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P-449  6:30 AM Wednesday, October 20, 2021

VIRTUAL AND IN-PERSON CARE DURING THE COVID-19 PANDEMIC LED TO EQUIVALENT PATIENT SATISFACTION FOR REPRODUCTIVE ENDOCRINOLOGY & INFERTILITY. (REI) PATIENTS. Miriam Andrusier, MPH, Demetra H. Huflagel, B.S., Simon Kleiner, B.A., Katie E. Aliaga, B.S., Maya Inez Davis, B.S., Maura Jones, M.D., Molly Siegel, B.A., Jerrine R. Morris, M.D., MPH, Melissa Rosenstein, B.A., Nazaneen Homiafar, M.D., MBA, Eduardo Hariton, M.D, MBA SUNY Downstate Health Sciences University, Brooklyn, NY; Vanderbilt University School of Medicine; University of California, San Francisco; Saint James School of Medicine; Dana Farber Cancer Institute, Boston, MA; University of California, San Francisco School of Medicine, San Francisco, CA; Brigham and Women’s Hospital, Harvard Medical School, Boston, MA.

OBJECTIVE: To evaluate whether a shift to virtual care during the COVID-19 pandemic negatively impacted patient satisfaction among REI patients.

MATERIALS AND METHODS: A modified version of a validated multiple-choice survey assessing satisfaction with care was sent to current patients who agreed to participate in research at a tertiary medical center. The survey evaluated satisfaction with multiple aspects of care. Respondents were categorized by visit type: in-person only (n=23), virtual-only (n=12), and a mix of both settings (n=52). Responses were dichotomized into “Agree” or “Disagree”, with neutral grouped with “agree”. Chi-squared tests of independence to assess differences between groups was conducted in R (Version 3.4.4). P<0.05 was interpreted as statistically significant. The study was approved by the University of California San Francisco Institutional Review Board.

RESULTS: Out of 1282 patients who received an invitation to participate, 526 patients (41.0%) completed our survey. Eighty-seven of these were seen by the Division of REI and included in this study. Median participant age was 36.5 (range: 21-76). There were no significant differences in respondents’ satisfaction with the virtual care received in-person vs. virtual only, p=0.43. There were no statistically significant differences in respondents’ ability to develop a relationship with their provider (p=0.25), provider’s friendliness (p=0.50), skills or knowledge (p=0.71), and concern (p=0.80) as rated by respondents. The frequency of visits starting on time (p=0.50), convenience of the visit date and time (p=0.78), and the amount of time spent with the provider (p=0.89) were also similar across all three groups. Although 36% of respondents who had mixed care reported that virtual visits may have compromised their health, this was not shown in either the virtual-only or in-person only groups, introducing the possibility of a confounder. Sixty-eight percent of respondents seen virtually were likely to recommend virtual visits to others. When asked about preferences for primary visit type after the COVID-19 pandemic, at least 50% of participants in all groups preferred in-person visits. Examining the reported results, there was no significant correlation between the C1 value, the hormonal profile & patient age at time of recruitment. The semen parameters & hormonal profile at 3 & 6 months follow up were in normal range (Table 1). There was significant difference in the testosterone levels among asymptomatic group (mean 11.35 ± 4.8) & symptomatic hospitalized group (mean 7.48 ± 3.49) upon initial enrollment (P-value=0.005). Decreased testosterone levels during infection turned back to normal on 6 months follow up (mean 12.78±4.98).

CONCLUSIONS: SARS COV-2 infection does not affect semen parameters nor hormonal profile for previously fertile patients on short & long term basis. Testosterone levels in symptomatic hospitalized patients is significantly decreased compared to asymptomatic non-hospitalized group at the time of SARS COV-2 infection.

IMPACT STATEMENT: Long term reproductive health of men is not affected by SARS COV-2 infection.

P-450  6:30 AM Wednesday, October 20, 2021

EFFECT OF COVID-19 INFECTION ON TESTICULAR FUNCTION. Kareem Khalafalla, MD, Ahmad Majzoub, MD, Mohamed Arafa, MD, Heisam H. Elbassidy, MD, Khalid Al-Rumaibi, MD, Sami Alsaid, MD Hamad Medical Corporation, Doha, Qatar.

