

Being a Urologist on COVID-19 Pandemic Days

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CCOVID-19 spread to the whole world shortly after it appeared in the Wuhan region of China in late 2019, causing a pandemic ⁽¹⁾.

In my country (Turkey) 15422 COVID-19-positive patients were detected and 214 of them died since the first cases were diagnosed three weeks ago. In line with the precautions taken by the government, the number of our outpatient clinic visits has decreased, our non-cancer and elective surgeries have been delayed, and all the inpatient urology beds has been reserved for the observation of possible COVID-19-positive patients. Currently, we urologists, our residents, nurses and other staff are following COVID-19 patients in the clinic.

Exponential distribution within three week of the first cases in Turkey, unfortunately, is very similar to Italy's chart. Some epidemiologists estimate that the number of cases in our country can reach one hundred thousand. We, as urologists, are trying to remember our basic medical skills and preparing to treat and manage pneumonia.

We had made new habits to be ready at the wait before the storm. It has become a routine to clean the environment with alcohol-based disinfectants before starting to accept patients every morning in the outpatient clinic. Our hospitals can only offer us normal medical masks. Some physicians are trying to get the FFP2 (N95) mask falling on the black market.

Despite all the warnings, healthy people continue to come to the hospital for relatively insignificant reasons. Especially for elderly male patients in the risk group, the prostate still seems to be a more important medical problem than COVID-19. Before I listen to patients' urological complaints, I get histories of being abroad or contacting someone from abroad in the last 14 days or having cough, fever, dyspnea. During outpatient visits, we warn patients to stay at home except for emergencies and comply with social distancing rules.

As a urologist, we started to follow the subject more rationally after the first shock. We tried to review the basic information about the virus and develop a urological perspective. The cause of the disease is the newly identified Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) by β -coronaviruses ⁽²⁾. The virus enters the host cells using angiotensin converting enzyme 2 (ACE 2) as a receptor ⁽³⁾. While this enzyme is widely expressed in organs such as the kidneys and gastrointestinal tract, fortunately there is a relatively low level of expression in the lungs ⁽⁴⁾. Frequent expression of the receptor (ACE 2) in the kidney necessitates to consider the effect of COVID-19 on kidney function beyond the requirements in the regulation of antiviral and other treatments of patients with Chronic Kidney Disease. We closely monitor kidney function of our patients. Possible prognostic value of the change in kidney function can be revealed by future studies.

The other parenchymal urinary system organ, whose relationship with COVID-19 has to be investigated, is the prostate. There are studies in the literature showing that angiotensin-converting enzyme is present in the prostate and the distribution of the enzyme increases in benign prostatic hypertrophy ^(5,6). van Sande et al. reported that the highest enzymatic activity among 27 human tissues was found in benign hypertrophic prostate tissue in their study investigating the distribution of angiotensin converting enzyme ⁽⁷⁾. However, these studies belong to the periods before ACE 2 was shown to be a different enzyme, although it shows considerable homology with ACE ⁽⁸⁾. This situation shadows the current scientific evidence values of the studies. Nevertheless, the questions "Does COVID-19 affect prostate? Does PSA have an efficacy to predict the prognosis of the disease?" are valid research questions. In our COVID-19 cohort, we measure serum PSA levels in male patients over 40 years of age. We will announce the first results soon.

Finally, after the kidney and prostate, it is necessary to consider the testicle in the perspective of COVID-19. It has been demonstrated in a recent study of COVID-19 that the ACE 2, which SARS-CoV-2 is binding, is extensively expressed in the testis ⁽⁹⁾. In the light of this current evidence, the effect of COVID-19 on spermatogenesis and hormone production has become a subject to be investigated. Evaluation of the patients with spermiogram and reproductive hormone measurement after the recovery period can give us valuable data.

We will be able to investigate the answer to all these questions when the pandemic is over and we stop following the blood oxygen saturation of the COVID-19 patients hospitalized in our clinic and become a urologist again.

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