A tidal volume ( $V_T$ ) generated by pressure support plus spontaneous effort results from combined deflections in positive airway pressure (visible on standard monitors) and negative pleural pressure (visible only by esophageal manometry). An inspiratory hold stops airflow, and once the spontaneous effort ceases, the pressure generated by that  $V_T$  will also be  $P_{plat}$ . If a patient's effort occurs, this temporarily disturbs the  $P_{plat}$  reading, but it is easily recognized (\*). In panel A, the level of pressure support (and hence peak inspiratory pressure) is decreased, but the patient's effort increases (as seen by the greater swings in esophageal pressure and electrical diaphragm activity), so that tidal volume is unchanged. Because negative  $P_{es}$  and positive  $P_{aw}$  contributed, the  $V_T$  will be greater than if it was generated solely by the positive pressure; thus, the static pressure corresponding to that larger  $V_T$  means that airway pressure will increase (not decrease) to  $P_{plat}$  when an inspiratory hold is applied. It can be noticed that  $P_{plat}$  obtained by an inspiratory hold is the same between these two conditions, reflecting an equal pressure distending the respiratory system and the greater the effort relative to the level of PS, the greater will be the rise of inspiratory pressure to  $P_{plat}$ . Panel C shows the effect of an increased breathing effort, with the same level of assistance (in comparison with panel B), leading to an increased  $P_{plat}$  (and  $\Delta P$ )

# Низький ПТКВ – не дуже низький, а високий ПТКВ – занадто високий

Editorial

## Atelectrauma or volutrauma: the dilemma

### Conclusions

Francesco Cipull

Luciano Gattinoni

When we compare two different ventilatory modes in ARDS we compare their weight in producing “VILI” although a precise definition of VILI and its link with the mortality are far to be understood. For what we know now, we compare the possible prevention of the two most important triggers of VILI: atelectrauma and volutrauma. The results of available studies, in our opinion, lead to straightforward conclusion. Atelectrauma, which should be greater at PEEP around 7 cmH<sub>2</sub>O, leads the same outcome of volutrauma, which should be greater at PEEP around 15 cmH<sub>2</sub>O, as shown by the three randomized large

Figure 1 Expiratory static elastance of 12 cmH<sub>2</sub>O :  
Polar Recruitment for





# Effect of Titrating Positive End-Expiratory Pressure (PEEP) With an Esophageal Pressure-Guided Strategy vs an Empirical High PEEP-FIO<sub>2</sub> Strategy on Death and Days Free From Mechanical Ventilation Among Patients With Acute Respiratory Distress Syndrome

## A Randomized Clinical Trial

JAMA. doi:10.1001/jama.2019.0555

Published online February 18, 2019.

Jeremy R. Beitler, MD, MPH; Todd Sarge, MD; Valerie M. Banner-Goodspeed, MPH; Michelle N. Gong, MD, MSc; Deborah Cook, MD; Victor Novack, MD, PhD; Stephen H. Loring, MD; Daniel Talmor, MD, MPH; for the EPVent-2 Study Group

**RESULTS** Two hundred patients were enrolled (mean [SD] age, 56 [16] years; 46% female) and completed 28-day follow-up. The primary composite end point was not significantly different between treatment groups (probability of more favorable outcome with P<sub>ES</sub>-guided PEEP: 49.6% [95% CI, 41.7% to 57.5%];  $P = .92$ ). At 28 days, 33 of 102 patients (32.4%) assigned to P<sub>ES</sub>-guided PEEP and 30 of 98 patients (30.6%) assigned to empirical PEEP-FIO<sub>2</sub> died (risk difference, 1.7% [95% CI, -11.1% to 14.6%];  $P = .88$ ). Days free from mechanical ventilation among survivors was not significantly different (median [interquartile range]: 22 [15-24] vs 21 [16.5-24] days; median difference, 0 [95% CI, -1 to 2] days;  $P = .85$ ). Patients assigned to P<sub>ES</sub>-guided PEEP were significantly less likely to receive rescue therapy (4/102 [3.9%] vs 12/98 [12.2%]; risk difference,

**CONCLUSIONS AND RELEVANCE** Among patients with moderate to severe ARDS, P<sub>ES</sub>-guided PEEP, compared with empirical high PEEP-FIO<sub>2</sub>, resulted in no significant difference in death and days free from mechanical ventilation. These findings do not support P<sub>ES</sub>-guided PEEP titration in ARDS.



