

Tumor Surgeries Delayed Due to the COVID-19 Pandemic; Renal Cell Carcinoma Progressing from Stage T1b to T3b: A Case Report

COVID-19 Pandemisi Döneminde Geciken Tümör Cerrahileri; Evre T1b'den T3b'ye İlerleyen Renal Hücreli Karsinom: Olgu Sunumu

Kadir Karkin¹, Hakan Ercil¹, Umut Unal¹, Guclu Gurlen¹, Ferhat Ortoglu¹, Ediz Vuruskan¹

Department of Urology, University of Health Sciences, Adana City Training and Research Hospital, Adana, Turkey

Cite as: Karkin K, Ercil H, Unal U, Gurlen G, Ortoglu F, Vuruskan E. Tumor surgeries delayed due to the COVID-19 pandemic; renal cell carcinoma progressing from stage T1b to T3b: a case report. Grand J Urol 2021;1(2):78-80.

Submission date: 22 January 2021

Acceptance date: 17 March 2021

Online first: 02 April 2021

Publication date: 20 May 2021

Corresponding Author: Kadir Karkin / University of Health Sciences, Adana City Training and Research Hospital, Department of Urology, Adana, Turkey / kadir_karkin@msn.com ORCID ID: 0000-0002-4324-3032

Abstract

COVID-19 is a highly contagious disease. This condition affects the decision of both the patient and the surgeon about the surgery of newly diagnosed cancer patients and it may also result in delays in cancer surgeries because of the limitations in healthcare applications. In our particular case, it was aimed to present the transition of the cancer from the localized stage to distant spread stage cancer since the patient who was pre-diagnosed with RCC and who was recommended surgery, did not want to undergo surgery due to COVID-19 pandemic and its risks. Our case was a 49-year-old female patient. In her computed tomography, a 58x70 mm heterogeneously enhancing solid lesion which showed exophytic extension from the middle zone of the right kidney to the lower pole was observed. Surgery was recommended for the patient but the patient claimed that she did not want to undergo surgery due to the risk of COVID-19 pandemic. The patient made an application for the surgery 8 months later. The new magnetic resonance imaging of the patient showed that there was a mass lesion of approximately 76x76x80 mm in size, which involved middle-lower part of the right kidney and extended into the opening of the renal vein VCI by invading the renal vein. Radical nephrectomy and thrombectomy procedure was applied to the patient with RCC? tumor. Due to psychosocial problems caused by the pandemic, surgeries are delayed and an acceleration of the cancer progression from the localized stage to the distant spread stage occurs indispensably.

Keywords: pandemic, COVID-19, renal cell carcinoma, renal tumor surgery

Öz

COVID-19 oldukça bulaşıcı bir hastalıktır. Bu durum, hem hasta hem de cerrahın yeni teşhis konmuş kanser hastalığının ameliyatı konusundaki kararlarını etkilediği gibi, sağlık uygulamalarındaki kısıtlamalar nedeniyle kanser ameliyatlarında gecikmelere de neden olabilmektedir. Bu olgumuzda RCC ön tanısı alan ve cerrahi önerilen hastanın COVID-19 pandemisi ve getirdiği riskler nedeniyle ameliyat olmak istememesi sonucunda hastalığın lokal evreden ileri evre kansere geçişini sunmayı amaçladık. Olgumuz 49 yaşında kadın hastaydı. Bilgisayarlı tomografisinde sağ böbreğin orta bölgesinden alt pole doğru ekzofitik uzanım gösteren, 58x70 mm boyutlarında ve heterojen kontrastlanan solid lezyon izlendi. Hastaya ameliyat önerildi ancak hasta, COVID-19 salgını riski nedeniyle ameliyat olmak istemediğini ifade etti. Hasta operasyon için 8 ay sonra başvurdu. Hastanın yeni manyetik rezonans görüntülemesinde sağ böbreğin orta-alt kısmını kaplayan ve renal pelvisi dolduran, renal veni invaze ederek renal venin VCI'daki açılma yerine kadar uzanan, yaklaşık 76x76x80 mm boyutlarında kitle lezyonu olduğu görüldü. RCC? tümörü olan hastaya radikal nefrektomi ve trombektomi işlemi uygulandı. Pandeminin neden olduğu psikososyal sorunlar nedeniyle ameliyatlar gecikmekte ve kanserin lokalize aşamadan uzak yayılma aşamasına ilerlemesinde bir artış kaçınılmaz olarak ortaya çıkmaktadır.

