

# The Prevalence and Possibilities of Prevention of Noncardial Gastric Cancer in the Bukhara Region

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**Abstract** The results received by us specify that the residents of the Bukhara region for the period from 2015–2019 y a slight increase in the incidence of gastric cancer was noted against the background of an increase in the overall oncological incidence, and the ranking position in men and women was comparable with the WHO indicators. There is a tendency to an increase in the detection of GC during preventive medical examinations and to diagnostics in the early stages, a significant increase in the morphological verification of the diagnosis.

**Keywords** Gastric cancer, Prevalence, Prevention, Indicators, Bukhara region

## 1. Introduction

Gastric cancer (GC) is one of the most common malignant tumors that can affect any part of the stomach and spread to other organs, especially the esophagus, lungs and liver. According to the results of epidemiological studies, the risk of developing GC is highest in people from low-income groups [4,9].

About 1 million cases of GC are registered annually in the world, and more than 800 thousand people die from this disease within a year. In the vast majority of countries, the incidence of GC in men is 2 times higher than in women [3,5]. According to the WHO forecast, by 2020 the number of patients with malignant neoplasms will reach 16 million [1,7,10]. According to the forecasts of the participants in the Forum of Leaders on the Anti-Cancer Control in Central Asia (UICC, Tashkent, October 14-16, 2015.), cancer mortality by 2030 will be about 12 million human lives, which will have an impact on the overall mortality and aging of the planet's population [2,4,6].

In Uzbekistan, mortality from oncological diseases takes the second place after diseases of the cardiovascular system and makes up 9.0% in the structure of mortality [1]. At the same time, the oncological mortality rate tends to increase and over the past five years has increased to 5.0%. In the

Republic of Uzbekistan, about 100,000 patients are registered at the dispensary, with an annual initial identification of more than 23,000 cancer patients [1,3,6,9]. All 5 areas of treatment tactics recommended by the International Agency for Research on Cancer have been introduced in the republic. In 2018, more than 10,000 oncological surgical operations, more than 100,000 chemotherapy courses, and only about 3,000 cases of radiation therapy were carried out with the current need for radiotherapy for 16,000 patients [5,8].

In Uzbekistan, the proportion of newly diagnosed patients with stage III – IV GC exceeds 70%, when the treatment of such patients is rather complicated and in most cases is palliative in nature, aimed at some increase in life expectancy and improvement of its quality [1,4].

The incidence rate varies widely. Thus, according to the latest IARC publication, "Cancer on 5 Continents" (v.7), the maximum incidence of GC was observed in men in Japan (114.7), and the minimum in white women in the USA (3.1). It is quite obvious that the nature and dietary regimen influence the incidence rate of the population with GC [11,12]. The presence in the diet of a sufficient amount of plant foods and fruits, animal and plant proteins significantly reduces the risk of GC [6,8]. The highest rates are recorded, except for Japan, in China, Belarus, Russia, Estonia, Latvia and New Zealand. GC screening programs do not work anywhere except in Japan. The primary prevention of GC is hampered by the lack of a clear specific causative factor [10].

The purpose of the study is to conduct a retrospective analysis of statistical indicators and identify the causes of late diagnosis of non-cardiac GC in the population of the Bukhara region (BR).

## 2. Materials and Methods

A retrospective analysis of outpatient records and case histories in the Bukhara branch of the republican specialized scientific and practical center of oncology and radiology for the period 2015-2019 in the BR was carried out.

