New study results confirm the value of calprotectin in management of COVID-19 patients

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Gentian Diagnostics AS is pleased to announce that the results from a study conducted in collaboration with Charité – Universitätsmedizin Berlin and Labor Berlin have been published in the Letter to the Editor in the scientific journal "Journal of Infection" [1].

The study has evaluated the performance of calprotectin in prediction of severe events e.g. admission to intensive care unit (ICU), multiorgan failure (MOF) and mortality in COVID-19 patients presented at the Emergency Department (ED).

66 patients presented to the ED with suspected Sars-CoV-2 infection were prospectively enrolled in the study. Using PCR testing in pharyngeal swabs, 47 patients tested as negative, and 19 patients were diagnosed with COVID-19. The performance of calprotectin was compared with the performance of routinely used biomarkers: lactate, C-reactive protein (CRP) and procalcitonin (PCT).

The study results show high performance of calprotectin in prediction of MOF and admission to the ICU, and it also suggests calprotectin as a valuable biomarker for early management in COVID-19 patients evaluated in the ED. The authors conclude that the data strongly argue that calprotectin might represent an addition to the biomarker repertoire in the ED, since it seems to perform better than traditional biomarkers.

The conclusion from this study supports calprotectin as a novel and useful discriminator in COVID-19 patients admitted to the ED, with respect to disease outcome, e.g. MOF and ICU admission, and calprotectin measurement in blood samples being easily applicable in routine laboratories.

Several recent studies have reported increased levels of calprotectin in patients with severe SARS-Cov-2 infection, as well as the possibility of calprotectin to differentiate between mild and severe forms of the disease, and its ability to predict the need for mechanical ventilation and mortality [2-6].

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2. de Guadiana Romualdo LG et al. (2020). Circulating levels of GDF-15 and calprotectin for prediction of in-hospital mortality in COVID-19 patients: a case series. Journal of Infection https://doi.org/10.1016/j.jinf.2020.08.010
3. Shi H et al. (2020). Neutrophil calprotectin identifies severe pulmonary disease in COVID-19. Journal of Leukocyte Biology https://doi.org/10.1002/JLB.3COVCRA0720-359R
4. Silvin et al. (2020). Elevated calprotectin and abnormal myeloid cell subsets discriminate severe from mild COVID-19.Cell https://doi.org/10.1016/j.cell.2020.08.002

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6. Wu M et al. (2020). Transcriptional and proteomic insights into the host response in fatal COVID-19 cases. PNAS https://doi.org/10.1073/pnas.2018030117

For further information, please contact:

Hilja Ibert CEO, Gentian Diagnostics
E-mail: hilja.ibert@gentian.no
Cell Phone: +47 919 05 242

Njaal Kind CFO, Gentian Diagnostics
E-mail: njaal.kind@gentian.no
Cell Phone: +47 919 06 525