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## *The 2021 COVID-19 Artificial Intelligence Issue*

The novel corona virus COVID-19 has wreaked havoc of the world. It had claimed 300,000 lives thus far and resulted in 4000 deaths per day in United States. COVID-19 pandemic had not only changed the way we live our lives but also affected how we GU cancer doctors manage the care for our patients. Here, I dedicated this editorial to those colleagues who pioneered and shared their institutional/national experience: Baumann et al. in USA, Management of Muscle-Invasive Bladder Cancer During a Pandemic Impact of Treatment Delay on Survival Outcomes for Patients Treated With Definitive Concurrent Chemoradiotherapy<sup>1</sup>; Rosenberg et al. at the MSK, Genitourinary medical oncology expert opinion survey regarding treatment management in COVID-19 pandemic,<sup>2</sup> Greco et al. from Italy, Impact of COVID-19 Pandemic on Health-Related Quality of Life in Uro-oncologic Patients: What Should We Wait For?<sup>3</sup>; and Tsimafeyu et al. from Russia, COVID-19 in patients with renal cell carcinoma in the Russian Federation.<sup>4</sup>

In the wake of government and global organization failure around the world including the USA and WHO, civilians shall be encouraged to take a more proactive role such as social distancing, wearing a facemask, and potentially engaging artificial intelligence (AI) technologies for contact tracing etc. It is not a far-fetched fantasy, as published in this issue of *Clinical GU Cancer*, Rodler et al. demonstrated the value of "Patients' Perspective on Digital Technologies in Advanced Genitourinary Cancers",<sup>5</sup> which can be further harnessed for the future counter-pandemic tool simply using personal wireless digital devices such as phone and watch mass measures for symptoms reporting, contact tracing etc.

### Prostate Cancer

"A Phase 2 Trial of Abiraterone Followed by Randomization to Addition of Dasatinib or Sunitinib in Men With Metastatic Castration-Resistant Prostate Cancer by Efstathiou et al." randomized 132 patients at the resistance to Abiraterone to dasatinib or sunitinib, and crossed over at second progression. The authors showed no difference among the two treatment arms.<sup>6</sup>

In the article "Accuracy of MRI-guided Versus Systematic Prostate Biopsy in Patients Under Active Surveillance: A Systematic Review and Meta-analysis by Baccaglini et al." the authors analyzed 741 patients enrolled in 6 studies. They concluded that positive predictive values for MRI-Targeted Biopsy (MRI-TB) and Systemic Biopsy (SB) were similar; accumulative evidence favors MRI-TB; and MRI-TB may be preferable for patients in active surveillance harboring low-risk PCa.<sup>7</sup>

In the article "Treating De Novo Metastatic Castration-Sensitive Prostate Cancer With Visceral Metastases: An Evolving Issue by

Roviello et al." the authors concluded that patients of mCSPC with visceral metastasis benefited from ADT plus Chemotherapy/ Androgen-Signaling-targeted inhibitor. However, patients with visceral metastasis fared worse than those without despite modern combination regimens.<sup>8</sup>

In the article "Evaluation of Gleason Grade Group 5 in a Contemporary Prostate Cancer Grading System and Literature Review by Kamitani et al." the authors demonstrated that men with GS 4+5 and those with GGG 4 had a similar prognosis. However, there was a significant discrepancy in prognosis between GS 4+5 and GS 5+4 or higher. This suggested that GGG 4 and GGG 5 in the contemporary prostate cancer grading system should be reviewed. Furthermore, lymphovascular invasion may be useful to subgroup these pathologically high-risk patients.<sup>9</sup>

