Letter to the Editor **Open Access**

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ARDS diagnosed by SpO_2/FiO_2 ratio compared with PaO_2/FiO_2 ratio: the role as a diagnostic tool for early enrolment into clinical trials

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Dear Sir,

Chen W and co-authors report on the diagnostic tool for early enrolment of patients with ARDS into clinical trials by using SpO_2/FiO_2 ratio compared with PaO_2/FiO_2 ratio. The authors concluded that ARDS patients diagnosed by SpO_2/FiO_2 ratio have similar clinical characteristics and outcomes compared with patients diagnosed by PaO_2/FiO_2 ratio [1].

The work is satisfactory, however, the physiological relationship between measurement of oxygenation either by pulsoxymetry or blood gas analysis is in our opinion clear [2].

One point should be addressed that in a case of carboxyhemoglobinemia the measurement of oxygenation by pulsoxymetry could fail, and blood gas analyses by CO-oxymetry is the only way to exclude this disease. Recent studies revealed that cigarette smoking measured both by history and biomarker is associated with an increased risk of ARDS in patients with nonpulmonary sepsis [3, 4]. Smokers can have an increased level of carboxyhemoglobin up to 15% [5], therefore early use of blood gas analysis is crucial.

The early diagnosis of ARDS is made on a broad spectrum of evidence on clinical, radiological, and oxygenation criteria. Early use of blood gas analyses should not be replaced by pulsoxymetry, at least one arterial blood gas should be obtained at patient's admission. For avoiding arterial puncture capillary blood gas analysis can be used.

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Competing interests: The authors declare that they have no competing interests.

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