



The impact of coronavirus disease 2019 (COVID-19) pandemic on urologic cancer care: did we throw the baby out with the bathwater?

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It has been more than two years since World Health Organization (WHO) declared the pandemic of coronavirus disease 2019 (COVID-19), with more than 6 million fatal cases of the disease having been reported worldwide and the true death toll being estimated to be much higher (1). Both the need for rearranging wards in order to provide care to critically ill patients, as well as social distancing and lockdown policies, seen especially at the early stage of the pandemic, led to a marked decrease in healthcare services provided to non-covid patients (2), including individuals suspected of or harboring a malignant disease (3). High levels of pandemic-related anxiety have been recorded in many populations and cancer patients had been reported to be more worried about the coronavirus than about their malignant disease (4). Recently, Grant *et al.* demonstrated a large-scale primary care avoidance in patients with cancer-related symptoms, that did not increase until the end of the first COVID-19 year (5). In a modelling study by Maringe *et al.* significant numbers of additional deaths for breast, colorectal, lung, and esophageal cancer are expected

as a result of diagnostic delays due to the COVID-19 pandemic (6). While a timeline association between introducing several lockdown policies and COVID-19 spread and mortality has been documented in the literature (7,8), suggesting a positive impact on controlling the pandemic spread and other direct effects, the probable long-term negative effect on other-cause morbidity and mortality, especially in cancer patients' population, is under investigation.

Recently, García Barreras *et al.* (9) have published interesting findings in regard to possible influence of COVID-19 pandemic on the diagnosis, treatment and outcomes of prostate cancer (PC) patients. Men in whom diagnosis was established just prior to the pandemic (2019) were compared to patients who had their biopsy performed in 2020. Data analysis revealed that men diagnosed and treated during this first COVID-19 pandemic year had significantly higher prostate-specific antigen (PSA) levels at presentation, as well as higher rates of grade group 4 cancer, pT3 tumors and positive surgical margins at radical

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prostatectomy. Moreover, primarily metastatic disease was also reported to be more commonly seen in 2020 than 2019. Although no difference between the groups in terms of biochemical failure or recurrence was noted at one year of observation, this duration of follow-up may be considered too short to draw definite conclusions and an association with long-term survival cannot be excluded. Notably, while surgical waiting time did not differ between the groups, in 2020, there were fewer urology consultations than in 2019, as well as the biopsy waiting time was significantly longer, suggesting that multiple lockdown and social distancing-related factors might have been contributed to the observed results, especially considering the fact that time to radical prostatectomy has been demonstrated not to be a risk factor of negative outcomes (10,11).

The above findings are in line with several other papers which demonstrated associations between the COVID-19 pandemic and PC care. In England, the number of men diagnosed with PC, as well as the number of curative intent procedures performed, decreased significantly after the start of the first lockdown in 2020, and men diagnosed in 2020 were typically at a more advanced stage (12). By contrast, in the Netherlands, while the number of new diagnoses did decrease in the first COVID-19 wave, as compared to the 2018–2019 period, the stage at diagnosis remained stable (13). However, it is debatable whether any impact of the lockdown would be expected to be evident so early. An especially interesting finding presented in that study was a marked shift from active surveillance to radical prostatectomy in low-risk PC patients, which appears to be another, less intensively evaluated, yet important negative impact of the pandemic on PC management. In Brazil, a significant reduction of curative intent-procedures for PC was recorded (14). Other single-center experiences have also demonstrated higher rates of advanced or metastatic disease rates in cohorts of PC patients diagnosed and treated during the COVID-19 pandemic, as compared to the pre-pandemic period (15,16). In a study by Lee *et al.* a significant increase in incident metastatic PC cases was demonstrated among Black veterans in the late pandemic period (17).

Those and multiple other papers raise our attention to an evident impact of COVID-19 pandemic on PC diagnosis and treatment, with a possible significant association with inferior outcomes. It is worth mentioning, that while PC is the most common urologic malignancy worldwide and therefore most of available data is regarded to this particular

cancer, other malignant urologic diseases, especially bladder cancer (BC), a disease well-known for its rapid progression potential, also should be taken into account when considering the influence of COVID-19 pandemic on urologic cancer care. Still few studies have been published in regard to BC. Tulchiner *et al.* reported that due to COVID-19 lockdowns significantly fewer procedures for BC were performed in the first 6 months of 2020, as compared to 2019, and patients with a primary diagnosis of BC were more commonly harboring high-grade or advanced tumors (18). Higher rates of invasive and high-grade disease were also demonstrated by Anderson *et al.* in another retrospective cohort study (19).

As discussed in the first paragraph, indeed, there is evidence in support of possible beneficial effect of the imposed lockdown policies on COVID-19 spread and mortality. On the other side, alarming results of the abovementioned studies suggest that this might have been achieved at the tremendous cost of significantly inferior outcomes in non-covid patients, especially those diagnosed with a malignant disease.

Looking into the future, several important challenges for public health, clinicians and researchers can be identified in order to try to counteract the negative impact of COVID-19 on urologic cancer care. Firstly, the size of the effect should be precisely assessed. While we do have significant amount of data in regard to treatment delays and disease relative upstaging in PC patients, measuring the association between COVID-19 pandemic timeline and other urologic malignancies, especially bladder and other urothelial cancer outcomes should be considered research priority. Secondly, being aware of the still unknown, yet possibly large extent of the burden, proper, population-wide strategies should be developed and implemented in order to rapidly identify and treat patients who might have suffered from delays in cancer diagnosis and care. Thirdly, we believe that what we see and try to counteract today, should serve as a lesson for tomorrow, encouraging us to invent and develop the most beneficial and least detrimental policies and procedures that should be prepared and kept in reserve in case we are ever forced to cope with healthcare lockdowns again.

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