

COVID-19 outbreak may increase mortality rates in genitourinary cancers

COVID-19 pandemic limits diagnosed cancer patients access to treatment each day globally. According to the data from the World Health Organization, cancer still remains as the biggest health issue with 18 million new cases and 10 million mortalities annually. Among genitourinary cancers; excluding testicular tumor that is seen in younger age groups, average age is 70–75 years in prostate, bladder, and kidney cancer. One other common disease of the older age groups is hypertension (HT). The severe acute respiratory syndrome coronavirus 2 commonly referred as COVID-19 appears to be associated with increased angiotensin-converting enzyme 2 (ACE2) receptor levels in HT patients because of gaining ability to penetrate the membrane after binding to the ACE2 receptors on the cell membrane. The virus also binds to the TMPRSS2 receptor on the cell membrane and activates the camostate mesylate enzyme, making fusion and penetration easier in HT patients.^[1] In addition to this, diabetes, cardiovascular diseases, and chronic respiratory diseases are common advanced age groups. Decreased kidney, liver and lung reserve, and decreased immunity are also important secondary complications.

Change of priorities in health-care services and implementation of a new temporary setup for high priority diseases may cause a delay in the treatment for genitourinary cancer patients. This group of cancer patients and their relatives may become more willing to postpone the treatment in co-ordination with health-care professionals in order not to exhaust the existing healthcare reserve. The serious uncertainties about the duration of the pandemic, second wave epidemics and superinfections may delay treatment. This time interval can postpone the treatment planning of genitourinary cancers, especially invasive bladder cancer and may negatively affect the prognosis in this patient group. Patients receiving adjuvant and neoadjuvant chemotherapy were caught defenceless by the pandemic. Some of the patients faced the outbreak while they are under immunosuppressive therapy. The reserve of the kidney, liver, and bone marrow may not be enough to counteract the disease during chemotherapy, immunotherapy, and radiotherapy. Immunotherapeutics used for bladder and kidney cancer may become harder to access. Due to the risk of medicine shortages, authorities

may direct pharmaceutical manufacturers to develop drugs and vaccines for COVID-19. In underdeveloped countries, access to cure will be extremely difficult because of the high costs related to this kind of medicines. Global travel restrictions seem to be a limiting factor for patients who seek better treatment. There might be a reduction in numbers of blood and blood product donors during and after the pandemic. Furthermore, there might be a partial resistance in patients who get these products because of the fear of transmission. This can obstruct the management of treatable conditions such as pancytopenia, anemia, and thrombocytopenia after chemotherapy. Due to this foresight, FDA has stretched the donors' blood donation criteria as of April 2020.^[2]

According to South Korean data, COVID-19 pandemic might last longer than previously expected.^[3] The United Kingdom modelling data predict that, there may be more than one aftershocks after the outbreak due to temporary restrictions^[4] [Figure 1].

According to Enserink and Kupferschmidt, COVID-19 pandemic can lead to a long-term lockdown in the health-care system. In light of other data, recurrent aftershock pandemics can seriously threaten public welfare by causing an economic collapse. The fluctuating pandemics can cause economic, emotional, and prosperity destruction, which will take many years to return to normal [Figure 2]. Many countries are expecting multistage crises with different economic models.

According to the data from China, the addition of COVID-19 pandemic on direct cancer mortality in 2020 in the acute period is calculated as approximately 30,000. However, the mid-and long-term consequences of a pandemic can be much more catastrophic. Insufficient health-care workforce and accommodation shortages in hospitals may take a long time. It is inevitable to postpone prevention, screening, diagnosis, and treatments, which are the basic principles of oncology and approach to cancer. Fear caused by COVID-19 infectiousness and the anxiety it creates on patients may delay the admission of cancer patients to the hospitals or it may cause failure of cancer surgery, radiotherapy, chemotherapy, and immunotherapy

at the scheduled time or discontinuation of treatment. When the pandemic burden on the health-care system decreases, many accumulated patient groups from routine functioning may cause another lockdown of the system. The inevitable consequence is that a long-term economic recession will affect cancer patients the most.

It is not difficult to predict that the COVID-19 pandemic will have lasting effects on the economy. We have scientific data

