

**P365 CARDIOVASCULAR RISK SCORE MAY BE USEFUL IN STRATIFY DEATH RISK IN HOSPITALIZED COVID-19 PATIENTS**

S. Cicco, C. Mozzini, M. Marozzi, R. Carella, G. De Fazio, A. Vacca, C. Cariddi, A. Setti, F. Pappagallo, A. Solimando, R. Ria  
 UNIT OF INTERNAL MEDICINE "GUIDO BACCELLI", DEPARTMENT OF BIOMEDICAL SCIENCES AND HUMAN ONCOLOGY, UNIVERSITY OF BARI, BARI; DEPARTMENT OF MEDICINE, SECTION OF INTERNAL MEDICINE, CARLO POMA HOSPITAL, MANTOVA; DIVISION OF INTERNAL MEDICINE, DEPARTMENT OF MEDICINE, UNIVERSITY OF UDINE, UDINE; DIPARTIMENTO DELL'EMERGENZA E TRAPIANTI D'ORGANO (DETO), SEZIONE DI ANESTESIOLOGIA E RIANIMAZIONE, OSPEDALE POLICLINICO, UNIVERSITY OF BARI ALDO MORO, BARI; DEPARTMENT OF MEDICINE, SECTION OF INTERNAL MEDICINE, UNIVERSITY OF VERONA, VERONA

**Background:** COVID-19 induce a robust systemic inflammation. Patients with cardiovascular disease (CVD) present an increased death risk. However, many efforts are spent to identify possible predictors of negative outcomes in order to have a more specific clinical setting. CVD score are useful tools in evaluation of risk of cardiovascular events Aim: We evaluated oxygenation and characteristics in COVID-19 according to cardiovascular risk stratification performed using Framingham (FRS) and Atherosclerotic cardiovascular disease (ASCVD) risk scores.

**Material and Methods:** We evaluated 155 COVID-19 patients (110 males and 45 females, aged  $67.43 \pm 14.72$  yrs). All patients underwent to a complete physical examination, chest imaging, laboratory tests, and blood gas analysis at the time of diagnosis. Seventeen patients died (10 males and 7 females, aged  $74.71 \pm 7.23$  yrs) while the remaining 138 patients (100 males and 38 females, aged  $66.07 \pm 15.16$  yrs) were alive at discharge.

**Results:** No differences there were in Hb, C-reactive protein nor in d-dimers between the two groups. Compared to alive, died group presents a significant increase in white blood cells ( $p < 0.05$ ) and d-dimers ( $p < 0.05$ ). No difference there were in  $pCO_2$ ,  $SO_2$ , and in alveolar arteriolar oxygen difference (A-aDO<sub>2</sub>). On the contrary, in died patients there is an increased  $pO_2$  ( $p < 0.05$ ) and a decreased ratio between oxygen inspired and  $pO_2$  (P/F;  $p < 0.05$ ). Died patients have increased both in FRS ( $27.37 \pm 5.03$  vs  $21.33 \pm 9.49$ ,  $p < 0.05$ ) and ASCVD ( $40.18 \pm 20.36$  vs  $21.47 \pm 17.23$ ,  $p < 0.05$ ). FRS, but not ASCVD, presents a negative correlation to P/F ( $r = -0.42$ ,  $p < 0.05$ ) in died while no correlation was found in alive. No other correlation has been found with blood gas parameters or in the phlogosis parameters evaluated in the two groups. ROC curve analysis showed a good performance in prediction of death for both scores (AUC FRS 0.71, ASCVD 0.77) with a good sensitivity (FRS 76.92%, ASVCD 75.00%) and specificity (FRS 65.00%, ASCVD 81.13%).

**Discussion:** CVD may be considered as a major risk factor for death in COVID-19 patients. The increase risk relates to a reduced lung capacity but it is not related to alteration in gas exchange. Similarly, CV risk results independent from inflammatory state we found. CVD risk score may be useful to stratify patients at admittance for a better treatment