

Waiting for the 7th wave of the pandemic: analysis of the COVID-19 cases from the "Victor Babes" Hospital, Craiova

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ABSTRACT

COVID-19 is an ongoing pandemic and an analysis of the cases treated in the "Victor Babes" hospital of Infectious Diseases and Pulmonology from Craiova between March 2020 and October 2022 has been performed.

Keywords: SARS-CoV-2, COVID-19, pandemic

INTRODUCTION

The actual COVID-19 pandemic started on March 11 (as declared by the World Health Organization, WHO) and so far six waves have swept the globe. The seventh wave is on the rise in some parts of the world.

We have performed an analysis of the COVID-19 cases admitted in our hospital between March 2020 and October 2022.

OBJECTIVE

The aim of this paper is to determine the demographic, epidemiological, clinical and evolutive characteristics of patients admitted in the hospital and diagnosed with COVID-19.

MATERIALS AND METHOD

This is a retrospective study (March 2020 - October 2022) based on information from the hospital database. Demographic, clinical and evolutive aspects were noted. The statistical analysis is based on

Chi² tests (two tailed, with Yates correction) and one-way ANOVA for means and standard deviations with post-hoc Tukey HSD test, the statistical significance being recorded for $p < 0.05$. The diagnosis of COVID-19 was established following a positive result of a real-time polymerase chain reaction (RT PCR) test for SARS-CoV-2.

All patients have signed a consent for allowing the use of their personal data. The study has been approved by the Ethics Committee of the "Victor Babes" Hospital.

RESULTS

We have recorded 11805 COVID-19 cases, evolution of hospital admissions being presented in Figure 1. Six waves of the pandemic have been recorded so far. Trendline of the admissions (blue line on the graph) is slowly decreasing.

Gender distribution was 6274 (53.15%) females vs 5531 (46.85%) males. However, for the critical forms we have registered 445 males (58.71%) vs 313 female (41.29%), while for the deceased people there

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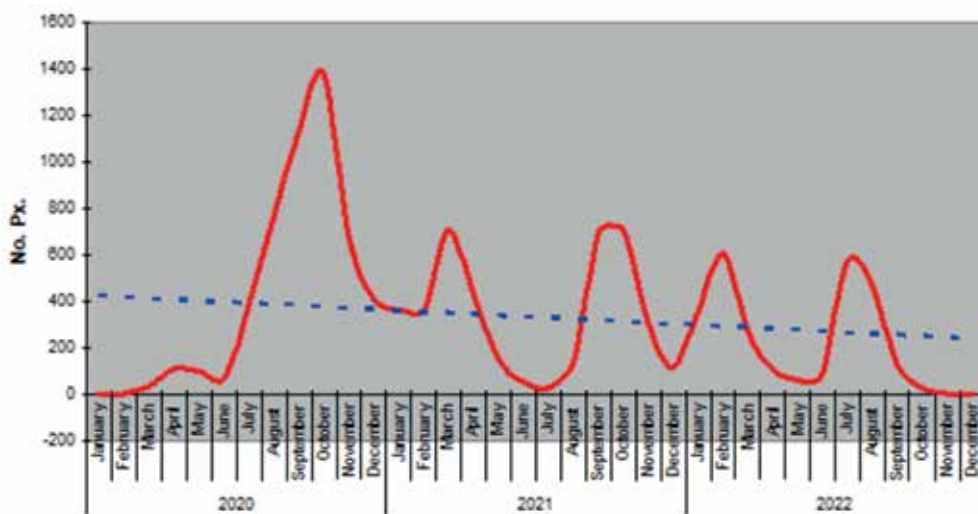


FIGURE 1. Evolution of hospital admissions, "Victor Babes" hospital from Craiova, March 2020 - October 2022

was 243 males (59.12%) vs 168 females (40.88%); for both sets the Chi² test has a statistically significant value ($p < 0.0001$). Most patients (Px) were from urban settings (7761, 65.74%) and from Dolj county (9987, 84.60%). Most people admitted in the hospital were adults (10835, 91,78%). Average age of the patients was 51.37 ± 21.58 years (49.49 ± 17.45 years in 2020, 56.14 ± 19.98 in 2021 and 47.64 ± 28.61 in 2022, re-spectively). The youngest patient was a newborn, while the oldest had 97 years old. Age distribution is presented in Figure 2.

As regarding the clinical forms of the COVID-19 we have recorded 389 (3.30%) asymptomatic forms (mostly during the first two waves), 2608 (22.09%) mild forms, 5962 (50.50%) moderate forms, 1677 (14.21%) severe forms and 1169 (9.90%) critical

forms, which have required intensive care admission (see Figure 3).

