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Ge Peng, MD,[a,b] Ko Okumura, MD, PhD,[b] Hideoki Ogawa, MD, PhD,[b] Shigaku Ikeda, MD, PhD,[a,b] and François Niyonsaba, MD, PhD[b,c]

From the Department of Dermatology and Allergology[a] and the Atopy (Allergy) Research Center,[b] Juntendo University Graduate School of Medicine, Tokyo, Japan, and Faculty of International Liberal Arts, Juntendo University, Tokyo, Japan.[c]

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Correspondence and reprint requests to: François Niyonsaba, MD, PhD, Atopy (Allergy) Research Center, Juntendo University Graduate School of Medicine, 2-1-1 Hongo, Bunkyo-Ku, Tokyo 113-8421 Japan

E-mail: francois@juntendo.ac.jp

Conflicts of interest

None disclosed.

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Association of psoriasis with risk of COVID-19: A 2-sample Mendelian randomization study

To the Editor: With the growing pandemic of COVID-19, psoriasis has been reported to be linked with COVID-19 from genetic and epidemiological perspectives, especially in patients receiving systemic treatments.[1-3] However, traditional epidemiology is inevitably affected by confounding bias. Mendelian randomization (MR) is an approach based on genome-wide association studies to construct instrumental variables (IVs) and can effectively control the confounding bias of observational studies. IVs refer to variables that only affect the outcome through risk factors, and MR uses single-nucleotide polymorphisms as IVs to identify risk factors. MR draws on the experiences of randomized trials and uses the Mendelian law of heredity that parental alleles are randomly assigned to the offspring to simulate the causal relationships between exposures and outcomes. Here, we performed a 2-sample MR, in which genetic associations with exposures and outcomes are estimated in different sets of individuals, to investigate the association of psoriasis with COVID-19.

We downloaded the summary data from open-access genome-wide association studies data sets at https://gwas.mrcieu.ac.uk/. We used R 4.0.4 and package "TwoSampleMR," and statistical methods can be found in the guidelines (https://mrcieu.github.io/TwoSampleMR). We used the inverse variance weighted (IVW) method as the primary approach and other algorithms as the supplementary methods. We then tested pleiotropy using MR-Egger regression because valid MR estimations require IVs to be independent of outcomes. Finally, reverse MR and sensitivity analysis were used to test the unidirectionality and robustness of the results, respectively. A P value of $<.05$ was considered statistically significant.

For psoriasis, we extracted the results from the studies by the Neale laboratory, with 3871 cases and 333,288 controls, to generate the IVs (https://gwas.mrcieu.ac.uk/datasets/ukb-a-100/). For COVID-19, the data from the COVID-19 Host Genetics Initiative with 14,134 cases and 1,284,876 controls were gathered as the outcome variables (https://gwas.mrcieu.ac.uk/datasets/ebi-a-GCST010776/).[4] After removing linkage disequilibrium, 28 single-nucleotide polymorphisms were selected from the exposure datasheet and incorporated into the outcome datasheet. The IVW method, in conjunction with other methods (Fig 1), suggested that the genetic risk of psoriasis was associated with increased susceptibility to COVID-19 ($\beta_{IVW} = 2.94$, $P = .01$). The MR-Egger regression identified no significant horizontal pleiotropy ($P = .74$). The reverse MR analysis treating COVID-19 as the exposure and psoriasis as the outcome demonstrated an insignificant association ($P = .94$), indicating the unidirectionality of the relationship. The leave-one-out sensitivity analysis that removed 1 SNP at a time showed stable results, except for rs13196409 (Fig 2).

