

P-070 Evaluation of SARS-CoV-2 in human semen and effect on total sperm number: A prospective observational study

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Study question: Is the SARS-CoV-2 virus present in human semen and what is the impact on semen parameters following an infection?

Summary answer: SARS-CoV-2 infection, though not detected in semen of recovered men, can affect TSN in ejaculate in the acute setting.

What is known already: Early epidemiological data has suggested that the primary mode of transmission is through respiratory droplets, but the presence of SARS-CoV-2 has been identified in other bodily fluids such as feces, urine, and semen.

Study design, size, duration: We prospectively recruited thirty men diagnosed with acute SARS-CoV-2 infection using real-time reverse transcriptase-polymerase chain reaction (RT-PCR) of pharyngeal swab specimens. Thirty semen samples from recovered men were obtained 11-64 days after testing positive for SARS-CoV-2 infection. The median duration between positive SARS-CoV-2 test and semen collection was 37 days (IQR=23).

Participants/materials, setting, methods: Semen samples were collected from each individual using mailed kits. Follow-up semen samples were done with mailed kits or in-person in office setting. Semen analysis and PCR was performed after samples were received.

Main results and the role of chance: The median total sperm number (TSN) in ejaculate was 12.5 million (IQR=53.1). When compared with age-matched SARS-CoV-2(-) men, TSN was lower among SARS-CoV-2(+) men ($p=0.0024$). Five men completed a follow-up sperm analysis (median 3 months) and had a median TSN of 18 million (IQR=21.6). No RNA was detected by means of RT-PCR in the semen in 16 samples tested.

Limitations, reasons for caution: First, most of the semen samples came from non-severe men of whom were in the recovery stage and lacked symptoms. Additionally, our sample size was relatively small and overnight mail-in semen analysis kits were used during the acute phase of infection to minimize contact with positive subjects.

Wider implications of the findings: Our findings suggest extremely low risk of viral transmission during sexual contact and assisted reproductive techniques, although further data need to be obtained. The impact on TSC in recovered men from SARS-CoV-2 infection is concerning, nevertheless long-term follow-up of these men is critical to determine the nadir of TSC.

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