Figure 4 shows the average age and standard deviation (years) for each clinical form taken into consideration; there is a statistical difference between data registered for asymptomatic cases (34.22 ± 10.14), mild (44.5 ± 21.44), moderate (50.61 ± 19.87), severe forms (67 ± 17.98), critical forms (68.44 ± 10.12) and for deceased patients with COVID-19 (71.33 ± 12.74 years), $p < 0.0001$ (ANOVA).

During the first wave we have recorded 59 cases diagnosed with COVID-19 shortly after returning from abroad (Italy - 28 Px, Great Britain - 22 Px, Spain - 6 Px, France - 3 Px); we have also recorded 4 important epidemiological clusters (28, 20, 13 and 9 cases) [1].

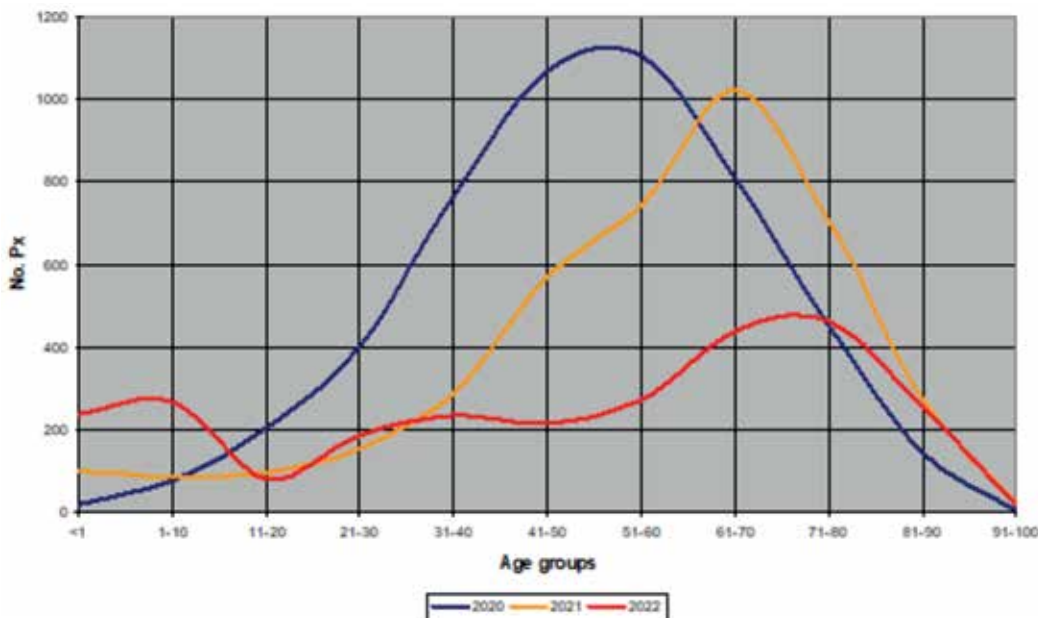


FIGURE 2. Age distribution of the COVID-19 patients admitted in the "Victor Babes" hospital from Craiova during March 2020 – October 2022

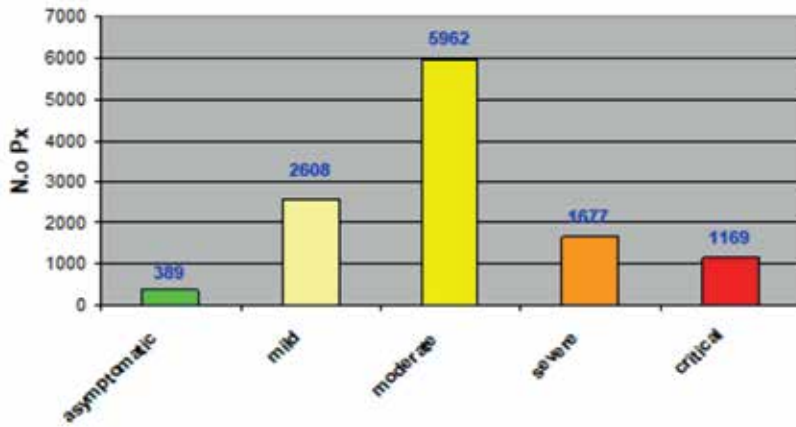


FIGURE 3. Clinical forms of COVID-19 admitted in the “Victor Babes” hospital from Craiova, March 2020 – October 2022

