



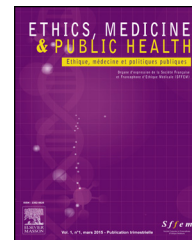
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LETTER TO THE EDITOR

Is it safe to manage COVID-19 and other diseases simultaneously in the same hospital?



Keywords COVID-19; Epidemiology; Hospital-acquired COVID-19; Prevalence

Dear Editor,

Many patients have been avoiding essential care during the coronavirus disease 2019 (COVID-19) pandemic owing to the fear of contracting severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection in hospital settings. To evaluate the safety of managing COVID-19 and other diseases simultaneously in the same hospital, we analyzed, in brief, the prevalence of hospital-acquired COVID-19 (HAC) in COVID-wards and COVID-free ward at "San Giovanni di Dio" hospital, an urban hospital in the city of Gorizia (Friuli Venezia Giulia region, North-East of Italy), with a frequentation of about 6,000 patients per year.

San Giovanni di Dio Hospital had established three COVID-19 Internal Medicine Units (a total of 65 beds) to fight the second wave of COVID-19 pandemic. However, to continue non-COVID-19 essential care, an internal medicine COVID free ward consisting of 30 beds was also designated.

The infection control methods evolved during the study period and included a first screening in Emergency Room. All patients were required to take the PCR test. The patients who tested positive were admitted to COVID-19 units. The patients who tested negative without any symptoms attributable to COVID-19 were admitted to the COVID-19 free internal medicine unit. The COVID-19 negative patients presenting with dyspnoea and/or fever, underwent a chest X-ray and/or a chest CT-scan. In absence of radiological signs of interstitial disease, PCR test was repeated. If the test was negative, they were also admitted to the COVID-free ward. Patients with radiological findings of interstitial disease underwent PCR test on a bronchial-alveolar lavage. If they were found to be negative, then they were also admitted to the COVID-free ward.

A second screening test was then performed in the unit: all patients were screened for COVID-19 symptoms on admission, and PCR test was repeated for all suspected patients. If a patient tested positive then all patients in the unit (symptomatic and asymptomatic) underwent an RT-PCR test on days 0, day 5 and day 10.

Importantly, apart from putting restrictions in place on visitors, COVID and COVID-free unit staff were kept separate

and everyone used personal protective equipment (PPE) at all times.

Between 15th November 2020 and 15th April 2021, a total of 662 patients were admitted from the Emergency Room to the COVID wards, and 427 patients were admitted to the COVID-free ward.

A total of 18 patients (4.2%) were tested positive after admission in COVID-free Unit.

Our criteria for categorization was thus: definitely hospital-acquired COVID-19 (D-HAC) in patients having positive test >14 days after hospital admission, or <15 days from the discharge, or with positive test between 3 and 14 days after admission + known exposure during hospitalization; definitely community-acquired COVID-19 (D-CAC) in patients having positive test between 3 and 14 days after hospitalization + symptoms present at admission and/or known exposure before the hospitalization. The other cases are considered likely hospital-acquired COVID-19 (L-HAC).

According to the above criteria, one patient had D-CAC, 13 had D-HAC, 4 had L-HAC. Therefore, we reported a prevalence of definitely hospital-acquired COVID-19 at 3% (13 out of 427) in COVID-free ward. Our prevalence rate for D-HAC was lower than that reported in previous studies in England (6%) [1], and in Brazil (7.5%) [2].

All inpatients tested positive were transferred to a COVID-19 unit, so the overall number of patients admitted in COVID-19 units increased from 662 (from Emergency Room) to 680 (from Emergency Room + COVID-free Unit).

HAC prevalence and mortality, and their comparison with data from other studies [1,3–5] are summarized in Table 1.

Difference in prevalence could be accounted for by differences in socio-demographic context and control infection. The higher mortality rate in HAC than in CAC may be due to the frailty of hospitalized patients. However, due to the small sample size, data of statistical significance could not be obtained.

Although our results need confirmation from other studies, the low prevalence of HAC in our setting is encouraging as it shows that strict control measures can reduce the risk of SARS-CoV2 being transmitted. It is important as well as safe to dedicate specific wards for managing non-COVID but seriously ill patients in a hospital that also manages patients with COVID-19 infection.

Human and animal rights

The authors declare that the work described has not involved experimentation on humans or animals.

Prevalence D-HAC in COVID wards	Prevalence D-HAC & L-HAC in COVID wards	Prevalence HAC in previous studies (countries)	Mortality for COVID-19 in HAC patients	Mortality for COVID-19 in COVID-Units
1.9% (13/680)	2.5% (17/680)	16.2% (England)[3] 0% (USA)[4] 8% (England)[1] 12.5% (England and Italy)[5]	31% (4/13) in D-HAC 35% (6/17) in all HAC	15.3% (104/680)

Informed consent and patient details

The authors declare that this report does not contain any personal information that could lead to the identification of the patient(s) and/or volunteers.

Author contributions

All authors attest that they meet the current International Committee of Medical Journal Editors (ICMJE) criteria for Authorship.

All authors equally participated to the writing the paper. All authors read and approved the final version of the manuscript.

Disclosure of interest

The authors declare that they have no competing interest.

References

- [1] Jewkes SV, Zhang Y, Nicholl DJ. Nosocomial spread of COVID-19: lessons learned from an audit on a stroke/neurology ward in a UK district general hospital. *Clin Med (Lond)* 2020;20:e173–7.
- [2] Passarelli VC, Faico K, Moreira LVL, Conte DD, Kleenex de Souza L, Camargo C, et al. Asymptomatic coronavirus disease 2019 (COVID-19) in hospitalized patients. *Infect Control Hosp Epidemiol* 2020;5:1–2.
- [3] Maragi I, Minen I. Hospital-Acquired COVID-19 Infection – The magnitude of the Problem. *The Lancet* (In Press - Pre-printed).

Available online on: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3622387.

- [4] Rhee C, Bakr M, Vaidya V, Tucker R, Resnick A, Morris CA, et al. Incidence of nosocomial COVID-19 in patients hospitalized at a large US Academic Medical Center. *JAMA New Open* 2020;3:e2020498.
- [5] Carter B, Collins JT, Barlow-Pay F, Rickard F, Bruce E, Verduri A, et al. Hospital-acquired COVID-19 infection: examining the risk of mortality. *The COPE-Hospital acquired Study (COVID in Oder People)*. *J Hosp Infect* 2020;106(2):376–84 [S0195-6701:30344-3].

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