**Supplementary Figure 1:** In cohort 2, longitudinal NfL (blue), ALC (orange), CRP (yellow) and LDH (green) levels in critically ill COVID-19 patients those who died, plotted with respect to number of days before death. Each plot represents an individual patient data. The respective color dotted lines represent upper (for NfL, CRP and LDH) or lower (for ALC) limit for HC for respective biomarker (NfL: 20 pg/ml, ALC: 100 *10/μl, CRP: 5 mg/L and LDH: 280 U/L).
Supplementary Figure 2: In cohort 2, longitudinal NfL (blue), ALC (orange), CRP (yellow) and LDH (green) levels in critically ill COVID-19 patients those who survived, plotted with respect to number of days before discharge. Each plot represents an individual patient data. The respective color dotted lines represent upper or lower limit for HC for respective biomarker.
Supplementary Figure 3: Comparisons of 2 predictive models of COVID-19 associated mortality: Age plus Gender plus dichotomized NfL and Age plus Gender plus dichotomized NfL plus dichotomized comorbidities in 3 independent cohorts; (A) cohort 1, (B) cohort 2, and (C) cohort 3. The dotted line on each plot represents the optimal cut-off for respective model predictor. The numerical values beside respective subgroups (Survived or Died) on each plot represents the percentage of correctly classified patients.
SUPPLEMENTARY DATA FILE

Supplementary data file 1: Cohort, demographics, disease and severity diagnosis, timeline of important events during disease, NfL – raw and HC age-adjusted measurements, comorbidities and lab test measurements for systemic markers (ALC, CRP and LDH) data for all subjects (HC = 76, Non-COVID-19 Acute = 10, MS Non-active = 35, MS Active = 35, COVID-19: moderate = 10, critical - survived = 195, and critical - deceased = 133). Patients were recoded and personally identifiable information were excluded.