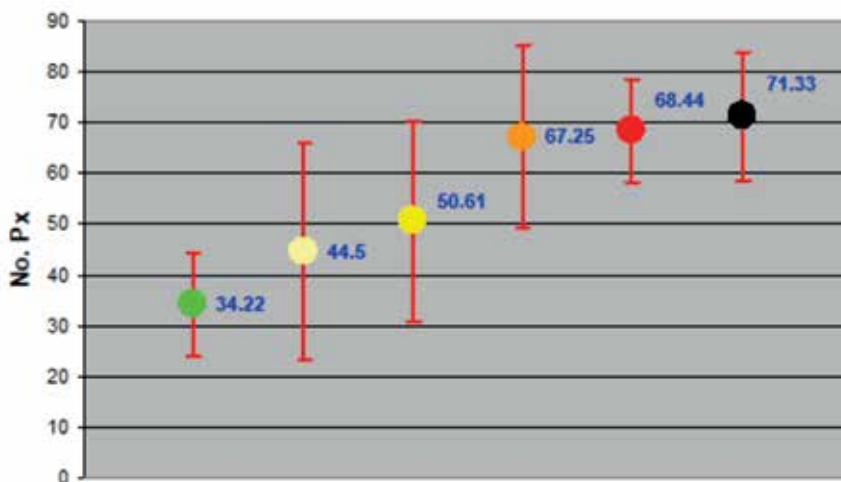


FIGURE 4. Age distribution (means, standard deviations) for each clinical forms of COVID-19

Legend: green – asymptomatic forms, light yellow – mild, yellow – moderate, orange – severe, red – critical forms and black – deceased patients.

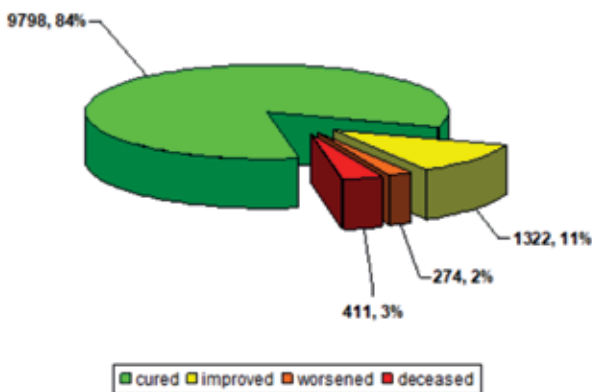


FIGURE 5. Hospitalization results of the COVID-19 patients admitted in the “Victor Babes” hospital from Craiova

The results of hospitalization are shown in Figure 5. We have recorded 411 deaths. Distribution of cases is presented in Figure 6.

The mortality rate so far was 3.48%. The highest number of deaths was recorded during the 4th pandemic wave (Delta) and in older persons (Figure 7).

DISCUSSION

Starting from March 6, 2020, the COVID-19 pandemic led (up to October 25, 2022) to 627.104.342 confirmed SARS-CoV-2 infections and 6.567.552 deaths. Since the start of specific vaccination there was 12.830.378.906 vaccine doses administered worldwide [2]. Europe recorded 262.094.240 cases and 2.119.991 deaths; until the end of October 2022 a total number of 1.663.294.290 vaccine doses were administered [3]. For Romania there was 3.287.394 infections recorded and 67.199 fatal cases [4]; as regarding specific immunization there was 16.737.321 doses given up to March 2022 [5]. Dolj county recorded 73.112 cases (June 2022) [5]. 11805 (16.14%) cases have been treated at the “Victor Babes” hospital of Infectious Diseases and Pulmonology from Craiova. The six waves of the actual pandemic are clear visible on the admission graph. The second wave showed to be the most important (as regarding the number of hospitalization), but during the first two waves there was a legal requirement to ad-

