THE PSYCHOLOGICAL IMPACT ON LUNG CANCER PATIENTS DURING COVID 19 CRISES

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Abstract

The Corona virus SARS-CoV-2 (COVID-19) outbreak is having a profound impact on the management of patients with cancer. In this review, we comprehensively investigate the various aspects of cancer care during the pandemic especially Lung cancerand profound psychological distress rapidly occurred worldwide. Various psychological problems and important consequences like stress, anxiety, depression, frustration, uncertainty during COVID-19 outbreak emerged progressively during the pandemic.Many cancer patients frequently visit the hospital for treatment and disease surveillance. They may be immunocompromised due to the underlying malignancy or anticancer therapy and are at higher risk of developing infections. Cancer wards have been subjected to several modifications to protect patients and healthcare professionals from COVID-19 infection, while attempting to maintain cancer diagnosis, therapy, and research. In this setting, the management of COVID-19 infected patients with cancer is particularly challenging. As such, the indirect impact of the pandemic on the global economy and the potential consequences in terms of cancer mortality are increased. As the infection is spreading worldwide, we are obtaining more knowledge on the COVID-19 pandemic consequences that are currently impacting and may continue to further challenge cancer care in several countries. In this review, the psychological impact associated with lung cancer patients during the COVID-19 infection pandemic will be addressed, with suggestions of some practical approaches.

Key Words: **COVID- 19, Lung Cancer, Stress, Anxiety Depression and Frustration.**

Introduction

Corona viruses are a large family of viruses that can cause disorders ranging from a mild cold to severe diseases. In December 2019, multiple cases of atypical pneumonia of unknown origin were detected in China. At the same time, a new corona virus subtype was discovered as the

etiology behind these described cases in Wuhan, Hubei (China). This novel microorganism detected, called as severe acute respiratory syndrome coronavirus 2 (SARS−COV-2), has an enormous virulence and a high human-to-human transmission (WHO 2019). Globally, cancer, including solid tumors and hematological malignancies, still ranks as the second leading cause ofdeath, being responsible for an estimated 9.6 million annual deaths in 2018. With more than 18.0 million new cases every year globally, about 50,000 new patients are diagnosed and require treatment every day (Bray F). Diagnosis of COVID-19 infection in patients with lung cancer remains challenging. Currently used PCR methods for COVID-19 infection, albeit not widely available in all states and countries, allow detection of infected patients with high specificity when positive but are also acknowledged to have a relatively high level of false negatives. (Ai T et.al). Cancer patients are at increased risk of Covid-19 infection. These patients must maintain their visits to Oncology departments. They should continue receiving their diagnoses and treatments to avoid complications from their own oncological pathology (Cortiula F et. al 2020).The newly identified zoonotic coronavirus, severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), is characterized by rapid human-to-human transmission. Many cancer patients frequently visit the hospital for treatment and disease surveillance. They may be immunocompromised due to the underlying malignancy or anticancer therapy and are at higher risk of developing infections. Several factors increase the risk of infection, and cancer patients commonly have multiple risk factors. Cancer patients appear to have an estimated twofold increased risk of contracting SARS-CoV-2 than the general population. With the WHO declaring the novel coronavirus outbreak a pandemic, there is an urgent need to address the impact of such a pandemic on cancer patients. This include changes to resource allocation, clinical care, and the consent process during a pandemic. Currently and due to limited data, there are no international guidelines to address the management of cancer patients in any infectious pandemic. In this review, the potential challenges associated with managing cancer patients during the COVID-19 infection pandemic will be addressed, with suggestions of some practical approaches.

COVID-19 andLung Cancer

Immunosuppressed status of some cancer patients (whether caused by the disease itself or the treatment) increases their risk of infection compared with the general population. Immunosuppressant may also expose cancer patients to serious complications from an infection, which may result in treatment delay and unnecessary hospitalizations that could negatively affect disease prognosis. It has been reported by Liang et al. that patients with cancer have an increased risk of severe infections, with an ~3.5-fold increase in the risk of needing mechanical ventilation or ICU admission or dying compared with patients without cancer. Cancer patients' increased susceptibility to severe complications of COVID-19 can be attributed to the immunosuppressed status caused by the malignancy and anticancer treatments, such as chemotherapy or surgery. Patients who had received chemotherapy or undergone surgery in the 30 days before presenting with COVID-19 were found to have a higher risk of severe events than patients who had not been treated with chemotherapy or surgery. It was also found that cancer history conferred the highest risk for severe complications and was correlated with poorer outcomes from COVID-19.

