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Letter to the Editor

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Investigation of SARS-CoV-2 in Semen of Patients in the Acute Stage of COVID-19 Infection

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Dear Editor,

Kayaaslan et al. [1] recently reported data from 16 SARS-CoV-2-positive men at the Ankara City Hospital, Turkey. This is the fifth and most recent study, to the best of our knowledge, examining the potential detection of SARS-CoV-2 in semen. In this report, the majority had mild disease (68.7%), with 1 patient requiring admission to the intensive care unit. Although the method of collection was unspecified, the timing of semen collection varied: 4/16 on the same day as their quantitative reverse transcriptase-polymerase chain reaction (qRT-PCR) SARS-CoV-2 test, 6 (37.5%) the day before, and 6 (37.5%) after. All semen samples were collected during the acute phase of disease and were negative for SARS-CoV-2.

Three other reports have come to the same negative conclusion. Pan et al. [2] in Wuhan, China, first examined 34 men recovering from COVID-19 based on confirmatory qRT-PCR. The majority had milder disease. After obtaining informed consent, a single ejaculated semen sample collected via masturbation was assessed for SARS-CoV-2 utilizing qRT-PCR, using a clearly defined methodology. None of the samples had evidence of SARS-CoV-2. Sample collection occurred at a median of 31 days (range: 8–75) from disease diagnosis.

The second was a prospective cohort study by Holtmann et al. [3] from Düsseldorf, Germany. They examined the presence of SARS-CoV-2 in semen and the impact on semen parameters. These authors considered 18 men with RT-PCR-confirmed disease, of which 4 had moderate infection (14 with milder disease). No semen samples had evidence of detectable SARS-CoV-2. Samples were collected between 8 and 54 days following resolution of symptoms, and methodologies were well defined. The authors reported impacts on semen quality in more severely infected groups compared to controls.

A third study by Song et al. [4] from Wuhan, China, investigated 13 RT-PCR-proven SARS-CoV-2 infected men, of whom 12 provided semen samples. The majority (11/12) had mild symptoms, with 1 asymptomatic individual. Time from symptoms to sample collection was not reported. Samples were collected via masturbation after obtaining informed consent. No semen samples had detectable virus. However, all patients received antiviral therapy, and a subset received antibiotics, corticosteroids, or interferon.

In contrast to these, Li et al. [5] describe a cohort of SARS-CoV-2-positive men in Shangqiu, China. Out of 38 enrolled men, six (16%) had evidence of SARS-CoV-2 vi-

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rus in semen (4 with acute infection and 2 recovering), raising concern for viral sexual transmission. Their results conflict with the findings of the other recent independent studies exploring this question.

The findings by Kayaaslan et al. [1] and three other independent studies reinforce the notion that there is minimal risk of sexual transmission of SARS-CoV-2, in contrast to Li et al. [5]. It has been suggested that Li et al. reported more acute semen sample collection, but Kayaaslan et al. did as well. Therefore, out of 80 patients from four independent studies, no virus was detected, as well as of 112/118 (95%) total patients in the literature. Further research of this urgent question is needed.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

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References

1 Kayaaslan B, Korukluoglu G, Hasanoglu I, Kalem AK, Eser F, Akinci E, et al. Investigation of SARS-CoV-2 in Semen of Patients in the Acute Stage of COVID-19 Infection. Urol Int. 2020;104(9-10):678–83.

2 Pan F, Xiao X, Guo J, Song Y, Li H, Patel DP, et al. No evidence of severe acute respiratory syndrome-coronavirus 2 in semen of males recovering from coronavirus disease 2019. Fertil Steril. 2020 Jun;113(6):1135–9.

3 Holtmann N, Edimiris P, Andree M, Doehmen C, Baston-Buest D, Adams O, et al. Assessment of SARS-CoV-2 in human semen - a cohort study. Fertil Steril. 2020 Aug;114(2):233–38.

4 Song C, Wang Y, Weiqin L, Hu B, Chen G, Xia P, et al. Detection of 2019 novel coronavirus in semen and testicular biopsy specimen of COVID-19 patients. Medrxiv. 2020.

5 Li D, Jin M, Bao P, Zhao W, Zhang S. Clinical Characteristics and Results of Semen Tests Among Men With Coronavirus Disease 2019. JAMA Netw Open. 2020 May;3(5):e208292.