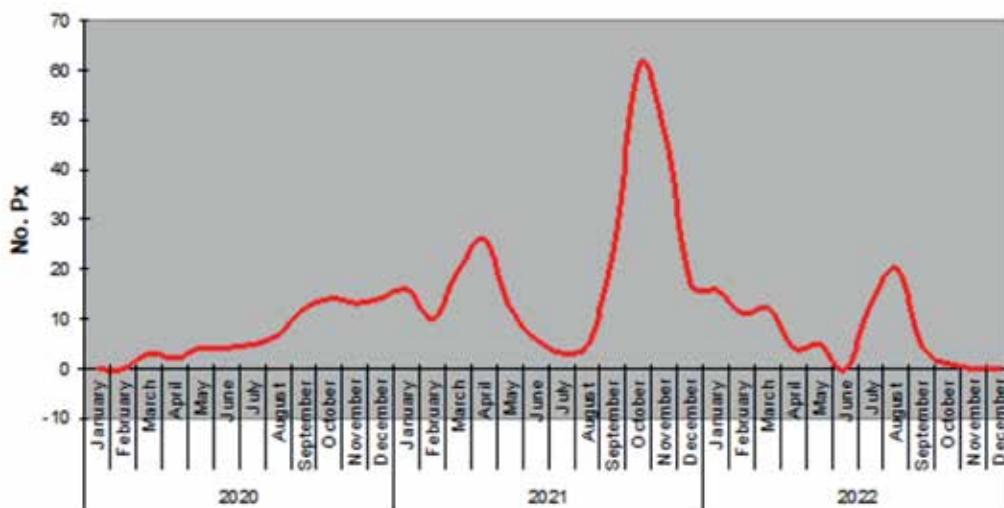


FIGURE 6. Distribution of deaths through time, COVID-19 cases admitted in the “Victor Babes” hospital from Craiova

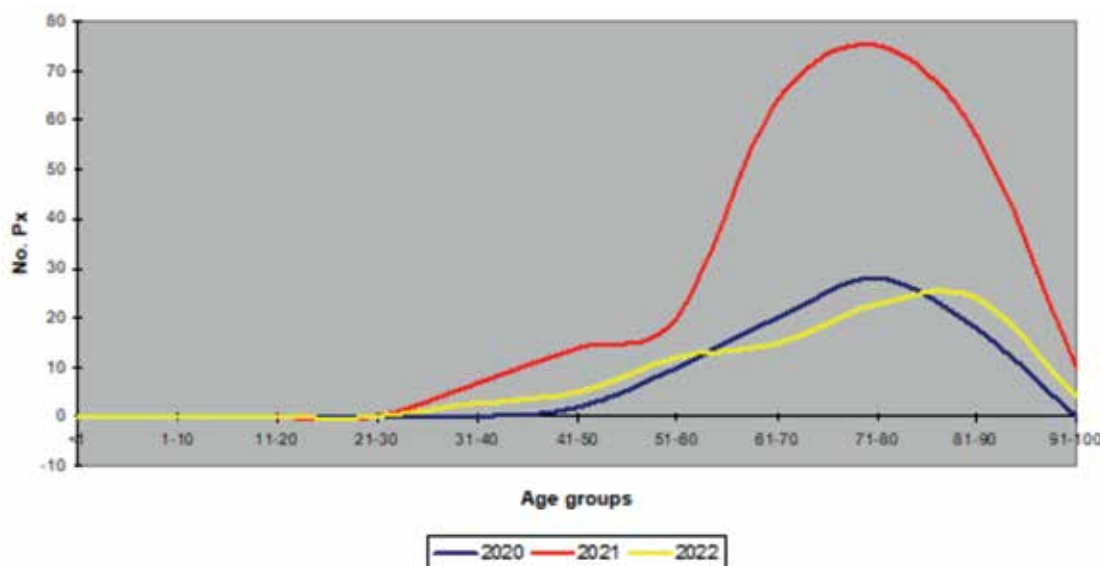


FIGURE 7. Age distribution of deceased COVID-19 cases

mit all clinical forms of COVID-19 and, also, at that time we were the only medical facility designated to treat SARS-CoV-2 infections.

Globally there is only a small predominance of females vs males patients, but for the critical cases and deceased people’s gender ratio favor males (almost 2:1 ratio as compared with females); the result has statistical significance and similar results are reported by the medical literature [6,7,8,9].

Age distribution of admitted patients shows the prevalence of older age; however, for 2022 it is also worth noticing that there is an increase in the number of children aged <1 year old (237 Px in 2022, as compared with 101 in 2021 and 19 in 2020), suggesting a continuous spreading of the virus. There is a report from the CDC of an increased number of COVID-19 in children starting with the omicron wave [10].

Most cases admitted in our hospital were classified as moderate, in accordance with the other reports [9,11].

The majority of the hospitalized patients with COVID-19 gets cured and the fatality rate is rather low (3.48%). The highest number of deaths was recorded during the 4th wave of the pandemic (delta). Old patients and males are the majority of persons with critical forms or deceased, which is also in accordance with other published studies [8,9,12,13].

CONCLUSIONS

1. Most of the hospitalized cases were moderate forms of COVID-19
2. Male gender and older age seem to be associated with critical forms and deaths
3. Fatality rate is relatively low; the highest number of deaths was recorded during the 4th wave of the pandemic.

Conflict of interest: none declared
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