Notably, lung cancer patients did not have a higher probability of severe complications compared with patients with other cancer types.(Annunziata Romeo et.al)

Lung cancer or lung carcinoma is a malignant lung tumor characterized by uncontrolled cell growth in the lung tissues. The immunosuppressed status of some cancer patients (whether caused by the disease itself or the treatment) increases their risk of infection compared with the general population. Immunosuppressant may also expose cancer patients to serious complications from an infection, which may result in treatment delay and unnecessary hospitalizations that could negatively affect disease prognosis.

Lung cancer classification

Lung cancer classification Lung cancers are classified according to histological type [Lu C. et al 2010].For therapeutic purposes, two broad classes are distinguished: non-small-cell lung carcinoma and small-cell lung carcinoma[kumar v et.al 2013].The three main subtypes NSCLC are adenocarcinoma, squamous-cell carcinoma and large cell carcinoma[HomL et. al 2015].Nearly 40% of lung cancers are adenocarcinoma, which usually originates in peripheral ling tissue[Lu C. et al 2010]. Lung is a commonplace for spread of tumors from other parts the body. Secondary cancers are classified by the site of origin; e.g.,breast cancer that has spread to the lung is called metastatic breast cancer. Metastases often have a characteristic round appearance on chest radiograph.

PSYCHOLOGICAL ASPECT OF PATIENTS WITH CANCER DURING A PANDEMIC

Social distancing measures, quarantine, and visitor limitations will limit opportunities for family support and advocacy, affecting an important sense of connection and source of strength and well-being for cancer patients. It is likely that many cancer patients and their families will understandably be concerned about how a pandemic might affect their care and treatment. Patients will be concerned about contracting the virus and the subsequent impact on their treatment and how they will continue to access the services of oncology during the pandemic. New patients may be worried about whether their treatments will be delayedand what the implications might be on their outcome(.(Eric Raymond et.al). It is important to recognize the increased level of distress that cancer patients and their families might face during this time, over and above the distress already experienced in relation to their diagnosis and treatment and the pandemic itself. As a result, it is important that supports are in place in each cancer program and hospital to assess the level of distress and intervene appropriately to the best of the available resources. This may mean that psychosocial staff will be more utilized to assess distress and available to address the ongoing needs of patients and families during this pandemic.

Psychological problems

Many psychological problems and important consequences in terms of mental health including anxiety, depression, stress, frustration, and Loneliness and Suicidal ideation uncertainty during COVID-19 outbreak emerged progressively. Common psychological reactions related to the cancer patients which are typically associated with lung cancer and increased with the escalation of new cases together with inadequate, anxiety-provoking information which was provided by media. The psychological reactions to COVID-19 pandemic may vary from a panic behavior to pervasive feelings of hopelessness and desperation which are associated with negative outcomes including suicidal behavior. Importantly, other health measures may be compromised by abnormally elevated anxiety, stress and depression.

Psychological Support for Patients with Cancer and Their Relatives The COVID-19 outbreak is generating important traumatic psychological consequences in the general population due to the constant exposure to stressful headline news, unemployment, home restriction, and social distancing . Patients with cancer and healthcare providers are exposed to similar stresses, with the addition of facing the diagnosis and treatment of a dreadful disease.(Eric Raymond et.al). Relatives who usually accompany patients for diagnosis, treatment, and palliative care are discouraged from visiting patients in hospitals. As a result, frontline healthcare workers have become the main people to provide psychological interventions to patients in hospitals. Professionals who are devoted to their patients are facing the risk of contamination at work for themselves and their relatives. In oncology wards, reinforcement should be made in terms of identifying professional teams that comprise mental health personnel as a basic tenet in dealing with emotional distress for patients with cancer and healthcare providers. Furthermore, careful follow-up of lonely patients with cancer confined at home can be proposed, using telephone or video consultation, taking advantage of the availability of many home-confined mental health professionals.

Psychological reactions to COVID-19 infection

Anxiety:

Anxiety related to restrictions and lockdown measures are linked to feelings of uncertainty for the future, fear of new and unknown infective agents resulting in abnormally increased anxiety.Anxiety may be directly related to sensorial deprivation and pervasive loneliness, in this case first insomnia but later depression and post-traumatic stress occurred. In addition, anxiety is closely associated with fatigue and reduced performance in healthcare workers while boredom and loneliness are directly related to anger, frustration and sufferings linked to quarantine restrictions. Furthermore, additional tragic effects associated with pervasive anxiety in a

pandemic period may include the perceived lower social support, separation from loved ones, loss of freedom, uncertainty and boredom.

Fear

Patients have developed fear, a fear of the unknown. “Is cancer or COVID-19 going to kill us?,” “What should we do?” “Our doctors have said you have to wait for treatment?,” “How do we save ourselves?” “Will my disease increase, will the past treatment be as effective?” “No one is telling us anything. They have told us to go home.” These statements clearly depict fear, stress and the helplessness of patients.

