

ИНФЕКЦИОННЫЕ БОЛЕЗНИ И ФТИЗИАТРИЯ

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ВЛИЯНИЕ COVID-19 НА ПИЩЕВАРИТЕЛЬНУЮ СИСТЕМУ

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THE EFFECT OF COVID-19 ON THE DIGESTIVE SYSTEM**

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Аннотация. В данной статье описаны симптомы, связанные с пищеварительной системой, которые могут быть вызваны новой коронавирусной инфекцией.

Annotation. This article describes the symptoms associated with the digestive system that can be caused by a new coronavirus infection.

Ключевые слова: пациент, симптом, коронавирус, пищеварительный, ковид-19.

Keywords: patient, symptom, coronavirus, digestive, covid-19.

Introduction

The new coronavirus disease is currently causing a major pandemic. It is caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), a member of the Betacoronavirus genus that also includes the SARS-CoV and Middle East respiratory syndrome coronavirus. While patients typically present with fever and a respiratory illness, some patients also report gastrointestinal symptoms such as diarrhea, vomiting, and abdominal pain. The article presents the results of studying the effect of a new coronavirus infection on the digestive system. The aim of the article is to study the effect of a new coronavirus infection on the digestive system.

Materials and methods of research

A survey of 318 people with COVID-19 in the period 2020 – 2021 on the presence of symptoms of diseases of the gastrointestinal tract was conducted. [4] Type of study-case reports. The analysis of the data obtained was carried out using an online service for creating feedback, online testing, and Google form surveys.

The results of the research and their discussion

COVID-19 is an acute viral infectious disease that can occur in humans in several forms. In most cases (about 80%) it leads to damage to the upper respiratory tract. Much less often, the coronavirus causes severe pneumonia, with pulmonary edema and distress syndrome. This course of the disease often ends with the death of patients.

Chinese doctors at the beginning of the epidemic drew attention to another sign of the coronavirus that causes diarrhea. It occurs due to the fact that "covid", in addition to the lungs, affects the human intestine. In this case, the patient also experiences nausea and vomiting. Such a course of the disease is often called the "gastric" or "intestinal" form of COVID-19.

"Gastric" symptoms of coronavirus appear at the earliest stages of the development of the disease. Moreover, Chinese doctors claim that they occur much earlier than the respiratory manifestations of the disease. We can say that the coronavirus begins with diarrhea. And in some patients, the rest of the symptoms do not appear at all. Diarrhea with coronavirus can last from 4 to 7 days.

The clinical picture differs from patient to patient. Almost all of them complain of lack of appetite, nausea, rapid and loose stools. Often, mucus is present in the secretions. In severe cases, this is also accompanied by severe vomiting, as well as abdominal pain. Chinese doctors drew attention to several features:

1. In patients with diarrhea, the main symptoms appeared later than in the normal course of the disease;
2. Patients with digestive manifestations of the disease, as a rule, recovered later by 2-3 days than patients with a respiratory form of pathology;
3. Cases are described when patients with coronavirus with diarrhea did not have shortness of breath and cough, only high fever, malaise and weakness were observed.

The above features are interesting, but still difficult to explain – we do not understand the pathogenesis of the coronavirus very well. American scientists have concluded that the "gastric" form of coronavirus often develops in people with chronic diseases of the digestive tract. Some doctors say that the coronavirus especially often affects the digestive system in children.

A distinctive feature of diarrhea in coronavirus infection from ordinary diarrhea is the concomitant respiratory symptoms.

Vomiting. A study conducted by Beijing scientists found that vomiting as a symptom of COVID-19 was more common in children than in adults.

The researchers analyzed all clinical reports on coronavirus infection that mention digestive problems published from December 2019 to February 2020. As a result, about 15.9% of adults and about 66.7% of children suffered from vomiting.

The authors also noticed that the number of patients with gastrointestinal disorders increased significantly at the end of the epidemic. This may be due to a decrease in the virulence of the virus.

Loss of appetite. Along with obvious gastroenterological symptoms, many patients complained of a complete lack or decrease in appetite. This was reported by about 50% of people.

Other symptoms of the gastrointestinal tract. The already mentioned Beijing study reports some other symptoms of digestive disorders: from 1 to 29.4% of people complained of nausea; 2.2-6% suffered from abdominal pain; 4-13.7% developed gastrointestinal bleeding.

In the study, including 318 adult patients who were hospitalized with COVID-19, 195 patients (61%) reported at least one digestive symptom, and the most commonly reported symptoms were anorexia in 110 patients (35%), diarrhea in 107 patients (34%), and nausea in 84 patients (26%).

The intensity of gastrointestinal manifestations depends on the premorbid background (the state of health before infection with COVID-19). Intestinal symptoms of coronavirus in most cases are registered in people, the so-called risk group. The activity of the virus in the gastrointestinal tract is caused by: weakening of the immune system; chronic pathologies of the digestive system (gastric ulcer, hypoacid and atrophic gastritis, cancer of the stomach and esophagus).[1-3,5-7]

In young children, damage to the digestive system may occur due to a lack of specific gastrointestinal immunoglobulins. In adults with an unencumbered premorbid background, indigestion is a rare symptom.

When the SARS-CoV-2 virus enters the gastrointestinal tract, it comes into contact with gastric juice, which includes hydrochloric acid (HCl), the antibacterial enzyme lysozyme and mucin (carbohydrate-protein mucus produced by the stomach). Up to 80% of the pathogen destroys HCl. Mucin helps to wash away and remove the remnants of the virus naturally.

Bloating in coronavirus, pain, and diarrhea occur for several reasons: the new pathogen is the closest "relative" of the SARS virus. Therefore, it quickly binds to the angiotensin converting enzyme, which is important for the functioning of the intestine; the infectious agent is also easily introduced into the epithelial tissue. It penetrates through certain types of receptors, of which there are many, including in the small intestine; one of the ways of transmission of infection is oral-fecal. Thus, it can first get into the digestive tract, only then capture the respiratory system; the fact that the stomach turns with the coronavirus, the pain worries and the assimilation of food is disturbed, the general intoxication of the body is also guilty. It is poisoned by the products of the pathogen's vital activity. Especially obvious signs are observed with an increase in temperature; it is assumed that COVID-19 particles negatively affect the intestinal microflora, destroying beneficial bacteria. This also disrupts its work, leading to spasms and diarrhea.

Conclusion

Coronavirus infection negatively affects the digestive system and causes symptoms such as diarrhea, vomiting and nausea. It is necessary to distinguish these symptoms from those of other pathologies not related to COVID-19, as the coronavirus can very quickly lead to death.

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ТЕЧЕНИЕ НОВОЙ КОРОНАВИРУСНОЙ ИНФЕКЦИИ (COVID-19) У
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