Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Letter to the Editor

The clinical role of echocardiography in severe COVID-related ARDS: Not just a technical tool

Chiara Lazzeri *, Manuela Bonizzoli, Adriano Peris

Intensive Care Unit and Regional ECMO Referral centre, Azienda Ospedaliero-Universitaria Careggi, Florence, Italy

We read with interest the paper by Bleakley et al. [1] who assessed Right ventricle (RV) impairment in critically ill patients with SARS-COV2 (COVID) related Acute Respiratory Distress Syndrome (ARDS). In the last months other studies addressed this interesting topic [2–4].

The emerging evidence in this field strongly suggests that echocardiography is first of all a clinical tool in managing and risk stratifying patients with COVID-related ARDS.

Three factors should be considered by cardiologists and intensive care physicians when interpreting echocardiography findings in these patients to guide management.

Firstly, timing of echocardiographic examination mainly in respect to time of symptoms' onset and mechanical ventilation initiation. A strict relation between cardiac abnormalities and disease progression was reported. The use of therapeutic maneuvers in primis prone position should be considered due to their well known effects on RV chamber and pulmonary circulation [5].

When interpreting the cardiac effects of mechanical ventilation, driving pressure (and not only positive endexpiratory pressure) is to be considered since it is known to estimate tidal volume-related lung stress, to be a risk factor for acute cor pulmonale and associated with survival [5] .

Finally, echocardiographic data from patients on veno-venous ECMO are to be interpreted separately. ECMO modifies blood gas analyses, thereby influencing pulmonary circulation. Secondly RV volume overload cannot be ruled out since oxygenated blood from the membrane oxygenator is reinfused back in the RV, as inferred by the development of RV hypertrophy in severe ARDS patients submitted to ECMO support.

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* Corresponding author at: Intensive Care Unit and Regional ECMO Referral centre, Largo Brambilla 3, 50,134 Florence, Italy.

E-mail address: lazzeric@libero.it (C. Lazzeri).

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