Anahtar kelimeler: pandemi, COVID-19, renal hücreli karsinom, böbrek tümör cerrahisi

ORCID ID: H. Ercil 0000-0001-7103-7597
U. Unal 0000-0003-4040-0044

G. Gurlen 0000-0002-7830-5010
F. Ortoglu 0000-0002-1986-5181

E. Vuruskan 0000-0002-3446-0430

Introduction

Novel coronavirus of 2019's (2019-nCoV) infection has rapidly spread to China and many other countries since it was first emerged in Wuhan Province of China in December 2019 [1] and it has become a major global health issue. The virus was named 2019-nCoV first temporarily by the International Virus Taxonomy Committee but then it was renamed as severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) [2]. Hyperinflammation and immunosuppression are the two most important entities in COVID-19 disease [3]. Fever, cough, shortness of breath, myalgia, headache and diarrhoea are the most common symptoms. The most common underlying diseases are reported as cardiovascular diseases, hypertension, and diabetes mellitus [4].

Renal cell carcinoma (RCC) is one of the deadliest urological tumors, accounting for 2-3% of all adult malignancies [5]. RCC is the one of the risk factors which pose a higher risk for Covid-19 infection followed by age >60, arterial hypertension, diabetes, obesity and smoking [6]. Therefore, many patients who were diagnosed with RCC during this pandemic period are at risk of developing this viral infection and its life-threatening complications if they were treated surgically [7]. In newly diagnosed cases with cancer, moreover, Covid-19 affects the decision of both the patient and the surgeon as it is a high contagious disease and the cancer surgeries are delayed due to limited healthcare applications and resources [8,9].

In this particular case, we aimed to present the transition of the disease from the localized stage to distant spread stage cancer as the patient who was pre-diagnosed with RCC and who was recommended surgery did not want to undergo surgery due to the Covid-19 pandemic and the risks it brought.

Case Presentation

Our case in this study was a 49-year-old female patient. The patient was under follow-up due to left kidney cyst causing right flank pain and weight loss 10 kg in the previous 6 months. In the ultrasonography of our case, a heterogeneous solid mass of 5 cm in the right kidney was observed. The patient had hypertension and struma history, but she did not have undergone any surgical intervention before. The patient was taking levothyroxine sodium and perindopril arginine for the treatment of these diseases. Complete blood count and serum biochemistry values were normal at the time of application. Karnofsky performance scale index was 90% (ECOG-WHO performance scale index score corresponds to 0). Contrast-enhanced thorax and abdominal computed tomography (CT) were requested. Thorax CT of the patient was unremarkable, but a sharply demarcated, and heterogeneously enhancing 58x70 mm solid lesion (PADUA score 8) with exophytic extension from the middle zone of the right kidney to the lower pole was observed. Abdominal aorta, vena cava inferior (VCI) and other major abdominal vessels were normal. No pathological lymph nodes were reported in the abdomen (**Figure 1**). Laparoscopic radical nephrectomy was recommended for the patient with a stage T1b tumor. However, the patient stated that she did not want to undergo surgery due to the COVID-19 pandemic. The patient was informed that the tumor could progress aggressively and that surgery had to be performed. The patient, who wanted to take some time to think, did not apply to our clinic to undergo surgery for 8 months. She