### Rare Bladder Cancer

In the article "Bladder Cancer: A Comparison Between Non-urothelial Variant Histology and Urothelial Carcinoma Across All Stages and Treatment Modalities by Deuker et al." analyzed 222,435 eligible patients with BCa, 11,147 (5.0%) harbored VH (variant histology). Among those, squamous cell carcinoma accounted for 3666 (1.6%) patients, adenocarcinoma for 1862 (0.8%), neuroendocrine carcinoma for 1857 (0.8%), and other VH BCa for 3762 (1.7%) of the study cohort. Patients with VH BCa showed invariably more advanced TNM stage at presentation compared with patients with UCUB (urothelial cancer of the urinary bladder). Of all VH BCa, in multivariably adjusted stage for stage analyses, squamous cell carcinoma appears to have the worst natural history. All other VH subgroups exhibited more aggressive natural history than UCUB in nonmetastatic stages only.<sup>10</sup>

In the article "Role of Neoadjuvant Chemotherapy in Squamous Variant Histology in Urothelial Bladder Cancer: Does Presence and Percentage Matter? by Speir et al." the authors analyzed 71 patients with muscle invasive bladder cancer with squamous variant histology (SV) and concluded: the effect of Neoadjuvant chemotherapy (NACT) in variant histology bladder cancer is variable. However, in patients with SV results favor the recommendation of NACT administration, particularly when the primary tumor has < 50% involvement by the variant histology.<sup>11</sup>

### Kidney Cancer

"Magnetic Resonance Imaging Radiomics Analyses for Prediction of High-Grade Histology and Necrosis in Clear Cell Renal Cell Carcinoma: Preliminary Experience by Pedrosa et al." reported that Radiomics analyses including histogram data and Haralick texture features of magnetic resonance imaging (MRI) offer a reasonable

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and superior diagnostic performance compared to tumor size for the determination of tumor grade in patients with clear cell renal cell carcinoma (ccRCC). MRI-based radiomics may play an adjunct role to percutaneous renal biopsy in management decisions of ccRCC patients with heterogeneous tumors.<sup>12</sup>

In the article "Addition of Primary Metastatic Site on Bone, Brain, and Liver to IMDC Criteria in Patients With Metastatic Renal Cell Carcinoma: A Validation Study by Massari et al." authors reported that The presence of brain, bone, and/or liver as the first site of metastatic disease plus the other variables included in the IMDC score were statistically significant variables associated with overall survival (OS) after univariate and multivariate analysis and bootstrap validation. Finally, 122 (15%) patients had a modification of their initial risk category. The median OS in the poor-, intermediate-, and favorable-risk groups was 10, 26, and 52 months, respectively ( $P < .001$ ).<sup>13</sup>

In the article "Characterization of PD-1 and PD-L1 Expression in Papillary Renal Cell Carcinoma: Results of a Large Multicenter Study by Steffens et al." the authors analyzed 374 pRCC (204 type 1 and 97 type 2) specimens and reported that the analysis of a large pRCC cohort from a multicenter consortium (German Network of Kidney Cancer) revealed no impact of PD-1/PD-L1 expression on prognosis in patients with pRCC with predominantly limited disease status, neither for type 1 nor type 2. However, the impact of PD-1 and PD-L1 in more advanced pRCC disease needs further elucidation.<sup>14</sup>

In the article "Prevalence of Hepatitis C Virus Infection in Patients With Renal-Cell Carcinoma by Rangel et al." the authors examined the HCV positivity in Brazilian RCC patients and found a 3-fold higher prevalence of HCV infection among patients with RCC than in the general Brazilian population.<sup>15</sup>

## PanGU Cancer

In the case series "Outcomes With Liver-Directed Therapy for Genitourinary Malignancies: Single-Institution Experience by Kilari et al." reported that 32 patients with metastatic renal, bladder, or prostate cancer and liver-dominant metastases treated with conventional transarterial chemoembolization or transarterial radioembolization were identified. They concluded that liver

directed therapy (LDT) can improve outcomes in patients with genitourinary malignancies with a tolerable safety profile, particularly in renal-cell carcinoma; and suggested that patients with lower hepatic tumor burden will benefit most. Hence, LDT should be considered early in disease course when possible.<sup>16</sup>

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