

Follow up of patients after SARS – COV2 Infection Authors: Aleem M., Khan U. Supervisor: Genzor S.

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Introduction:

The pandemic of Covid-19 has impacted the world. Currently, we have more patients with so called postcovid syndrome compared with those with an acute infection.

Aim of the study:The aim of the study was to identify the impact of SARS-Cov-2 on pulmonary function and identify the important risk factors based on severity.

Materials and Methods of the study: The study had a prospective design, we included a total of 471 patients (206 males). The subgroups according to the severity: mild or asymptomatic (M/A); pneumonia (P) and severe pneumonia (SP). The diagnostic process: basic laboratory tests, chest x-ray and pulmonary function tests and in indicated cases lung HRCT. The Bonferroni post-hoc tests were used to compare the qualitative parameters in subgroups, Kruskal-Wallis test was used to compare the pulmonary function tests significance.



Figure 1. HRCT findings displaying severe forms of pneumonia

Figure 2: Age of patients and severity of symptoms

Figure 3: Total capacity (VC) significantly decreasing with highest values in mild/asymptomatic ground and lowest values in severe pneumonia

Results: The age was identified as a significant risk factor of disease severity – in M/A was mean age 48, in P 55.5 and in SP 63.9 (p< 0,0001). Male gender was more prevalent in P (44.2%) and SP (55.8%) compared to M/A (37.5%), (p=0.003). Smokers were significantly more common in M/A subgroup (p = 0.014), with prevalence of 10.5%. Anosmia was also more common in M/A subgroup with prevalence of 46.1% compared to only 23.3% and 4.7 in P and SP subgroups respectively (p< 0,0001). The vital capacity was significantly decreasing in concordance with disease severity, the mean values were 105.5% of predicted values (PV), 99.4% of PV and 62.6% of PV in M/A, P and SP subgroups respectively. Similarly, diffusion capacity – 84.7% of PV, 79.1% of PV and 67.4% of PV in M/A, P and SP subgroups respectively.

Conclusion: The measured pulmonary function tests values were significantly lower in more severe cases. The higher age and male sex seem to be the most important risk factors. Anosmia might be the mark of milder clinical course, as in mild/asymptomatic subgroup was the highest proportion of this symptom. From the research it is apparent that smokers are more common in patients with mild asymptomatic pneumonia, therefore they are at lower risk of contracting severe disease. In a similar study conducted to estimate the risk factors for Covid 19 mortality, it was found that age is the variable that presents the highest risk of COVID 19 mortality, where older patients have greatest number of co-morbidities. In contrast with the comparative study, there was a lack of prevalence of gender per age but in our study it included these statistics

References: F Caramelo Article title:Estimation of risk factors for COVID-19 mortality - preliminary results, https://www.medrxiv.org/content/10.1101/2020.02.24.20027268v1 Coronavirus disease (COVID-19) – World Health Organization Website title: Who.int URL: https://www.who.int/emergencies/diseases/novel-coronavirus-2019