Depression

Negativity and the feeling that we are alone in this disease is one of the toughest parts of cancer and continuous emotional counseling is the key to get patients out of this distressful condition. Doctors, health-care staff, social workers, and Patient Guidance Coordinators are the ones who create a bond with the patients and help them believe that they will be able to cope with this stress. Currently, the patients are cut off from this lifeline and have been unable to communicate with these key stakeholders. The emotional trauma, stress, body image issues, and worry about when they will be able to start or resume treatment will have a huge impact on the mindset of the patients.

Frustration:

Many lung cancer patient may experience these problems like Low mood, fear, nervousness, irritability, anger, frustration, boredom, emotional exhaustion, feeling stressed, numbness, and insomnia, Frustration and boredom Distress, boredom, social isolation and frustration are directly related to confinement, abnormally reduced social/physical contact with others, and loss of usual habits. Thesefrustration and loneliness seem to derive by the inhibition from daily activities, interruption of social necessities, not taking part in social networking activities. These Reactions can range from boredom and moodiness to anger, irritation, and frustration.

Psychological and Social For (lung) cancer patients, the psychosocial impact of the COVID-19 pandemic was substantial. During the peak, social life was disrupted because of social distancing. Visits from friends and family were lacking, but also the visits of formal /informal caregivers were limited. Due to the fear of becoming infected, patients isolated themselves even more . However, social support has been shown to improve QoL in lung cancer patients , and lung cancer patients indicate that they indeed need family support during treatment. In colorectal cancer, good social integration was even associated with improved survival . Besides anxiety and fear due to the diagnosis of cancer, in the COVID-19 pandemic, these complaints also arose from adjusted or postponed treatments .(Eric Raymond et.al). Therefore, uncertainty about the future

increased. Also, the duration of the pandemic has been uncertain, and unfortunately, straightforward information regarding the lung cancer treatment plan was lacking. In patients treated with palliative intent, outside of the COVID-19 pandemic, fear of metastases and insecurity about the future is already increased compared with those treated with curative intent . The Dutch federation of cancer patient organizations (NFK) collected through a survey the experiences of patients with cancer. Twelve percent of the responders were lung cancer patients. Fifty-five percent of all patients were worried to contract a COVID19 infection, and 26% had (several) concerns regarding the consequences of COVID-19 on anti-cancer treatment or follow-up . Palliative care in this patient population is important, as it has been previously shown that this can reduce fear and anxiety. The National Comprehensive Cancer Network (NCCN) has developed a self-care and distress management tool for cancer patients, with information about how to obtain up-to-date information, manage distress and improve resilience, but this tool does not specifically focus on patients treated with palliative intent. Self-isolation affects not only the lung cancer patient but also their informal caregivers, as social support and psychosocial interventions, although effective, decreased for this group, while the burden of care giving remained. Furthermore, informal caregivers were increasingly confronted with patients dying at home, as hospices were less available, and professional HCP reduced their visits

Protective factors

The COVID-19 outbreak is yielding unprecedented consequences on cancer care that may have direct and remote consequences on patients and caregivers.The difficulties we are facing globally are unprecedented, and we know from countless studies that threat and fear often lead to flight or freeze. We will have to fight, together, in a way to bring our decades of hard work to this challenge, while at the same time leveraging the urgency of this issue to innovate and grow in ways that would allow us to most effectively protect and care for those who are in most need.Listing ongoing issues may allow the oncology community to identify solutions to minimize the impact of the pandemic on current and future management of patients with cancer. The cancer care and COVID-19 collide; patients and providers will face extremely difficult choices. Protective factors Resilience Psychological resilience may be generally defined as the ability to support or retrieve psychological well-being during or after addressing stressful disabling conditions. The combat plan during this battle must involve patience, communication, diligence, and resolve. Risks must be balanced carefully, public health strategies implemented thoroughly, and resources utilized wisely. Hospitals protocols linked to the early and effective management of health emergency need to be implemented while healthcare professionals need to be supplied by adequate protective facilities. Scientific community should provide appropriate information to attenuate the impact of anxiety, frustration, and all the negative emotions which represent important barriers to the correct management of social crisis and psychological consequences related to pandemic. In this review, we addressed some of the current challenges associated with managing cancer patients during the COVID19 pandemic and provided some guidance and recommendations. This approach is likely applicable to various infectious