# Фундаментальні дослідження впливу ПТКВ на рекруйтмент під КТ контролем були проведені ще в 80-х і 90-х.

LIVES FORUM  
MADRID  
3-5 MAY 2018

MONITORING  
IN ACUTE  
RESPIRATORY  
FAILURE

ESICM

Hotel Melia Madrid

Thursday 3rd May 14:34

В Україні на більшості КТ немає навіть джерела кисню!

14:30 - 15:00 Opening Lecture

Chairperson(s): Laurent BROCHARD, Ricard FERRER ROCA



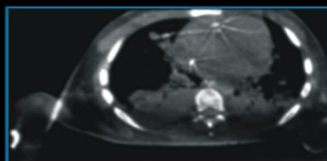
Opening Lecture : What we have learned from CT in ARDS  
Luciano GATTINONI (Milan - Italy)

14:30

## Morphological response (1986)

5 cm H<sub>2</sub>O

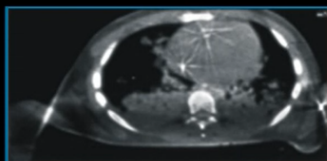
PaO<sub>2</sub>: 97 mm Hg



d. 59%

10 cm H<sub>2</sub>O

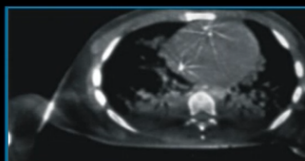
PaO<sub>2</sub>: 103 mm Hg



d. 56%

15 cm H<sub>2</sub>O

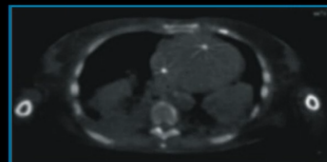
PaO<sub>2</sub>: 104 mm Hg



d. 53%

5 cm H<sub>2</sub>O

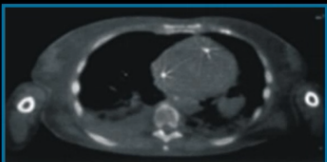
PaO<sub>2</sub>: 34 mm Hg



d. 70%

10 cm H<sub>2</sub>O

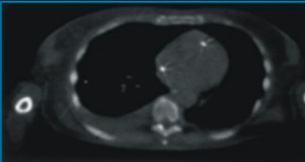
PaO<sub>2</sub>: 49 mm Hg



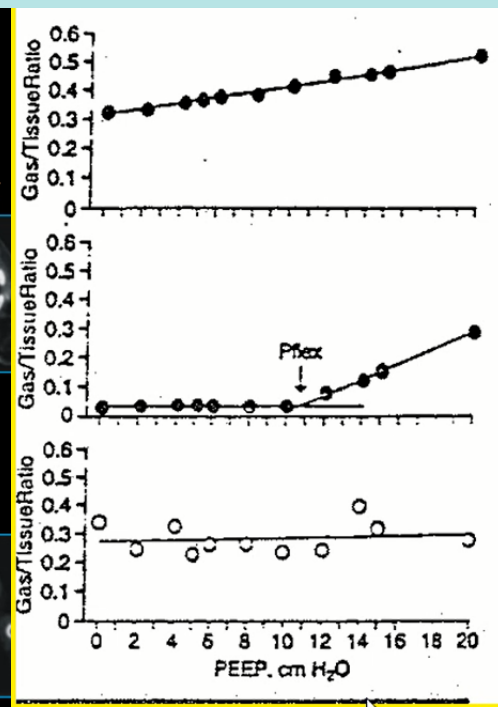
d. 52%

15 cm H<sub>2</sub>O

PaO<sub>2</sub>: 121 mm Hg



d. 32%



Gattinoni et al. JAMA 1993;269:2122-2127

Intensive Care Med. 1986;12(3):137-4

М.М. Пилипенко. 11-й Британо-Український Симпозіум. Київ, 2019

# Висновки



"Before I came here I was confused about this subject. Having listened to your lecture I am still confused. But on a higher level."

Enrico Fermi

<https://youtu.be/IMBZiuFDzLg>

