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### ► To cite this version:

Chloé Dimeglio, Florence Nicot, Marcel Miedougé, Jean-Loup Chappert, Cécile Donnadieu, et al..  
Influence of age on the spread of SARS-CoV-2 variant B.1.1.7. *Journal of Clinical Virology*, 2021, 141,  
10.1016/j.jcv.2021.104872 . hal-03739196

**HAL Id: hal-03739196**

**<https://hal.inrae.fr/hal-03739196>**

Submitted on 13 Jun 2023

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## Influence of age on the spread of SARS-CoV-2 variant B.1.1.7

Chloé Dimeglio<sup>1,2\*</sup>, Florence Nicot<sup>1</sup>, Marcel Miedougé<sup>1</sup>, Jean-Loup Chappert<sup>3</sup>, Cécile Donnadieu<sup>4</sup>,  
Jacques Izopet<sup>1,2</sup>

<sup>1</sup> CHU Toulouse, Hôpital Purpan, Virology Laboratory, 31300 Toulouse, France

<sup>2</sup> INSERM UMR1291 – CNRS UMR5051, Toulouse Institute for Infectious and Inflammatory Diseases (INFINITy), 31300 Toulouse, France

<sup>3</sup> Santé Publique France, Cellule Occitanie, Direction des regions, Montpellier 34067, France

<sup>4</sup> Genotoul - Genome & Transcriptome - Plateforme Génomique (GeT-PlaGe), US INRAe 1426, Castanet-Tolosan 31326, France

\*To whom correspondence should be addressed: 330 avenue de Grande Bretagne, 31059 Toulouse  
mail: dimeglio.c@chu-toulouse.fr

Tel : +33567690457

**Keywords:** SARS-CoV-2; variant B.1.1.7; age; public health

Dear Editor,

Previous studies of COVID-19 have indicated that children are less likely to be infected than adults [1,2]. The rate at which the SARS-CoV-2 virus spreads may depend on the age of the people infected. A new SARS-CoV-2 variant, B.1.1.7, emerged in the south-east of England in October 2020 (3) and has subsequently spread to several countries including France. Recent reports estimate that this new variant is up to 70% more transmissible than the original virus and is responsible for an increase in the number of cases (4,5). We examined the

relationship between the circulation of the SARS-CoV-2 variant B.1.1.7 and the age of those infected.

Nasopharyngeal swab samples were collected at drive-through testing centers and private laboratories in the Toulouse area between January 8 and March 21, 2021. Samples were tested using the ThermoFisher TaqPath RT-PCR assay (Scientific TaqPath COVID-19 Combo Kit, Thermo Fisher, Waltham, USA). All positive samples with a cycle threshold (Ct) below 28 (N-gene) were re-tested using the Illumina CovidSeq test (COVIDSeq, Illumina, USA) on the Illumina Nova Seq 6000 Sequencing System (Genotoul platform, GeTPlaGe, Toulouse). SARS-CoV-2 sequences were analysed using the Illumina DRAGEN COVIDSeq test pipeline.

A total of 2133 positive samples were analyzed. The subjects' ages ranged from 0.25 years to 99 years (mean:  $34.6 \pm 19.09$ ). The main variants in the Toulouse area on January 8, 2021 were B.1.177 (GV/20E.EU1), 42.1% of the total, and B.1.160 (GH/20A.EU2), 17.1%. The SARS-CoV-2 variant B.1.1.7 was detected the following week (January 11-17) and became the majority strain (over 70% of positive tests) during the first week of February (Figure 1A). We compared the distribution of the B.1.1.7 variant to those of the other variants in young ( $\leq 20$  years) and older subjects ( $> 20$  years). The proportion of the B.1.1.7 variant was significantly greater in the young subjects in the period January 8 to March 21 (Figure 1B,  $p=0.04$ , Wilcoxon's signed rank test). The greatest proportion of the B.1.1.7 variant was found in the 10-20 year old subjects (data not shown).

The B.1.1.7 variant therefore seems to spread more rapidly in young people ( $< 20$ ) than in older people, unlike the classic forms of SARS-CoV-2 (6). This may be due to young people adhering less rigorously to barrier measures (7). These findings could be relevant to the design of public health measures intended to contain the spread of SARS-CoV-2.

## **Conflict of Interest**

The authors declare no conflict of interest

## **Funding/Support**

This work received no funding.

## **Ethical Approval**

N/A

## **Acknowledgments**

The English text was edited by Dr Owen Parkes.

We thank Charlène Chartron, Cécile Sergent, Pascal Chourrout, Patrick Caneiro, Nathalie Wilhelm, Anne Bertrou, Frédéric Février, Brigitte Rivière, Marie Delpech, Catherine Pottier, Philippe Gueudet, Alain Le Coustumier, Joseph Watine, Samir Brechiche, Elodie Carrere and Margot Salse, Isabelle Le Goff, Audrey Brignoli and Roxane Steux, Anne Bruno, Pascal Coudène, and Jean-Louis Galinier for their highly valuable implication.

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## Figure legend

Figure 1: Proportion of circulating SARS-CoV-2 variant B.1.1.7 among all positive samples (1A) and among positive samples by age category (1B) in the Toulouse area

Week 1: 4-10 January, 2021, Week 2: 11-17 January, 2021, Week 3: 18-24 January, 2021, Week 4: 25-31 January, Week 5: 1-7 February, 2021, Week 6: 8-14 February, 2021, Week 7: 15-21 February, 2021, Week 8: 22-28 February, 2021, Week 9: 1-7 March, 2021, Week 10: 8-14 March, 2021, Week 11: 15-21 March, 2021

Figure 1

