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Research Article

**CANCER PATIENTS AND RESEARCH DURING COVID-19
PANDEMIC: A SYSTEMATIC REVIEW OF CURRENT
EVIDENCE****¹Dr Hafiz Muhammad Abdullah Asad, ²Dr Talha Asif, ³Dr Haleema Noor**^{1,3}MBBS, Nawaz Sharif Medical College, Gujrat.²MBBS, Ameer Ud Din Medical College, Lahore.**Article Received:** October 2020**Accepted:** November 2020**Published:** December 2020**Abstract:**

The new coronavirus has become a global threat. It is a major health concern now-a-days. It is also known as covid-19 or SARS-Cov-2. Corona virus has affected the research pattern of cancer disease. Some studies believe that the covid-19 has high influence on cancer patients. The diagnosis and manifestations of covid-19 are specific in special population. In this paper, a number of challenges are discussed which occurred during the era of covid-19 in cancer patients. The radiological features, clinical and pathological characteristics of corona virus on cancer patients and its results are discussed in this article. The strategies for the management of cancer, according to the national as well as international guidelines are focused on the end of the article.

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INTRODUCTION:

Covid-19 has become a great threat internationally. It is transmitted by human to human contact in the form of droplets. It can also be transmitted via direct or indirect contact with an infected person or its fomites in the environment.^{1,2} After its outbreak from China in 2019, it has affected Millions of people globally and resulted in approximately sixty thousand deaths.³ It is believed that the comorbidity has a great influence on the rate of mortality. The patients with more than one disease are susceptible to complications of coronavirus.⁴ Recent publications of Chinese cohort, cancer patients are susceptible to severe complications of corona like respiratory depression etc.⁴ Most of the health care measures aim to reduce the preventable hospital admissions in order to reduce the further spread of disease.⁵ Cancer patients required best and regular care in order to prevent the risk of exposure to this deadly covid-19. Considerable efforts are being performed to acknowledge the specialty of cancer patients who are exposed to such corona virus. These efforts include best and preventable diagnostic as well as therapeutic procedures for the cancer patients. All these procedures will reduce the risk of cancer patients to become infected with corona virus. The exposure of such patients will be reduced and they will be safe from treatment and diagnosis delays.

In this report, the radiological, epidemiological and clinical features of cancer patients with corona disease are reviewed. It is based on a lengthy review of the literature. The diagnostic and therapeutic

strategies are discussed at the end of the article. This study is based in China and Italy in particular.

MATERIAL AND METHODS:

