



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

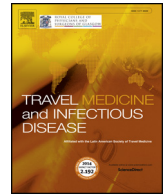
Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



ELSEVIER

Contents lists available at ScienceDirect

Travel Medicine and Infectious Disease

journal homepage: www.elsevier.com/locate/tmaid

Correspondence

COVID-19 in a tertiary hospital from Romania: Epidemiology, preparedness and clinical challenges

Dear Editor,

Since December 2019 a new coronavirus, later named Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), produced an atypical cluster of pneumonia, now known as Coronavirus Disease 2019 (COVID-19) in China, Wuhan city area, and spread rapidly worldwide [1]. As with other severe respiratory infections, prevention is a challenge [2].

Around 5 million Romanians are working in Western Europe (especially in Italy -around 1 million, but also in Spain, France, Germany, United Kingdom) and they regularly travel back to Romania [3]. Following SARS CoV-2 spread in Italy and shortly after in Spain, France, UK and other western european countries and the lockdown of most economical activities, tens of thousands of Romanians returned home, creating a huge potential for imported cases.

The first case of COVID-19 in Romania was registered on 26th of February, in a contact of an Italian infected person, followed by a few cases every day, until March 10, when the number of cases increased rapidly. Out of 261 cases reported until March 18, 49% were imported (66% from Italy, 5% from each France, Germany and Spain, 4% from each Austria and UK and 3% from Israel). 14 countries contributed with imported cases; there were no cases from China or South-East Asia [4].

Dr. Victor Babes hospital is a tertiary university hospital for infectious and tropical diseases with 490 beds and 9 intensive care unit beds. In March 2020, we discharged hospitalized patients, stopped admission of new patients and prepared the hospital as a COVID-19 hospital. We trained the staff for COVID-19 case management., organised the staff into separate teams, each team working for 6–9 days, as the other teams remained in wait to enter when the number of COVID-19 cases will increase.

The laboratory diagnostic for COVID-19 is performed by Real-Time PCR with manual nucleic acid extraction technique (MasterPure™ Complete DNA and RNA Purification Kit™, Lucigen) and RNA detection and quantification with “genesig®Real-Time PCR assay”/Primer design™ Ltd, in vitro Real-Time PCR diagnostic test for Coronavirus (COVID-19), targeting RNA dependent RNA polymerase -RdRp) on a Real-time PCR Light Scanner 32/LS32 (Idaho Technology, DOOR).

The first cases were admitted in our hospital on March 9 (3 cases from the same family) and until March 26 there were 126 hospitalized patients, with a median age of 43,5 years (range 3–87 years), and a male/female sex ratio of 1.04. Daily admission varied between 1 and 30, with 3 peaks: on March 17 (30 cases), March 21 (20 cases) and March 22 (17 cases).

Forty four cases (34.9%) were imported from 13 countries: Austria (10 cases), Italy (9), UK (8), Spain [4], France [3], Germany, Luxembourg (2 cases each), Israel, Norway, Lithuania, Turkey, Belgium, Netherlands (one case each). Travelers surveillance may be a good indicator for early outbreaks, since the Israel imported case has returned on February 29, when only 7 cases were reported there. Significantly,

another person who returned from Israel on the same date, was later hospitalized in a general hospital, with symptoms unrelated to COVID-19, developed a severe pneumonia, and lead to a local outbreak with at least 50 cases (47 patients hospitalized in our hospital).

Most cases were mild; nevertheless 8 patients were admitted in ICU and 3 died (all 3 with epidemiological contact in a renal dialysis center, all with underlying diseases and with chronic renal dialysis). Apart from the already known [1] clinical features of COVID-19 (fever, cough, shortness of breath, myalgia, sore throat, headache or diarrhea) a sudden onset of anosmia and/or dysgeusia was registered in 20% of patients, all mild cases. Although anosmia has also been described in other respiratory virus infections (rhino-, entero-, adeno-, paramyxoviruses or syncytial respiratory virus) [5], it can represent an early indicator for COVID-19 and we advised ENT specialists to screen for SARS-CoV-2 in patients presenting with anosmia and dysgeusia.

The rapid spread of SARS-CoV-2 is an impressive model of a travel-related disease, and Romania is definitely one of the best examples of this type. The epidemic started in Romania with multiple imported cases throughout the country, all, but the Israel imported ones, coming from Western Europe, a rapid increase in the number of infected patients is ongoing (1029 confirmed cases and 24 deaths on March 26), despite an almost complete lockdown of the country. Surveillance and isolation/quarantining all incoming travellers was applied in India, during the Nipah outbreak in 2018 and is replicated now, during the COVID 19 pandemic, its value as a reliable prevention model early during an epidemic remain to be proven.

