

# SYSTEMATIC SCREENING FOR SARS-COV-2 S1/S2 ANTIBODIES HELPS TO BETTER ASSESS THE REAL INCIDENCE OF COVID-19 IN KIDNEY TRANSPLANT RECIPIENTS

Louis Firket<sup>1</sup>, Pascale Huynen<sup>2</sup>, Catherine Bonvoisin<sup>1</sup>, Antoine Bouquegneau<sup>1</sup>, Marie-Hélène Delbouille<sup>3</sup>, Stephanie Grosch<sup>1</sup>, Francois Jouret<sup>1</sup>, Laurent Weekers<sup>1</sup>

<sup>1</sup>University of Liege Hospital (ULiege CHU), Nephrology, Liege, Belgium, <sup>2</sup>University of Liege Hospital (ULiege CHU), Microbiology, Liege, Belgium, <sup>3</sup>University of Liege Hospital (ULiege CHU), Abdominal Surgery and Transplantation, Liege, Belgium

## OBJECTIVE

Early estimations of COVID-19 incidence in kidney transplant recipients (KTRs) were biased since relying only on PCR-confirmed and/or severe cases. Systematic serological testing allows to a posteriori diagnose COVID-19 in asymptomatic patients. Therefore, combining serological testing with PCR may help to better assess the real incidence of COVID-19.

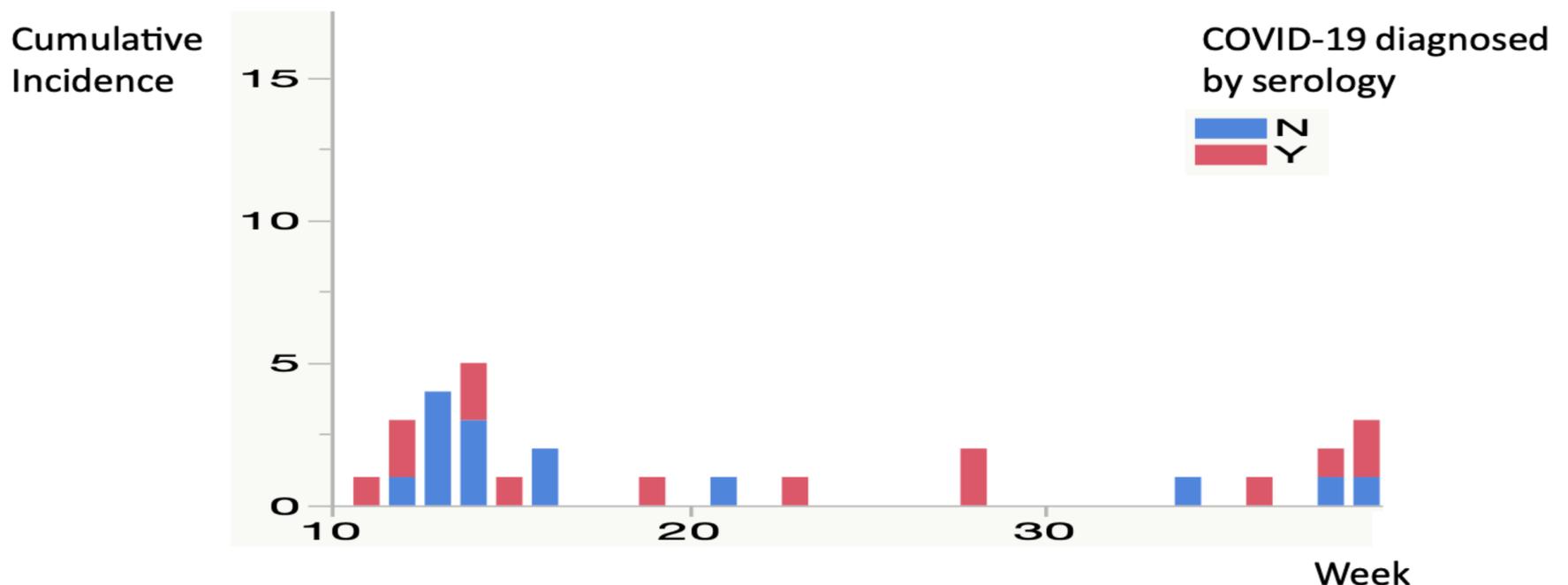
## METHOD

This monocentric prospective study focuses on the first wave of the pandemic in Belgium: from 01/03/20 to 30/09/20, all KTRs were asked about symptoms suggestive of COVID-19. From 01/06/20, they were offered a systematic serological screening using the DIASORIN chemiluminescence immunoassay SARS-CoV-2 S1/S2 IgG. Results of all SARS-CoV-2 PCRs performed for any reason during the study period were extracted from medical files. COVID-19 cases were defined as positivity of any of these 2 tests, and further categorized as being symptomatic or not.

## RESULTS

The initial cohort included 704 KTRs. During the study period, 17 patients died (independently of COVID-19), 5 returned to dialysis (independently of COVID-19) and 28 new KT were performed: all these cases contributed to the exposed population. From this cohort, 525 (74.6%) accepted to be serologically tested. The number of PCR-proven COVID-19 cases was 14/704 (2.0%), only 1 being asymptomatic (systematic screening). All 14 were screened for antibodies with a seroconversion rate of 78.6%. Another set of 14 KTRs were diagnosed based only on serology, 6 being strictly asymptomatic. Among the 8 symptomatic KTRs, 2 had been falsely tested negative by PCR. No PCR testing had been performed in the remaining 6 cases. Combining information from both PCR and serology suggests a total incidence of COVID-19 of 4.0% (confidence interval 95%: 2.5-5.4 %).

## FIGURE



## CONCLUSION

Systematic serological screening doubled the estimated incidence of COVID-19 in our cohort. The seroconversion rate among PCR-proven COVID-19 cases was lower than in the general population.