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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Routine haematological parameters in COVID-19 prognosis

In *The Lancet Haematology*, Danying Liao and colleagues[1] reported a cohort of 380 patients with COVID-19 who were admitted to hospital in Wuhan, China, between Jan 23, and Feb 23, 2020. The authors evaluated haematological characteristics and risk factors for classification of disease severity and outcome prediction for patients with COVID-19.[1] In line with previous studies, coagulation parameters were deranged in patients with severe or fatal COVID-19, with D-dimer concentrations being significantly elevated, prompting their use as a biomarker for patient outcome.[2-4]

The features of COVID-19-associated coagulopathy are unique and incompletely understood. The reported data underline the relevance of coagulopathies as a major threat in patients with COVID-19. Although we agree with the clinical relevance, we want to point out that the ability of haematological indicators to predict disease severity and patient outcome seems to vary between cohorts.

We analysed data from 210 consecutive patients with COVID-19 (inclusion criteria: admission to hospital, positivity for severe acute respiratory syndrome coronavirus 2 [SARS-CoV-2]; aged ≥18 years, not pregnant or breastfeeding) with available data on outcome (ie, discharge or mortality) who were admitted to a tertiary care hospital in Austria between March 3 and June 13, 2020. 61 (29%) patients developed severe to critical disease requiring intensive care treatment, and 47 (22%) patients died in hospital. In this cohort, haematological parameters did not allow prediction of patient outcome. Thrombocytopenia at admission (platelet count $<100\times10^9$ cells per L) was not more prevalent in patients with fatal outcome (4%) than in patients with a non-fatal outcome (7%; odds ratio [OR] 1·679 [95% CI 0·401–7·027]; p=0·44). It was also not possible to identify patients with fatal COVID-19 on the basis of neutrophil-to-lymphocyte ratio (ratio of ≥9·13: OR 1·804 [0·758–4·291]) or D-dimer concentration (concentration of ≥2 mg/L: OR 1·378 [0·516–3·675]). Outcome-specific differences in lymphocyte counts (p=0·44) and eosinophil counts (p=0·14) observed at admission also did not predict mortality of COVID-19, suggesting that these routine parameters might not show which patients are at risk for complications associated with COVID-19.

Of note, patient demographics of this cohort differ from previously published cohorts. Patients with COVID-19 in Austria show a wider age distribution than in other cohorts, which is relevant when analysing the effect of D-dimer concentrations because they increase with age. Furthermore, the treatment of patients and clinical routines differ between cohorts, and patients in Austria might have been admitted to hospital earlier in the disease course than in other cohorts. Moreover, we cannot rule out genomic differences in the virus between this study and those that were done at an earlier timepoint.[5]

We aim to raise awareness that these routine parameters, despite giving guidance on the overall health of the patient, might not always accurately indicate COVID-19-related complications. More specific biomarkers and a better understanding of the underlying pathology are warranted to monitor patient deterioration and improve survival.

We declare no competing interests.

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