Our study revealed a unidirectional effect of psoriasis on COVID-19. By constructing IVs, the associations estimated by the MR analysis have

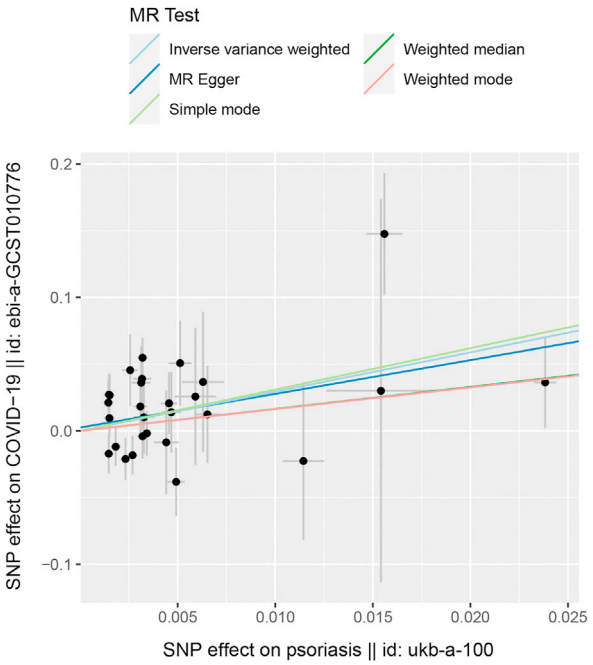

Fig 1. Two-sample MR analysis of the effect of psoriasis on COVID-19 using different methods. *MR*, Mendelian randomization; *SNP*, single-nucleotide polymorphism.

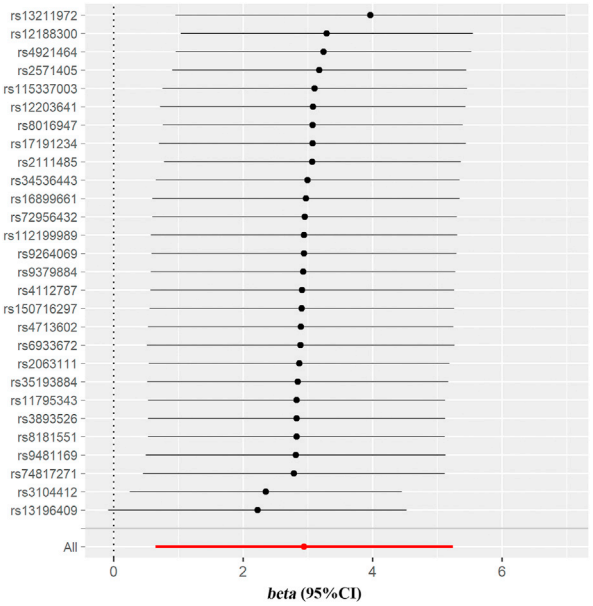

Fig 2. Leave-one-out sensitivity analysis of the effect of psoriasis on COVID-19.

greater accuracy because these estimates are less confounded by socioeconomic, environmental, and behavioral factors, and the timing of causality is reasonable. The finding could be conducive to comprehending the underlying impacts of psoriasis on the phenotype of COVID-19. Previous studies have revealed that patients with psoriasis would probably have an increased risk of developing severe infections; this may be because of the use of immunosuppressants such as methotrexate.[5] Future research could concentrate on assessing the effects of systemic drugs such as immunosuppressants on the association of psoriasis with COVID-19.

Xiaoyu Gu, BS,[a,b,c] *Xiang Chen, MD,*[a,b,c] *and Minxue Shen, PhD*[a,b,c,d]

From the Department of Dermatology, Xiangya Hospital, Central South University, Changsha, China[a]*; Hunan Engineering Research Center of Skin Health and Disease; Hunan Key Laboratory of Skin Cancer and Psoriasis, Changsha, China*[b]*; National Clinical Research Center for Geriatric Disorders, Xiangya Hospital, Changsha, China*[c]*; and Department of Social Medicine and Health Management, Xiangya School of Public Health, Central South University, Changsha, China.*[d]

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Correspondence to: Xiang Chen, MD, Department of Dermatology, Xiangya Hospital, Central South University, 87 Xiangya Road, Changsha, Hunan, China 410008

E-mail: chenxiangck@csu.edu.cn

Minxue Shen, PhD, Department of Dermatology, Xiangya Hospital, Central South University, 87 Xiangya Road, Changsha, Hunan, China 410008

E-mail: shenmx1988@csu.edu.cn

Conflicts of interest

None disclosed.