OBJECTIVE: Severe acute respiratory syndrome coronavirus 2 (SARS-COV-2) enter different body tissues via the angiotensin-converting enzyme 2 (ACE2) receptor. ACE2 receptor is highly expressed on the cell membrane in human testis. Therefore, SARS-CoV-2 infection of the testicular function in proven fertile males on short & long term basis is a matter of concern.

MATERIALS AND METHODS: This prospective cohort study enrolled patients infected with SARS COV-2 virus. Patients with normal semen analysis or evidence of fertility in the past 2 years were included. Patients with history of infertility or those receiving treatment & had abnormal semen parameters prior to infection were excluded.

Patients were divided into asymptomatic & symptomatic group requiring hospitalization. Medical history & physical exam were performed during the initial visit and blood hormones were withdrawn. Patients underwent conventional semen analysis, advanced sperm function tests & hormone tests at 3 & 6 months following infection. Variables were reported as mean ± SE & compared using Kruskal Wallis Test. Spearman correlation was performed to assess relationship between Ct PCR value & numerical variables.

RESULTS: A total of 60 patients infected with SARS COV-2 virus were included & 48 patients completed the study. The mean age was 35.1±5.6 years. The mean Ct value was 23.38±5.2. There was no significant correlation between the Ct value, the hormonal profile & patient age at time of recruitment. The semen parameters & hormonal profile at 3 & 6 months follow up were in normal range (Table 1). There was significant difference in the testosteron levels between asymptomatic group (mean 11.35 ± 4.8) & symptomatic hospitalized group (mean 7.48 ± 3.49) upon initial enrollment (P-value=0.005). Decreased testosterone levels during infection turned back to normal on 6 months follow up (mean 12.78±4.98).

CONCLUSIONS: SARS COV-2 infection does not affect semen parameters nor hormonal profile for previously fertile patients on short & long term basis. Testosterone levels in symptomatic hospitalized patients is significantly decreased compared to asymptomatic non-hospitalized group at the time of SARS COV-2 infection.

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P-451  6:30 AM Wednesday, October 20, 2021

VIRAL FALLOUT: SEMEN PROTEOME REVEALS THAT COVID-19 DYSREGULATES SEVERAL BIOLOGICAL PROCESSES LINKED TO MALE REPRODUCTIVE FUNCTION. Swapneil Parkih, DNB; Susmita Ghosh, MSc, Mear Un Nissa, MSc, Anup Acharjee, PhD; Prashant Makwana, MSc, Arundhati Athalye, PhD, Sanjeeta Srivastava, PhD, Firuza Parikh, MD DNB PhD; Jaslok Hospital and Research Centre, Mumbai, India; Indian Institute of Technology, Bombay, Mumbai, India.

OBJECTIVE: The current COVID-19 pandemic, caused by Severe Acute Respiratory Syndrome Coronavirus Virus-2 (SARS-CoV-2), poses several catastrophic threats globally including those on economy, lifestyle and health. Although the respiratory tract is the primary proliferation site of the virus, its effects on other organs and organ systems is devastating. One of the potential targets for SARS-CoV-2 invasion is the male reproductive system owing to the presence of viral receptors, i.e., ACE2 and TMPRSS2 in the testes. Currently there are differing views in literature on whether SARS-CoV-2 infection has any short term and long term effects on male fertility. This pilot study was aimed to assess the impact of viral infection on crucial reproductive processes at the molecular level even after recovery.

MATERIALS AND METHODS: We performed a label free quantitative proteomic analysis of semen procured from 17 COVID-19 recovered and 10 healthy fertile individuals using high resolution mass spectrometry.

RESULTS: Our proteomic analysis resulted in the identification of 48 differentially expressed proteins of which 27 were upregulated and 21 were downregulated in recovered individuals. Further bio-informatic analysis revealed the dysregulation of several biological processes linked to male reproductive functions. Pathways like regulation of cell motility, regulation of adhesion, sperm-egg recognition, response to testosterone, extracellular matrix adhesion and endopeptidase activity were found to be downregulated in the recovered group. Moreover, the down regulation of two candidate proteins; Semenogelin 1 and Prosaposin which are related to male fertility were also validated using targeted proteomic approach.