Aspirin therapy on prophylactic anticoagulation for hospitalized patients with COVID-19: a propensity score-matched cohort analysis of the HOPE-COVID-19 registry

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Background: COVID-19 is an infectious illness, featured by an increased risk of thromboembolism. However, no standard antithrombotic therapy is currently recommended for COVID-19 hospitalized patients. Aim of this study was to evaluate safety and efficacy of additional therapy with aspirin over prophylactic anticoagulation (PAC) in COVID-19 hospitalized patients and its impact on survival.

Methods: 8168 patients hospitalized with COVID-19 were enrolled in a multicenter-international prospective registry (HOPE COVID-19). Clinical data and in-hospital complications, including mortality, were recorded. 344 patients with incomplete data were excluded. Study population included patients treated with PAC or with PAC and aspirin. A comparison of clinical outcomes between patients treated with PAC and PAC and aspirin was performed using an adjusted analysis with propensity score matching.

Results: Of 7824 patients, 360 (4.6%) received PAC and aspirin and 2949 (37.6%) PAC. Propensity-score matching yielded 298 patients from each group. Mean age was 73±11 years, 67% were male, prevalence of hypertension and diabetes was 79 and 33% respectively and 7.5% underwent invasive ventilation.

In the propensity score-matched population, cumulative incidence of in-hospital mortality was lower in patients treated with PAC and aspirin vs PAC (15% vs 21%, Log Rank p=0.01, Figure 1). At multivariable analysis in propensity matched population of COVID-19 patients, including age, sex, hypertension, diabetes, kidney failure and invasive ventilation, aspirin treatment was associated with lower risk of in-hospital mortality (HR 0.62, CI 95% 0.42–0.92, p=0.018).

Conclusions: Additional therapy with aspirin over PAC in COVID-19 hospitalized patients was associated with lower mortality risk in a propensity score matched population.

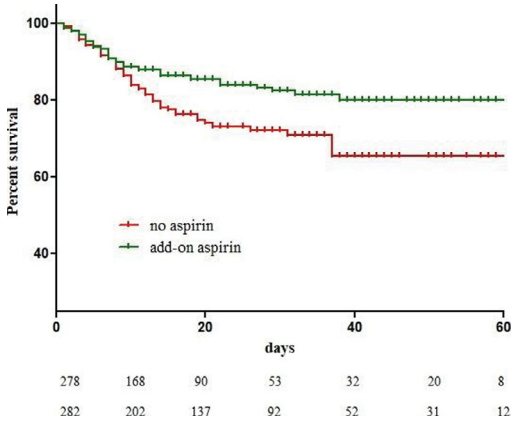

Figure 1. Survival curves according to therapy