

Biomarkers, Pathogenesis and COVID-19 Link in Digestive System Cancers

Clement Park*

Department of Oncology, Medical University of Gdansk, 80-414 Gdańsk, Poland

Introduction

The intricate relationship between cancer and infectious diseases has gained substantial attention in recent times. Among the most prevalent types of cancer, those affecting the digestive system pose significant health challenges. Digestive system cancers, including esophageal, stomach, liver, pancreatic, colorectal and other related malignancies, collectively account for a substantial portion of cancer-related morbidity and mortality worldwide [1]. These cancers share common risk factors, such as lifestyle choices and genetic predisposition, which also intersect with the vulnerabilities associated with COVID-19. Understanding the interplay between biomarkers, pathogenesis and the potential impact of COVID-19 on digestive system cancers is a pressing area of research. With lifestyle changes, digestive system cancer incidence and mortality are increasing gradually worldwide, where digestive system cancers significantly harm human health. Statistically, digestive system cancer incidence comprises ~30% of cancer cases worldwide and ~40% of deaths related to cancer worldwide. Oral Cancer (OC), Esophageal Cancer (ESC), Gastric Cancer (GC), Colorectal Cancer (CRC), Hepatocellular Cancer (HCC), Bile Duct Carcinoma (BDC) and Pancreatic Cancer (PC) are the most common cancers of the digestive system [2,3].

Description

Biomarkers, often molecular or cellular in nature, offer a promising avenue for early cancer detection, risk assessment and treatment response prediction. In the context of digestive system cancers, biomarkers hold potential for elucidating the underlying pathogenesis and facilitating personalized therapeutic approaches. Shared genetic mutations, signaling pathways and molecular alterations have been identified across various digestive system malignancies, suggesting a common pathogenic framework [4]. Moreover, the emergence of the COVID-19 pandemic has added a layer of complexity, as the virus may exploit pre-existing vulnerabilities within individuals with cancer, potentially exacerbating disease progression. The association between COVID-19 and digestive system cancers is multifaceted. The immune system, already compromised in cancer patients, may be further suppressed by the virus, potentially influencing cancer growth and treatment outcomes. Additionally, the inflammatory response triggered by both the virus and cancer might synergistically contribute to disease severity. Furthermore, disruptions in cancer care and delays in diagnosis due to pandemic-related healthcare strains could impact patient outcomes [5].

Conclusion

The convergence of biomarkers, pathogenesis and the COVID-19 link in

*Address for Correspondence: Clement Park, Department of Oncology, Medical University of Gdansk, 80-414 Gdańsk, Poland, E-mail: parkclement@yahoo.com

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digestive system cancers underscores the need for comprehensive research endeavours. Identifying common molecular markers across these cancers could revolutionize early detection strategies and therapeutic interventions. Concurrently, investigating how COVID-19 interacts with the biological processes underpinning these cancers can provide insights into optimizing patient care during pandemic scenarios. Collaborative efforts between oncologists, immunologists, virologists and other researchers are pivotal in advancing our understanding of these complex interactions. As we navigate through the challenges posed by both cancer and infectious diseases like COVID-19, a holistic approach that considers the intertwined factors of genetics, molecular pathways and immune responses will be crucial. Ultimately, this research not only has the potential to enhance our grasp of digestive system cancers but also to inform strategies for managing cancer patients in the context of global health crises.

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Conflict of Interest

There are no conflicts of interest by author.

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