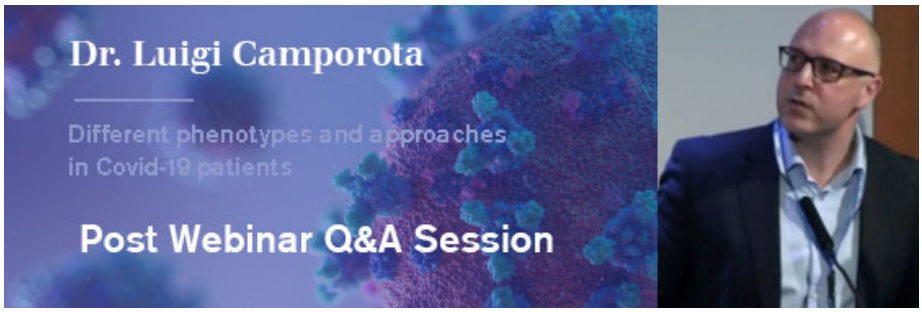


Dräger Webinar:

Different phenotypes and ventilation approaches in Covid-19 patients

Open questions from Webinar (Thursday 18th June, 2020):

Q. What is your view on management of the early compliant phase post intubation - they often have huge tidal volumes if allowed to breath spontaneously, even with no pressure support - any risk of SILI here? If take over ventilation, find that may need significant driving pressures.

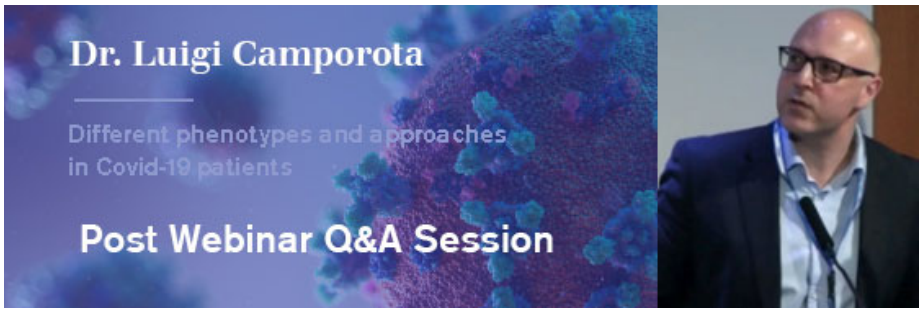
A. Many thanks for the question. If patients need large driving pressures once paralysed – that means that the compliance of the respiratory system is low (given that : driving pressure = tidal volume/compliance). The fact the patients took large tidal volume was expression of them exerting large efforts as may have been assessed by the measurement of P0.1, swings in oesophageal pressure or pressure muscle index.

Q. Are you routinely using mucolytics, or hypertonic saline nebs?

A. We started using carbocysteine orally in these patients as mucous can be tenacious. However, no routine use of nebulisers.

Q. Why survival rate is low in ventilated patient in Covid 19 positive case?

A. Excellent question – very difficult. I would suggest reading this excellent editorial. Hopefully it will give you some ideas.[1] Wunsch H. Mechanical Ventilation in COVID-19: Interpreting the Current Epidemiology. *Am J Respir Crit Care Med* 2020.



Q. Thanks professor. May I know how to measure the lung compliance when patient have high respiratory demand?

A. Many thanks: very difficult in patients who are spontaneously breathing. You can certainly do it measuring traspulmonary pressure using an oesophageal pressure; or at the bedside you can use the method described in this paper: [2] Bellani G, Grassi A, Sosio S, et al. Driving Pressure Is Associated with Outcome during Assisted Ventilation in Acute Respiratory Distress Syndrome. *Anesthesiology* 2019; **131**(3): 594-604.

Q. Does NIV and HNFC has benefit in patients starts getting "happy hypoxia" with alert mental state.. if it has benefit how to use it?

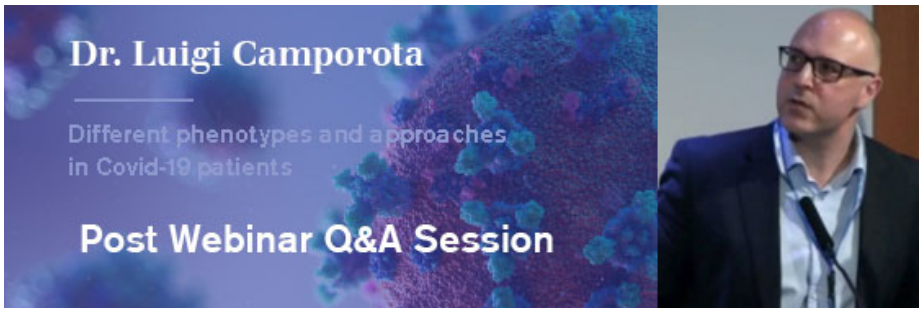
A. It is certainly worth a trial – however, I would make sure you have a way of monitoring, tidal volume, or respiratory effort and identify early patients more likely to fail. Please read these two papers as they describe their strategy[3,4]

Q. How will you treat Cytokines storms. secondary HLH?

A. We tend to use steroids (usually methyl prednisolone) and Anakinra. We have not used Tocilizumab in our cohort

Q. When will you use Steroid for patient on ventilators?

A. We use it in patients with hyper-inflammatory phenotype indicated by the presence of persistent fever, cytopenias, evolving multiorgan failure (including persistent hypoxia), and biochemical evidence of a hyperinflammatory state (elevated CRP, ferritin in the absence of infection)



References

1. Wunsch H. Mechanical Ventilation in COVID-19: Interpreting the Current Epidemiology. *Am J Respir Crit Care Med* 2020.
2. Bellani G, Grassi A, Sosio S, et al. Driving Pressure Is Associated with Outcome during Assisted Ventilation in Acute Respiratory Distress Syndrome. *Anesthesiology* 2019; **131**(3): 594-604.
3. Meng L, Qiu H, Wan L, et al. Intubation and Ventilation amid the COVID-19 Outbreak: Wuhan's Experience. *Anesthesiology* 2020; **132**(6): 1317-32.
4. Shang Y, Pan C, Yang X, et al. Management of critically ill patients with COVID-19 in ICU: statement from front-line intensive care experts in Wuhan, China. *Ann Intensive Care* 2020; **10**(1): 73.