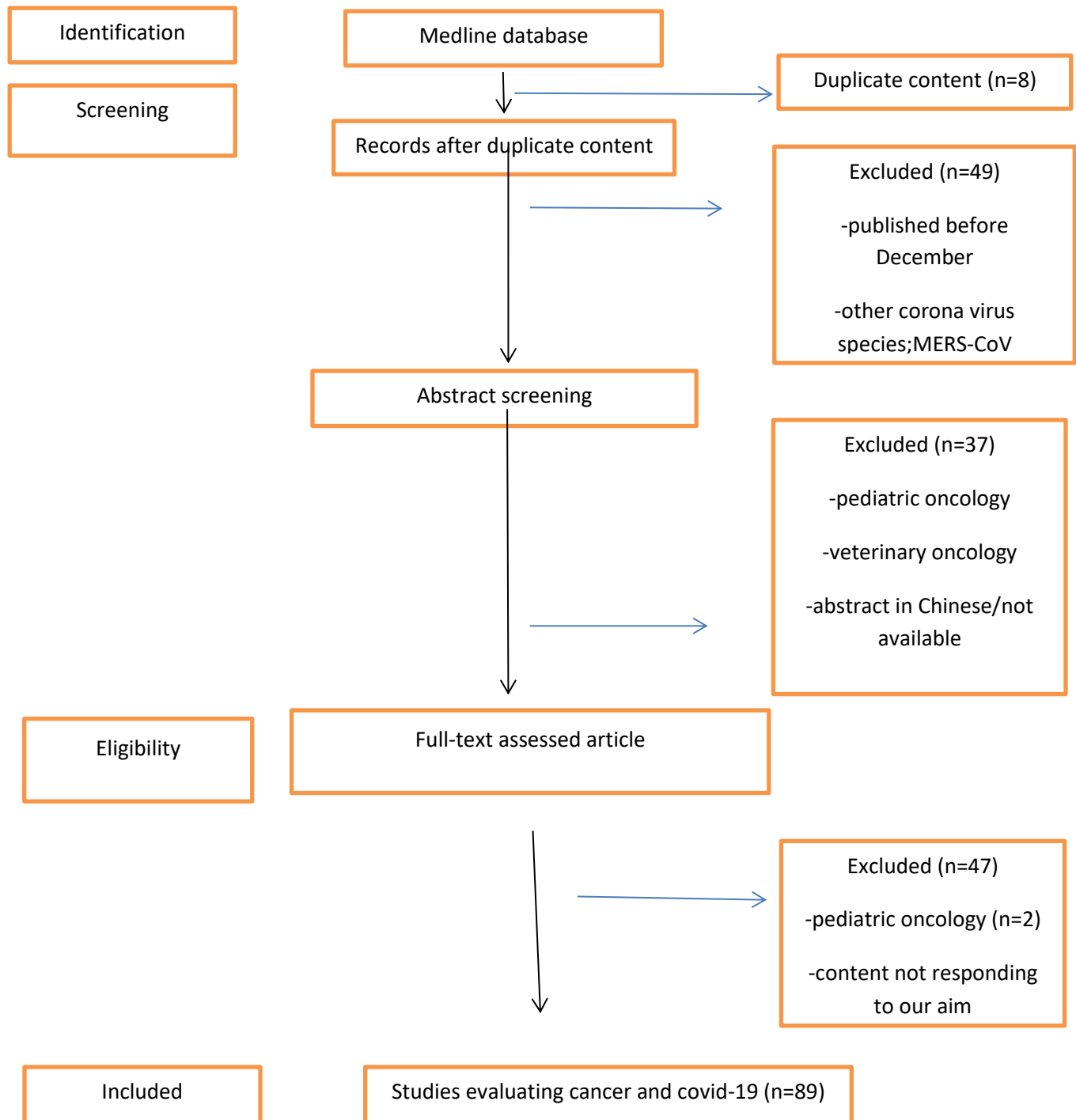
A substantial search of the literature on the specialties of corona on the cancer patients was done. It was based on the PubMed database until 6th April 2020. Some keywords with Boolean operators were used which are “covid-19”, “novel coronavirus” and “SARS-CoV-2” along with “cancer”, “neoplasm”, “oncology” and “malignancy.”

Inclusion Criteria

To sum up, almost 220 articles were reviewed. The articles with English and French base were analyzed because of the familiarity with these languages. Some English abstracts of Chinese articles were also reviewed.

Exclusion Criteria

All the articles published before the era of covid-19 were excluded. All the articles were screened and all the data were analyzed. Totally 88 articles which met our aims and objectives were added to review. Duplicated articles and articles that were published before the era of SARS-Cov-2 (*i.e.*, before December 2019) were excluded. Titles and abstracts of retrieved articles were screened for eligibility, and then entire texts were analyzed and 88 papers that respond to our objectives were included in this review. The work is shown in the PRISMA following diagram:

**RESULTS:**

Out of 89 articles, 5 were in French language and 20 were in Chinese language along with English summaries. To sum up, ten Cohort studies which included prospective, retrospective or cross-sectional studies and 9 case reports and one case series were

done in China. All the articles were short editorials, comments or in the form of letters. All the Cohort studies were conducted in China and the cases which were reported were from China and Italy. Only four of the Cohort studies considerable included cancer patients.

60% of the papers were originated from Italy and China (53/89). 7 works were multinational and most of them were multi-continental. These were issued in association with Asia, America and Europe. One article was from each of these countries namely India, Canada, Spain, Singapore or Saudi-Arabia.