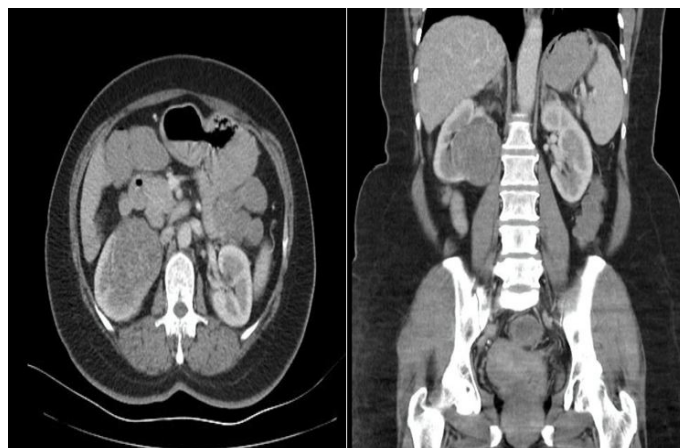


Figure 1. CT revealed a solid lesion which showed exophytic extension from the middle zone of the right kidney to the lower pole and which was sharply demarcated, 58x70 mm in size

was admitted with an abdominal MRI taken in a public hospital in his province 8 months later. Her MRI revealed a heterogeneous mass lesion of approximately 76x76x80 mm in size, with irregular lobulated contours involving middle-lower part of the right kidney and renal pelvis and extending into the opening of the renal vein into the VCI by invading the renal vein. After intravenous injection of the contrast agent, a heterogeneous enhancement in the mass lesion was observed. Renal parenchyma got thinner due to the mass lesion (PADUA score 11). Based on radiological findings, the patient was informed that RCC was suspected, and clinical evaluation or excision was recommended (**Figure 2**). In this stage, open radical



Figure 2. MRI revealed a heterogeneous mass lesion of approximately 76x76x80 mm in size, with irregular lobulated contours, invading middle-lower part of the right kidney and renal pelvis and extending to the opening of the renal vein into VCI

nephrectomy and thrombectomy procedure was performed upon the approval of the patient with stage of T3b RCC tumor. The patient was discharged from the hospital when pathological diagnosis was reported as Fuhrman grade 2 clear cell RCC. No recurrence was observed in control thorax and abdominal CT images obtained in the 3rd month follow-up.

Discussion

In COVID-19 pandemic, it has become too difficult to provide care for immunocompromised patients and patients suffering from cancer. Even during a pandemic, cancer patients need timely diagnosis, evaluation and treatment. It was revealed that

cancer patients who were infected with COVID-19 are 3.5 times more likely to be admitted to the intensive care unit (ICU) or mechanical ventilation when compared with general population. Concurrently, limited resources in treatment environments, including administrative staff and specialists, hinder the routine care of these patients [8,10]. In addition, the current focus on the spread of COVID-19 infection around the world draws all the attention of the public and this may push aside the psychosocial consequences of the outbreak in individuals who were affected by the disease and the general population. Psychological problems emerging in connection with this global issue may turn into long-term health problems, isolation and stigmatization of patients. Health precautions in the global dimension should be taken to deal with psychosocial stress factors which are associated with the use of isolation, and quarantine measures, fear, and defencelessness, particularly among the general population [11]. These psychosocial problems have led the oncology community to experience unprecedented challenges, especially during the extraordinary period. Therefore, other specialty fields which are regularly involved in the diagnosis, active treatment and long follow-up of cancer patients, as well as oncologists, should consider how to balance the delay in cancer diagnosis or treatment against a potential risk of COVID-19 and plan the process accordingly. They should also reduce the risks of the disruptions in the patient care in line with social distancing and properly manage the appropriate distribution of limited healthcare resources [6]. When we consider this situation regarding RCC, these patients consist of a heterogeneous population. While some of the tumor treatments can be delayed safely, some others are aggressive and need emergent surgery. For example, patients with cT1a tumors (and complex cysts, Bosniak III/IV) should be taken under active surveillance and delayed intervention. The cases of cT1b-T2a/b should be treated with partial or radical nephrectomy (in some selected cases of T1b-T2a ≤ 7 cm, surgery may be delayed for 60-90 days). Locally progressive tumors progressed (\geq cT3 and or N+) should be resected immediately. If possible, minimally invasive surgery and early hospital discharge should be encouraged [12].

It is quite difficult to manage cancer patients during the pandemic considering their vulnerable situations and the aggressive nature of their underlying diseases. When the psychosocial problems caused by the pandemic accompany this situation, surgeries are delayed and the progression of cancers from the localized stage to the distant spread stage accelerates.

Ethics Committee Approval: N / A.

Informed Consent: An informed consent was obtained from the patient.

Publication: The results of the study were not published in full or in part in form of abstracts.