## 3. Results and Discussion

2015–2019 indicators of the general incidence of malignant neoplasms in the BR have a clearly observed growth trend (an increase of 7.44% in men and 3% in women). In the structure of the oncological morbidity of the inhabitants of BR, GC in men takes the second place after lung cancer, in women - the third place after neoplasms of the skin and breast. The incidence of GC in the population of BR in 2015 amounted to 39.2, in 2016 - 38.9, in 2017 - 39.5, in 2018 - 38.6, in 2019 - 36.1. The number of patients with a newly diagnosed GC in 2019 was 108 people, an increase of 13% compared to 2015 (94 people). During preventive medical examinations, the detection rate of malignant neoplasms of the stomach in BR is very low, in 2015–2019, it amounted to 0.3%, and in 2019 increased to 3%, which may be due to the beginning of the widespread use of esophagogastroduodenoscopy with biopsy and radiography of the esophagus, stomach, intestines when examining people at risk. During the study period, there was a significant increase in morphological verification in individuals with a first-time diagnosis of gastric cancer. Thus, morphological confirmation in 2015 was received in 59.2% of cases, in 2016 - in 64.3%, in 2017 - in 84.5%, in 2018 - in 86.4%, in 2019 - in 92.4% of cases. There is a tendency to increase the detection of GC in the early stages. In 2015, the number of patients with stage I – II stage of GC was 14.6%, in 2016 - 13.5%, in 2017 - 19.4%, in 2018 - 17%, in 2019 - 20% of the total number of patients with a first-time diagnosis. At the same time, in the current year, compared with 2015, there is a 12% increase in the number of patients with stage III GC, and the number of newly diagnosed patients with stage IV cancer is almost unchanged, averaging 38.6%.

For 5-year survival, in 2019 there was an increase in the number of patients by 12% compared to 2015. But, unfortunately, mortality after GC was reduced in 2019 by 15% compared to 2015.

The distribution of patients with GC by gender revealed a gradual annual prevalence of the number of men and a decrease in the number of women. So, in 2015, the number of men and women with GC was 51.71% and 48.29%, and in 2019 - 57.63% and 42.37%, respectively. Most often, GC in

men was diagnosed at 50–75 years old, and in women at 65–80 years old. It should be noted that isolated cases of this pathology also occurred at the age of 25–35, which indicates the rejuvenation of GC.

In the second stage, the possible causes of GC were identified in the population of BR. Possible causes of non-cardiac GC are due to an increase in the abuse of men by alcohol, tobacco smoking and, accordingly, an increase in the incidence of gastritis associated *H. pylori*, which are precancerous diseases. Also, the dependence of the incidence of GC on the lack of consumption of ascorbic acid, excessive consumption of salt, pickled, fried, smoked foods, spicy foods, and animal oil has been proved. In addition, heredity played an important role in the occurrence of GC. It was found that in patients with atrophic gastritis, which is accompanied by a decrease in the secretion of hydrochloric acid and a change in the microflora of the stomach, the risk of developing GC is 6-8 times higher than in patients without atrophic gastritis.

In addition, it was found that after identifying the above causes, patients were not observed by a gastroenterologist, endoscopic examination, and also eradication therapy were not performed.

Based on the above possible factors, it is possible to develop measures for the primary prevention of non-cardiac GC:

1. Questioning and preliminary formation of risk groups for GC with the mandatory inclusion in these groups of all cancer patients with verified locally advanced cancer of any location.
2. Serological screening - *H. pylori* IgG.
3. A comprehensive endoscopic examination of the upper gastrointestinal tract.
4. If there is a suspicion of early GC or its detection, if possible, a morphological, immunohistochemical study of biopsy samples of the mucous membrane, and if there is dysplasia, consult an oncologist.

## 4. Conclusions

The residents of BR for the period from 2015–2019, a slight increase in the incidence of GC was noted against the background of an increase in the overall oncological incidence, and the ranking position in men and women was comparable with the WHO indicators. There is a tendency towards an increase in the detection of GC during preventive medical examinations and diagnostics in the early stages, a significant increase in the morphological verification of the diagnosis.

Thus, at present, we have the opportunity to use refinement methods that make it possible to verify with a high degree of certainty even tumors of the stomach of extremely small sizes. This, in turn, will make it possible to successfully carry out primary cancer perception of non-cardiac GC in the BR.

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