The researchers in oncology are busy in the evaluation and analysis of Covid-19. The included subjects were classified in the following manner:

- Research on cancer in the time of Covid-19, along with the effect of this therapy on Covid-19 patients (7 articles)
- Clinical, epidemiological, radiological and pathological characteristics of cancer patients with Covid-19 (13 articles)
- Results of cancer patients with Covid-19 infection (10 articles)
- Strategies for reduction of risk and management of infection in cancer patients during corona pandemic (58 articles)

Numerous consultations are made in the treatment and diagnosis of cancer patients in the era of coronavirus. The strategies are mainly focused on lung and gastrointestinal tumors. The urogenital, breast and gynecological cancers were given second priority after the former cancers. Not a single definite guideline was adopted until the end of March. Most of the guidelines were emerged in the first week of April.

This article discusses different aspects of corona virus in oncology patients analyzed in the present literature.

1. Research on Cancer at the Time of Pandemic

After the declaration of coronavirus as a pandemic, some strict health care procedures were recommended. The aim of such measures was to reduce the spread of covid-19. Such measures were also applied to the cancer research centers. The researchers needed to work on making a decision on continuation or restriction of trials.⁶ Experiments were necessary to find out the exact care for cancer patients in the era of covid-19. Some higher authorities issued effective guidelines. Some procedures were adopted in relation to the visits, diagnosis, treatments and other necessities.⁷

Some research processes were done for finding out the effect of anti-cancer drugs on corona virus. Some drugs like bevacizumab, thalidomide, camrelizumab, afatinib, and ixazomib were analyzed to find out their effect on covid-19.⁸

Pathological, Radiographic, Clinical, and Epidemiological Characteristics of Cancer Patients with Coronavirus

At the very start of the pandemic in China, various epidemiological studies were done for the evaluation purposes by corona patients in 2019. A few of these researches were based on the subgroup of people with cancer. For instance, Wei-Gie Guan *et al.* studied and analyzed the data chart of 1095 patients with a positive corona test, confirmed through laboratory until January 29, 2020. They recognized in their cohort 260 people with comorbidity (almost 23.6%). Only 10 of which has cancer previously i.e. 0.8% patient. Three of them had severely serious presentation while others just had mild symptoms. Another study based on this research was conducted on 68 patients with corona in Wuhan. The severity of disease was recorded. Among those 68 patients, four had previously recognized cancerous cell. Out of those four patients, only one was presented with SpO₂ less than 90%.

2. Results of Cancer Patient with SARS-CoV-2 Infection

A research was done on critically ill twenty patients in Seattle. It showed that most of the people had more than one disease at a time. However, there were not recognized with the history of cancer.⁹ However, this was a small study with a small number of patients but, it was concluded that those patients who are diagnosed with other chronic diseases like asthma or sugar, could suffer from more serious conditions with SARS-CoV-2 than the patients with cancer could.

3. Plan of Action to Reduce Risk and Manage Cancer Patients with Corona during COVID-19 Outbreaks

The risk of spreading of disease due to the delay in treatment was becoming a major concern. Although the cancer patients and the health care worker were very conscious about the transmission of corona in hospital.^{10, 11, 12, 13} In addition, the distraction of the health care workers from cancerous patients could have serious consequences.¹⁴ Therefore, it was very important to properly implement the guidelines regarding the prevention of cancer patient from the corona. These guidelines were discussed with many other authors in literature. Because there were no previous studies about handling of cancerous patients in corona, therefore the urgent situations were prioritized.

CONCLUSION:

It is evident that the best approach for the cancer patients in the era of covid-19 is very difficult to

search. A large number of patients were analyzed with corona and the cancer centers were occupied with greater number of corona positive patients. Some national and international guidelines were adapted for the prevention of this disease. The approach, especially for cancer patients was analyzed and adjusted for all the patients and its resources. It is believed that if the spread of covid-19 is not stopped, there can be a risk of unavailability of best care to the patients of cancer.

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