Peer-review: Externally peer-reviewed.

Authorship Contributions: Any contribution was not made by any individual not listed as an author. Concept – K.K., H.E.; Design – K.K., H.E.; Supervision – K.K., E.V.; Resources – K.K., H.E., U.U., G.G.; Materials – K.K., H.E., U.U., G.G.; Data Collection and/or Processing – K.K., H.E., U.U., G.G.; Analysis and/or Interpretation – K.K., H.E., U.U., G.G.; Literature Search – K.K., H.E., U.U., G.G.; Writing – K.K., H.E., U.U.; Critical Review – K.K., F.O., E.V.

Conflict of Interest: The authors declare that they have no conflict of interest.

Financial Disclosure: The authors have declared that they did not receive any financial support for the realization of this study.

References

- [1] Lu H, Stratton CW, Tang YW. Outbreak of pneumonia of unknown etiology in Wuhan, China: The mystery and the miracle. *J Med Virol* 2020;92:401–2. <https://doi.org/10.1002/jmv.25678>.
- [2] Gorbalenya AE, Baker SC, Baric RS, de Groot RJ, Drosten C, Gulyaeva AA, et al. Severe acute respiratory syndrome-related coronavirus: The species and its viruses – a statement of the Coronavirus Study Group. *BioRxiv* 2020. <https://doi.org/10.1101/2020.02.07.937862>.
- [3] Isidori AM, Pofi R, Hasenmajer V, Lenzi A, Pivonello R. Use of glucocorticoids in patients with adrenal insufficiency and COVID-19 infection. *Lancet Diabetes Endocrinol* 2020;8:472–3. [https://doi.org/10.1016/S2213-8587\(20\)30149-2](https://doi.org/10.1016/S2213-8587(20)30149-2).
- [4] Chen N, Zhou M, Dong X, Qu J, Gong F, Han Y, et al. Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. *Lancet* 2020;395:507–13. [https://doi.org/10.1016/S0140-6736\(20\)30211-7](https://doi.org/10.1016/S0140-6736(20)30211-7).
- [5] WHO Global Cancer Observatory. *Int Agency Res Cancer* n.d.
- [6] Capitanio U, Bensalah K, Bex A, Boorjian SA, Bray F, Coleman J, et al. Epidemiology of Renal Cell Carcinoma. *Eur Urol* 2019;75:74–84. <https://doi.org/10.1016/j.eururo.2018.08.036>.
- [7] Naspro R, Da Pozzo LF. Urology in the time of corona. *Nat Rev Urol* 2020;17:251–3. <https://doi.org/10.1038/s41585-020-0312-1>.
- [8] Liang W, Guan W, Chen R, Wang W, Li J, Xu K, et al. Cancer patients in SARS-CoV-2 infection: a nationwide analysis in China. *Lancet Oncol* 2020;21:335–7. [https://doi.org/10.1016/S1470-2045\(20\)30096-6](https://doi.org/10.1016/S1470-2045(20)30096-6).
- [9] Kutikov A, Weinberg DS, Edelman MJ, Horwitz EM, Uzzo RG, Fisher RI. A War on Two Fronts: Cancer Care in the Time of COVID-19. *Ann Intern Med* 2020;172:756–8. <https://doi.org/10.7326/M20-1133>.
- [10] Ueda M, Martins R, Hendrie PC, McDonnell T, Crews JR, Wong TL, et al. Managing Cancer Care during the COVID-19 Pandemic: Agility and Collaboration Toward a Common Goal. *JNCCN J Natl Compr Cancer Netw* 2020;18:366–9. <https://doi.org/10.6004/jnccn.2020.7560>.
- [11] Torales J, O'Higgins M, Castaldelli-Maia JM, Ventriglio A. The outbreak of COVID-19 coronavirus and its impact on global mental health. *Int J Soc Psychiatry* 2020;66:317–20. <https://doi.org/10.1177/0020764020915212>.
- [12] de Cássio Zequi S, Abreu D. Consideration in the management of renal cell carcinoma during the COVID-19 Pandemic. *Int Braz J Urol* 2020;46:69–78. <https://doi.org/10.1590/S1677-5538.IBJU.2020.S108>