

Round-up

AUGMENTATION CYSTOPLASTY FOR MYELOMENINGOCELE

Children with myelomeningocele (MMC) often have involvement of the lower urinary tract, and later, may even develop renal insufficiency.^[1] Augmentation cystoplasty is sometimes performed in these children to treat urinary incontinence and to preserve the upper urinary tracts. However, augmentation cystoplasty is associated with complications, such as bladder perforation, stones, and malignancies.^[2,3] Over the last decade, the management options for bladder dysfunction have increased with greater emphasis of clean intermittent catheterizations, antimuscarinics,^[4] and intravesical botulinum toxin injections.^[5,6] Because of greater awareness about the long-term adverse consequences of augmentation cystoplasty and effective treatment alternatives, there is a belief that augmentation cystoplasty is being performed less frequently. Various investigators have looked at databases to answer this issue.^[2,7-9] Rehfuß *et al.* conducted a multicenter retrospective cohort study of pediatric patients with MMC utilizing the Pediatric Health Information System.^[10] Using this database, the authors identified 18,061 pediatric inpatient admissions in children (aged between 4 and 19 years) with a diagnosis of MMC among 38 participating hospitals over a time period from 2009 to 2018. The authors found that the proportion of augmentation cystoplasty per MMC admissions across the study period was 4.8%. The authors did not find any significant annual trend in the overall number of augmentations performed over the study period spanning the past decade. Furthermore, the estimated annual change in patient's age at procedure remained relatively constant over the study period, with a median value of 10.6 years. This led them to conclude that "practice patterns for the utilization of augmentation in MMC did not change significantly over the past decade despite evolution of newer approaches."

CAN SODIUM BICARBONATE BE AN ALTERNATIVE TO POTASSIUM CITRATE IN RECURRENT STONE FORMERS?

Boydston *et al.* reported the role of alternative alkalinizing (AA) agents on 24-h urine parameters in patients of nephrolithiasis who had low urinary pH (<6) and hypocitraturia.^[11] The authors noted that in their clinical practice, many patients who had contraindications for potassium citrate (KCIT), (like

patients of renal failure) were intolerant to KCIT or defaulted because of cost. The authors offered such patients either sodium bicarbonate or potassium bicarbonate and grouped them into AA agents. The authors evaluated the impact of administration of AA agents ($n = 70$) on urinary parameters and compared that with patients receiving KCIT ($n = 482$) after at least 3 months of therapy in a database of patients treated between January 2000 and June 2018. The authors found that the urinary parameters remained same in both the groups, including values for urinary calcium, citrate, sodium, and ammonium. They also analyzed the data of patients ($n = 71$) who were on KCIT but then shifted to AA agents. Again, the authors found that the urinary parameters did not change much after initiating AA agents. The authors found that treatment with AA agents was much cheaper than treatment with KCIT. The results prompted the authors to conclude that AA agent offers similar improvements in 24-h urine parameters and is also associated with significant cost savings.

DOES ANDROGEN DEPRIVATION THERAPY PROTECT MEN WITH CANCER PROSTATE FROM CORONAVIRUS INFECTION AND MORTALITY?

In December 2019, a viral infection caused by novel coronavirus (CoV) emerged causing severe acute respiratory syndrome in some patients.^[12] It has since spread rapidly worldwide. TMPRSS2, which is a member of the family of Type II transmembrane serine proteases, is involved in multiple physiological and pathological processes.^[13,14] Studies have shown that CoV-2 binds to angiotensin-converting enzyme 2 for cell entry. This is followed by proteolytic cleavage of the S protein by TMPRSS2 which then allows the fusion of viral and cellular membranes, a step that is necessary for its pathogenesis.^[15,16] TMPRSS2 is expressed in prostate cancers, localized as well as metastatic.^[17,18] Its transcription is under the regulation of androgen receptor (AR).^[17] This regulation by AR also occurs in nonprostatic tissues including lungs. Studies have shown that exogenous androgen induces TMPRSS2 expression, while androgen deprivation reduces TMPRSS2 expression in lung epithelial cells.^[19] The regulation of TMPRSS2 expression in the lungs by androgen could explain the observation that women have less severe acute respiratory disease-CoV-2 (SARS-CoV-2) infection as compared to men. On the basis of this pathophysiology, Montopoli *et al.* hypothesized that androgen deprivation therapies (ADTs) may protect men with prostate cancer from SARS-CoV-2 infection.^[20] The authors evaluated the data of 4532 men admitted with SARS-CoV-2 infection from 68 hospitals in Italy. The data collected included details such as gender,

hospitalization, admission to intensive care unit, death, tumor diagnosis, prostate cancer diagnosis, and ADT. The authors found that men with cancer had higher risk of SARS-CoV-2 infection than men without cancer (0.3% of population vs. 0.2%). They also noted that men with prostate cancer receiving ADT had lower risk of SARS-CoV-2 infection as compared to men with prostate cancer not receiving ADT (odds ratio [OR] 4.05; 95% confidence interval [CI] 1.55–10.59). This difference was even more pronounced when comparing men with prostate cancer receiving ADT as compared to patients with other types of cancer (OR 5.17; 95% CI 2.02–13.40). Thus, the authors conclude that men receiving ADT appeared to be partially protected from SARS-CoV-2 infection.

