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The Impact of Coronavirus Pandemic on Urological Practice

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Coronavirus known as COVID-19 is now a pandemic [1]. The virus is enveloped Ribonucleic acid (RNA) and it causes respiratory, gastrointestinal, and neurological illnesses. Chinese authorities notified the WHO regarding a novel coronavirus, now designated SARS- CoV-2, that was first reported in Wuhan, China [2]. Urologists will have to devote part, if not all, of their work to the treatment of patients with COVID-19 and significantly cut down their clinical work, in addition urological teams may have their own clinicians infected. Experiments on coronavirus are not new including its use in urological studies [3], An example is its use to find out whether mice with coronavirus-induced encephalomyelitis develop neurogenic bladder dysfunction that is comparable with the neurogenic detrusor overactivity observed in patients with multiple sclerosis [4]. Further studies were performed examining alterations in nerve-evoked bladder contractions in a coronavirus-induced mouse model of multiple sclerosis [5].

Coronavirus may induce demyelination of the central nervous system that causes the development of neurogenic bladder dysfunction that is similar to detrusor overactivity observed in MS patients. The underlying mechanisms may include an alteration in nerve-evoked contractions mediated by a urothelium dependent suppression of muscarinic and augmentation of purinergic mediated response in the bladder detrusor. [6] Elective surgical procedures including Urological operations and procedures were postponed for months to free hospital beds and staff [1]. Urology as a specialty will suffer. The suffering is mainly from delays in dealing with oncological patients and those with urgent obstructive uropathies. Operating under local anesthesia is a limited option. Decision making is made through multidisciplinary meetings. It is about time for multidisciplinary meetings to become virtual and video conference based. Interviews of patients can be done virtually and should include screening for coronavirus symptoms in last 2 weeks as well as travel history.

Cancer patients are at higher risk of death from COVID-19. Reducing exposure to COVID-19 by reducing visits to hospital is important [7] Kristian, et al. made an outline that could be followed in the present situation. Recommendations were made according to the justifications. In Bladder cancer, delaying cystectomy for 90 days' decreases overall and progression free survival [8]. On the other hand, patients with TURBT for bladder tumors could be discharged on the same day. In testicular cancer, orchiectomy could be done as an outpatient procedure. With renal tumors; in advanced cases that are associated with vein thrombi that may progress rapidly, intervention is needed and it can take up to 10 days of hospitalization. For (stage I-II) masses, delaying surgery by 3 months has not been associated with decreased cancer specific survival. As for prostate cancer, it is recommended that most prostatectomies should be delayed. Shared decision-making is needed to consider radiation therapy for high-risk disease (according to National Comprehensive Cancer Network). Surgery for high-risk disease may be considered depending on patient age and disease risk. However, given the availability of other treatment modalities, these surgeries may receive lower priority than others (as delay of treatment up to 12 months, even for high risk disease, may not alter operative outcomes, cancer specific mortality, or other outcomes).

For upper tract urothelial carcinoma; requiring nephroureterectomy, a three- month delay to surgery for high grade and/or cT1+ tumors have been associated with disease progression for all patients. With regard to adrenal tumors, masses larger than 6 cm are much more likely to shelter carcinoma. Adrenocortical cancer progresses rapidly and surgery provides the best chance of survival. Delay may decrease respectability and affect survival. For urethral and penile cancer, preventing lymph node metastases may afford less morbidity. Partial penectomy can be an outpatient procedure, which imposes reduced pressure on hospital resources. Regarding stones (obstruction or infection): ureteral stent insertion could be performed on bedside under local anesthesia. Nephrostomy tubes can be placed under local anesthesia, as well. If neither could be done, then emergency intervention will be necessary. Stents could stay up to 6-12 months. Dealing with BPH; procedures as TURP, HOLEP, and laser PVP could be delayed. Retention could be treated by urethral or suprapubic catheter. Urethral strictures could be

dealt with by suprapubic catheter or Foley catheter placement with urethral dilation or incision as an outpatient procedure.

Cadaveric kidney transplants should go on without delay whereas live donor transplants should be delayed, Acute testicular torsion should be dealt with immediately. In conclusion, Urologists could be directly involved in the management of COVID-19 patients [9]. General preventive measures must be followed and personal protective tools to be used to safeguard physicians, relatives, and patients.

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