Letter to authors from reviewer

«Re-positive of SARS-CoV-2 test is common in COVID-19 patients after hospital discharge. Data

from high standard post-discharge quarantined patients in Macao SAR, China»

The article is devoted to an extremely interesting and important topic - assessing the frequency of prolonged (about 2 weeks) carriage of the COVID-19 virus in patients without severe clinical symptoms of the disease.

In this work, the study was carried out in Macau, in which no cases of a new coronavirus infection were recorded during the period under consideration, and the patients were kept in isolated boxes all the time, which practically excludes the possibility of re-infection.

The second distinctive feature of this work is the extremely high frequency of long-term carriage of the virus, in more than 1/3 of cases, which is many times higher than in other similar studies. In this regard, we would like to have a more detailed discussion of the reasons that could lead to an abnormally high rate of positive positive tests, including possible errors in laboratory diagnostics.

Remarks:

“121 There were 35 confirmed cases in this study, and 12 (34.3%, 95%CI 18.6-50%) ”

Approximate formulas were used by the authors of determining the confidence limits. In this case, this leads to significant inaccuracies, since the number of cases is only 12.

The exact confidence limits in this case are (34.3% 95% CI 21.5% - 49.3%).

129-152

The results are described in tables No. 1, No. 2 and No. 3. Since the statistical significance (p) in the tables is calculated incorrectly, this section needs to be edited.

“168-170 This study also showed that the mean days from S/S onset to diagnosis was shorter in the re-positive group than the negative group, but the duration from diagnosis to hospital discharge was the opposite. ”

Since statistical tests were used to compare the mean values, which are inapplicable for groups of small sizes (in the study - 12 and 23), it is impossible to categorically assert about the found difference. For comparison, other statistical criteria should be used.

Table 1

Comparison of sex distributions in the two groups.

In the table, $p = 0.261$, in fact, $p = 0.149$.

Distribution by nationality.

The table indicates χ^2=9.917, p=0.043, in fact χ^2=11.843, p=0.066,

Travel history

The table indicates χ^2= 7.555, p=0.517, in fact χ^2=8.129, p=0.421,

S/S before hospitalization

The table indicates p=0.380, in fact p=0.217.

Classification when admission

The table indicates χ^2= 1.348, p=0.748, in fact χ^2=1.712, p=0.425,

Classification during hospitalization

The table indicates χ^2= 2.766, p=0.503, in fact χ^2=3.061, p=0.382,

Past medical history,

The table indicates p=0.640, in fact p=0.311.

CT when admission,

The table indicates p=0.736, in fact p=0.495.

Table 2

Lopinavir / ritonavir

In the table p=0.463, in fact p=0.243.

Interferon

In the table p=1.000, in fact p=0.618.

Azithromycin

In the table p=0.536, in fact p=0.271.

Levofloxacin

In the table p=1.000, in fact p=0.576.

Methylprednisolone

In the table p=1.000, in fact p=0.545.

Hydroxychloroquine

In the table p=1.000, in fact p=0.547.

Table 3. Timeline of disease progression in re-positive group and negative group

You cannot use t-tests (Student's, normal distribution, etc.) for groups of 12 and 23 patients - the groups are too small.

Yours faithfully

Gerasimov