IMPACT OF COVID-19 PANDEMIC ON UROLOGIC EMERGENCY SERVICE UTILIZATION: DATA FROM A EUROPEAN TERTIARY HOSPITAL

Madanelo *et al.* evaluated the impact of COVID-19 pandemic on emergency service utilization in a hospital in Portugal.^[21] They compared the number of patients attending the urology emergency during this pandemic, with an equivalent period in 2019. They noted the demographic characteristics, the reasons for admission, the clinical severity under the Manchester Triage System (MTS), and the need for emergency surgery or hospitalization. MTS, a commonly used triage systems in Europe, classifies patients into five degrees of urgency, from those requiring immediate observation (red bracelet) to patients considered nonurgent (blue bracelet). During the 3-week study period, from March 11, 2020, to April 1, 2020, the authors noted that 46.4% fewer patients solicited urological emergency service compared with the homologous period of time 1 year earlier (122 vs. 263). The mean age (56.93 in 2020 vs. 53.83 in 2019) and the number of old patients (with 65 or more years old) between the two periods were not statistically different. During the period analyzed in 2019, the fraction of patients needing emergent surgery and hospitalization was 6.8% and 11.0%, respectively. During the same period in 2020, the corresponding figures were 9.0% ($P > 0.05$) and 18.9% ($P < 0.05$), respectively. These data show that the proportion of cases requiring emergency surgery and hospitalization were higher during the pandemic. It seems that patients with real emergencies attended the hospital. On classifying patients according to MTS, the authors did not notice any significant difference between urgent and nonurgent cases in both groups. According to the authors, the reason was probably related to the fact that this triage often does not reflect the severity of the urological clinical situation.

The authors stress that although the current public attention is focused on the direct consequences of COVID-19, the possible impact of COVID-19 on nonemergent urological conditions cannot be neglected. The authors believe that

there would a huge demand for medical attention in the post-COVID-19.

RECOMMENDATIONS FOR BEDSIDE UROLOGIC PROCEDURES IN PATIENTS WITH SEVERE ACUTE RESPIRATORY DISEASE-CORONAVIRUS-2

Souders *et al.* interviewed urologic trainees and physicians who were familiar with existing safety recommendations and guidelines, regarding the care of SARS-CoV-2-infected patients.^[22] Data were recorded regarding their experiences to formulate an expert consensus on best practices for bedside urologic interventions in patients who were positive for SARS-CoV-2. The authors report that according to the Centers for Disease Control and Prevention COVID-NET data, 74.5% of hospitalized SARS-CoV-2 patients were 50 years or older and 54.4% are male.^[23] Keeping these data in mind, the authors hypothesized that many patients hospitalized with SARS-CoV-2 will have coexisting urologic conditions. In addition, 42% of the patients requiring invasive mechanical ventilation need sedation and Foley catheter insertion.^[24] The bedside procedures at the authors' institute in SARS-CoV-2 patients included difficult Foley catheter placement, bedside cystoscopy, suprapubic catheter changes, drainage of scrotal and perineal abscess, and hematuria with clot retention. Based on the interviews, the authors suggest some general considerations: telecommunication for initial evaluation and informed consent to decrease time spent in close contact and avoidance of physical examination if that is unlikely to change treatment. The authors advocate bedside procedure instead of doing it in operation theater (OT). This would reduce personal protective equipment consumption and avoid exposure to OT staff. The patient should wear surgical mask. Since the current data do not support the presence of SARS-CoV in urine,^[25] use of face shield or eye protection is advisable, but this is not specific to this infection. While performing bedside procedures, only the essential supplies should be taken inside the room to avoid unnecessary contamination.

MEDICAL MASKS OR N95 RESPIRATORS FOR PREVENTING COVID-19 IN HEALTHCARE WORKERS DURING NONAEROSOL-PRODUCING PROCEDURES: WHAT TO USE?

Healthcare providers and workers treating COVID-19 patients are at high risk of contracting infection. In 2003, at the time of SARS pandemic, healthcare workers comprised 21% of the total cases.^[26] Bartoszko *et al.*^[27] showed that 29% of healthcare workers got infected while managing COVID-19 patients in China.^[28] There are conflicting recommendations regarding the use of type of face masks at the time of nonaerosol-producing procedures. N95 respirators filter out even small airborne particles, while surgical face masks are loose fitting and provide protection

from large droplets and prevent hand-to-face contact.^[29] In view of the present pandemic, Bartoszko *et al.*^[27] performed a systematic review and meta-analysis to answer the controversy about the type of mask to be used while performing a nonaerosol-producing procedure. An extensive review of various data sources revealed that four trials have been conducted where healthcare workers providing care for patients with acute febrile illness were randomized to medical masks ($n = 3957$) or N95 respirators ($n = 4779$). The authors reported that “compared with N95 respirators, the use of medical masks did not increase laboratory-confirmed viral (including CoVs) respiratory infection (OR 1.06; 95% CI 0.90–1.25; $I^2 = 0\%$; low certainty in the evidence) or clinical respiratory illness (OR 1.49; 95% CI: 0.98–2.28; $I^2 = 78\%$; very low certainty in the evidence). Only one trial evaluated CoVs separately and found no difference between the two groups ($P = 0.49$).” While this review provides important information from previous trials, there are some important limitations. Most importantly, as only one trial had individually evaluated CoV infection, the authors are unable to provide high-level evidence regarding type of masks that should be recommended for CoV infection.

Apul Goel*

Department of Urology, King George's Medical University,
Lucknow, Uttar Pradesh, India
*E-mail: drapul.goel@gmail.com

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Financial support and sponsorship: Nil.

Conflicts of interest: There are no conflicts of interest.

Access this article online	
Quick Response Code:	Website:
	www.indianjurol.com
	DOI:
	10.4103/iju.IJU_346_20

How to cite this article: Goel A. Round-up. *Indian J Urol* 2020;36:159-62.

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