References

- [1] Rodriguez-Morales Alfonso J, Cardona-Ospina Jaime A, Gutiérrez-Ocampo Estefanía, Villamizar-Peña Rhuvi, Holguin-Rivera Yeimer, Escalera-Antezana Juan Pablo, Alvarado-Arnez Lucia Elena, Bonilla-Aldana D Katterine, Franco-Paredes Carlos, Henao-Martinez Andrés F, Paniz-Mondolfi Alberto, Lagos-Grisales Guillermo J, Ramirez-Vallejo Eduardo, Suárez Jose A, Zambrano Lysien I, Villamil-Gómez Wilmer E, Balbin-Ramon Graciela J, Rabaan Ali A, Harapan Harapan, Dhama Kuldeep, Nishiura Hiroshi, Kataoka Hiromitsu, Ahmad Tauseef, Sah Ranjit. Clinical, laboratory and imaging features of COVID-19: a systematic review and meta-analysis. *Trav Med Infect Dis* 2020. <https://doi.org/10.1016/j.tmaid.2020.101623> Available online 13 March.
- [2] Baharoon S, Memish ZA. MERS-CoV as an emerging respiratory illness: a review of prevention methods. *Trav Med Infect Dis* 2019 Nov 12. <https://doi.org/10.1016/j.tmaid.2019.101520>. 101520.
- [3] Gherghel I, Bulai M. Is Romania ready to face the novel coronavirus (COVID-19) outbreak? The role of incoming travelers and that of Romanian diaspora. *Trav Med Infect Dis* 2020. <https://doi.org/10.1016/j.tmaid.2020.101628> Available online 14 March.
- [4] <https://www.cnsctb.ro/index.php/1539-analiza-cazuri-confirmate-261-pana-la-18-03-2020/file>.
- [5] De Haro-Licer J, Roura-Moreno J, Vizitium A, González-Fernández A, González-Ares JA. Long term serious olfactory loss in colds and/or Flu. *Acta Otorrinolaringologica (English Edition)* 2013;64(5):331–8. <https://doi.org/10.1016/j.otoeng.2013.10.004>.

Corneliu Petru Popescu^{*1}

Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

<https://doi.org/10.1016/j.tmaid.2020.101662>

Received 3 April 2020; Accepted 4 April 2020

1477-8939/© 2020 Elsevier Ltd. All rights reserved.

Dr Victor Babes Clinical Hospital of Infectious and Tropical Diseases,
Bucharest, Romania
E-mail address: cornel160@yahoo.com.

Alexandru Marin¹

Dr Victor Babes Clinical Hospital of Infectious and Tropical Diseases,
Bucharest, Romania

Violeta Melinte¹, George Sebastian Gherlan¹

Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

Dr Victor Babes Clinical Hospital of Infectious and Tropical Diseases,
Bucharest, Romania

Filofteia Cojanu Banicioiu¹, Adelina Dogaru¹, Sebastian Smadu¹,
Ana Maria Veja¹, Elena Nedu¹, Delia Stanciu¹, Bianca Voinescu¹

Dr Victor Babes Clinical Hospital of Infectious and Tropical Diseases,
Bucharest, Romania

Valentina Simion¹

Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

Dr Victor Babes Clinical Hospital of Infectious and Tropical Diseases,
Bucharest, Romania

Andreea Toderan¹, Amalia Dascalu¹, Corina Oprisan¹, Gratiela Tardei¹
Dr Victor Babes Clinical Hospital of Infectious and Tropical Diseases,
Bucharest, Romania

Maria Nica¹

Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

Dr Victor Babes Clinical Hospital of Infectious and Tropical Diseases,
Bucharest, Romania

Emanoil Ceausu¹

Dr Victor Babes Clinical Hospital of Infectious and Tropical Diseases,
Bucharest, Romania

Simona Maria Ruta¹

Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

Stefan S. Nicolau Institute of Virology, Bucharest, Romania

Simin Aysel Florescu

Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

Dr Victor Babes Clinical Hospital of Infectious and Tropical Diseases,
Bucharest, Romania

Bucharest, Romania

* Corresponding author.

¹ All authors contributed equally to this manuscript.