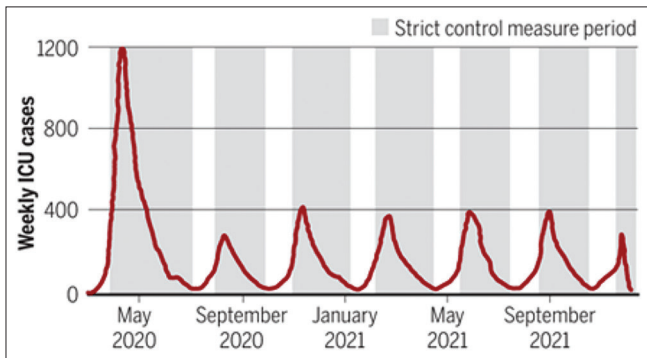


Figure 1: Imperial college COVID-19 response team, adapted by c. bickel/science

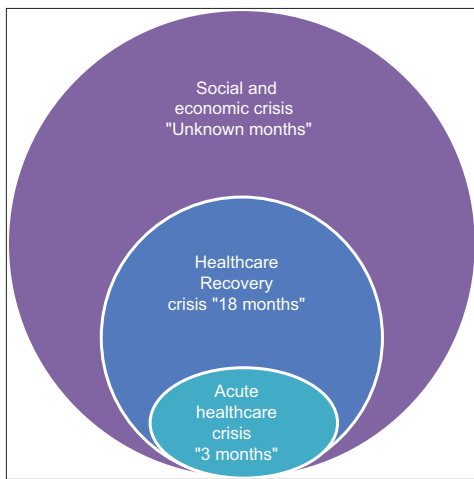


Figure 2: Adapted by; Prof. Dr. Eric Raymond

showing how cancer incidence and deaths were affected in times of economic crisis. According to an article published in the US after the economic crisis in 2008, there was a significant decrease in the incidence of prostate cancer.^[5] Diagnosis of prostate cancer needs relatively expensive tests. For example, sequential prostate-specific antigen measurements, magnetic resonance imaging, and biopsy impose multiple economic burdens. Local therapies such as robotic surgery, intensity modulated radiation therapy, and brachytherapy are expensive after the diagnosis, and that the screening of metastatic disease is more expensive than the local treatment therapy may have caused this result [Figure 3].

According to a study which published in an article in the Lancet magazine in 2016, the impact of economic recessions on cancer mortality was investigated over 2.1 billion people in 75 countries, and the accompanying increase in unemployment was found directly related to increases in cancer mortality. As expenditures in public health-care sector increases, cancer mortality decreases. Whether or not access to health services occurs is the basis of this sensitive situation. The economic crisis in the USA between 2008–2010 is estimated to be associated with 260,000 additional cancer-related deaths.^[6]

As a result of COVID-19 pandemic, additional cancer-related deaths in the acute-subacute and chronic period are expected. Especially genitourinary cancers will be an important group that is affected by this tragedy.

Ethical considerations

Ethical issues including plagiarism, double publication, and redundancy have been completely observed by the author.

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Conflicts of interest

There are no conflicts of interest.

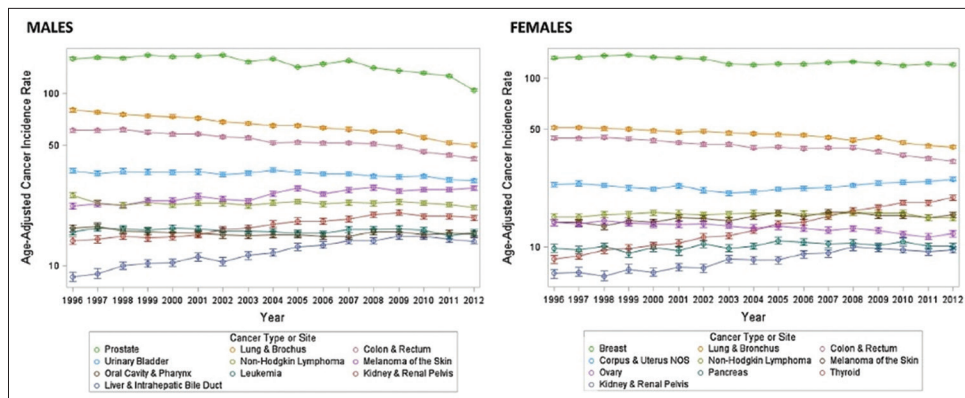


Figure 3: Cancer Causes and Control 2017; (28) 145–154

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REFERENCES

1. Kupferschmidt K, Cohen J. Race to find COVID-19 treatments accelerates. *Science* 2020;367:1412-3.
2. Available from: https://suiteweb.atpointofcare.com/?token=084e4435ba2d3ae3e66db0ed42cd8faf&utm_source=7105&utm_campaign=483&utm_medium=email#library/news/breakingmed/82185. [Last accessed on 2021 Jan 02].
3. Available from: <https://www.worldometers.info/coronavirus/#countries>. [Last accessed on 2021 Jan 02].

4. Enserink M, Kupferschmidt K. With COVID-19, modeling takes on life and death importance. *Science* 2020;367:1414-5.
5. Gomez SL, Canchola AJ, Nelson DO, Keegan TH, Clarke CA, Cheng I, *et al.* Recent declines in cancer incidence: Related to the great recession? *Cancer Causes Control* 2017;28:145-54.
6. Maruthappu M, Watkins J, Noor AM, Williams C, Ali R, Sullivan R, *et al.* Economic downturns, universal health coverage, and cancer mortality in high-income and middle-income countries, 1990-2010: A longitudinal analysis. *Lancet* 2016;388:684-95.

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