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Association of Sickle Cell Trait with Risk and Mortality of COVID-19: Results from the UK Biobank

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Abstract

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Abstract

We tested the hypothesis that patients with sickle cell trait (SCT), a common condition in individuals of African descent, have increased risk and mortality for coronavirus disease (COVID-19) in the UK Biobank. By June 17, 2020, 1,550 of 7,668 (20%) tested subjects were positive for COVID-19, including 298 (19%) deaths. Blacks had higher rates than Whites for COVID-19 infections (79/222=36% vs. 1,342/7,010=19%, $P=1.28 \times 10^{-9}$). Among Blacks,

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(74/207=36%), $P=1.00$. However, SCT carriers had a trend of higher death rates (2/5=40%) than non-SCT carriers (12/74=16%), although not statistically significant ($P=0.21$).

Competing Interest Statement

The authors have declared no competing interest.

Funding Statement

All authors have completed the ICMJE uniform disclosure form at www.icmje.org/coi_disclosure.pdf and declare: no support from any organization for the submitted work; no financial relationships with any organizations that might have an interest in the submitted work in the previous three years; no other relationships or activities that could appear to have influenced the submitted work.

Author Declarations

I confirm all relevant ethical guidelines have been followed, and any necessary IRB and/or ethics committee approvals have been obtained.

Yes

The details of the IRB/oversight body that provided approval or exemption for the research described are given below:

The UKB was approved by North West - Haydock Research Ethics Committee (REC reference: 16/NW/0274; IRAS project ID: 200778). UKB

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Number: 50295. This study was performed in accordance with the Declaration of Helsinki. All UKB participants gave their informed consent before any data/samples were collected.

All necessary patient/participant consent has been obtained and the appropriate institutional forms have been archived.

Yes

I understand that all clinical trials and any other prospective interventional studies must be registered with an ICMJE-approved registry, such as ClinicalTrials.gov. I confirm that any such study reported in the manuscript has been registered and the trial registration ID is provided (note: if posting a prospective study registered retrospectively, please provide a statement in the trial ID field explaining why the study was not registered in advance).

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31 Jul 2020

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