pandemics. Health care authorities in cancer care should immediately start planning for cancer care delivery during a pandemic. The limited but accumulating evidence suggests that patients with cancer are at higher risk of COVID-19 infection than individuals without cancer. The main management strategies for patients with cancer in this COVID-19 pandemic include clear communication and education about hand hygiene, infection control measures, high-risk exposure, and the signs and symptoms of the COVID-19. Consideration of risk and benefit for active intervention in the cancer population during an infectious disease pandemic must be individualized. A higher and significant perception of social support is associated with a reduced likelihood to develop psychological distress and psychiatric conditions. Specific preventive strategies at the community level such as (i) implementing effective communication and (ii) providing adequate psychological services should be carried out in order to attenuate the psychological and psychosocial impact of COVID19 outbreak. Health education needs to be enhanced using online platforms, social fear related to COVID-19 needs to be correctly addressed while stigma and discrimination need to be recognized as major challenges able to reinforce the feelings of uncertainty in a period of social crisis. Unmet needs should be rapidly identified by medical staff who need to communicate frequently and in a timely manner with most of patients to understand the risk to develop new symptoms or worsen a preexisting psychological distress. As face-to-face contacts were severely reduced, and there was a risk of a shortage of specific resources used in palliative care medicine, palliative care for (lung) cancer patients was jeopardized. Furthermore, telephones help lines, Internet access, active social networks, dedicated blogs and forums should be implemented in order to reduce social isolation and loneliness as well as allow to specific populations (e.g. infected subjects in hospitals or quarantine settings) the successful communication with their loved ones. Marginalized populations such as elderly individuals or those with psychological problems should be able to actively consult with clinical psychotherapists to rapidly detect warning signs. Finally, telemedicine should be really implemented especially in areas where mental health services are poorly represented or severely impaired by the rapid spread of pandemic and lockdown restrictions. . By changing and evolving current guidelines rapidly and adopting new ways of communication with, for instance, telemedicine palliative care could be maintained as good as possible. An important lesson to be learned from this crisis is that resilience and flexibility of the health care system and HCP are crucial .Importantly, symptoms related to initial psychological crisis together with the need to perform effective interventions using personalization and monitoring of adverse drug reactions related to psychoactive medications should be detected by psychiatrists.

Conclusion

Lung patients need special attention because patients with cancer caused both by their disease and by the therapies they have received, makes them more vulnerable during the COVID-19 pandemic and they have higher psychological distress. Psychologist play an important role not only in identifying psychological distress but also in preventing it by providing Oncologists and

psychologist play adequate information and basic emotional support to patients and their relatives. Additional psychosocial support should be offered to patients who are highly distressed and who receive poor support from their social network. For this purpose,Specific preventive strategies at the community level such as providing adequate psychological services like telephonic counseling and stress management programme should be carried out in order to attenuate the psychological and psychosocial impact of COVID19 crisis. Health education needs to be enhanced using online platforms, social fear related to COVID-19 needs to be correctly addressed while stigma and discrimination need to be recognized as major challenges able to reinforce the feelings of uncertainty in a period of social crisis. Hospitals protocols linked to the early and effective management of health emergency need to be implemented while healthcare professionals need to be supplied by adequate protective facilities. Community should provide appropriate information to the impact of anxiety, frustration, stress and all the negative emotions and hospitals protocols connected to the early and effective management of health emergency need to be implemented while healthcare professionals need to be supplied by adequate protective facilities. Unmet patients needs should be identified by medical staff who need to communicate frequently and in a timely manner with most of patients to understand the risk to develop new symptoms or worsen a preexisting psychological distress. Importantly, counseling and psychological interventions for anxiety and depression to the lung cancer patients as means of effectively improving their mental health and ultimately improving the quality of medical care provided in the field of oncology and symptoms related to initial psychological crisis together with the need to perform effective interventions using personalization and monitoring of adverse drug reactions related to psychoactive medications should be detected by psychiatrists.

References

- *Ai T, Yang Z, Hou H, Zhan C, Chen C, Lv W, et al. Correlation of Chest CT and RT-PCR testing in coronavirus disease 2019 (COVID-19) in China: a report of 1014 cases. Radiology. 2020;26:200642. https ://doi.org/10.1148/radio l.20202 00642*
- *Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal A. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. Cancer J Clin. 2018;68:394–424.*
- *Cortiula F., Pettke A., Bastoletti M. Managing COVID-19 in the oncology clinic and avoiding the distraction effect. Ann. Oncol. 2020;(March 19) [PMC free article] [PubMed] [Google Scholar] [Ref list]*
- *HomL,LovlyCM,Johnson DH(2015).Chapter 107.Neoplasm of Lung.In Kasper DL;Hauser, SL,JamesonJL,FauciAS,LongoDL,LoscalzoJ. Harrison's Principles ofInternal Medicine(19th ed.)McGraw- Hill.ISBN 978-0-07-180216-1.*
- *Kumar V,AbbasAK,Aster JC(2013).12 Robbins Basic Pathology(9th ed.)Elsevier Saunders.p.505.ISBN 978-1-4377-178-5.*
- *Lu C,OnnA,VaporciyanAA,et al.(2010).78:Cancer of Lung.Holland-Frei CancerMedicine(8th ed.).People's Medical Publishing House.ISBN 978-1-60795-014-1.*