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Comparison of patient demographics at a free clinic prior to versus during the COVID-19 pandemic

To the Editor: The COVID-19 pandemic exacerbated barriers to health care. A lack of health insurance impedes access; thus, uninsured patients rely on free clinics, emergency departments, and urgent cares for their health care needs.[1] Access to specialty care is scarce for patients who are uninsured, belong to a minority, and have a lower socioeconomic status.[2] This study assessed who was seen, how they were seen, and what was treated at a free clinic during a pandemic versus "normal" times.

With institutional review board approval, a retrospective chart review was performed on all dermatology visits during the COVID-19 pandemic (June 1, 2020, through December 31, 2020) and prior to COVID-19 (June 1, 2019, through December 31, 2019). The information collected included demographics, diagnosis, treatment, procedures performed, appointment type (in-person vs telemedicine), and overall attendance rates.

In 2020, the clinic transitioned to 41% synchronous-only telemedicine appointments, which were largely audio-only given the general socioeconomic status of this patient population. Demographics did not significantly differ (Fig 1). However, the no-show rate significantly improved in 2020 ($P = .002$). No-show was defined as patients who did not attend their in-person appointment or who did not answer their phone after 3 call attempts. This improvement in 2020 suggests that either patients perceived that their condition warranted the risk to be seen in-person or telemedicine increased access to care by circumventing external factors such as transportation, childcare, or work hours. Notably, significantly fewer ($P = .002$) new patients were seen in 2020.

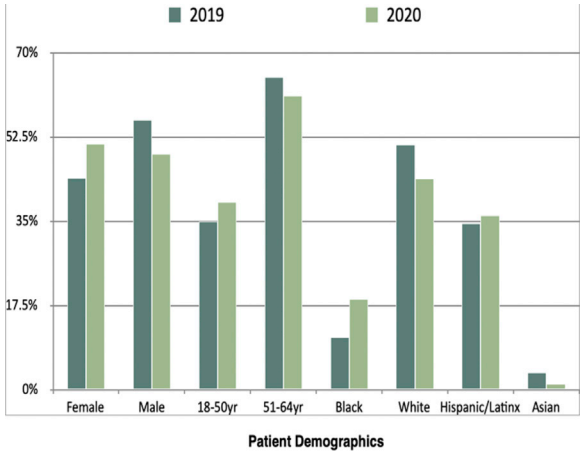

Fig 1. Comparison of patient demographics between pre- and during the COVID-19 pandemic.

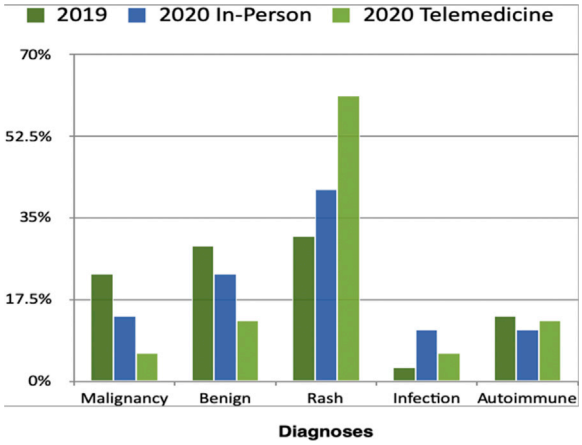

Fig 2. Diagnoses seen both in-person and on telemedicine during and before the COVID-19 pandemic.

Cutaneous malignancies and benign lesions (seborrheic keratoses, actinic keratoses, dermatofibromas, and warts) were more common in 2019, which we attributed to in-person only visits and more Caucasian patients being seen (51% in 2019 vs 44% in 2020) (Fig 2). Rashes included psoriasis, atopic dermatitis, and other eczema variants. Chronic, stable conditions appeared to be ideal for telemedicine, and they accounted for 61% of the telemedicine visits. Infections were uncommonly treated both years, and we suspect that these patients sought care at urgent cares or emergency departments. Roughly the same number of autoimmune conditions (discoid lupus erythematosus, systemic lupus erythematosus, pemphigus vulgaris, and lichen planus) were treated between 2019 and 2020. Interestingly, even these chronic-stable patients were effectively managed via telemedicine.

Finally, patients seen in 2020 were more likely to receive prescription treatment, including both refills