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INCIDENCE OF ESOPHAGEAL CANCER AMONG MEN AND WOMEN IN THE REPUBLIC OF KARAKALPAKISTAN

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ABSTRACT

The article is based on a study of the prevalence of esophageal cancer in the Republic of Karakalpakstan. During the study, the dynamics of the incidence of esophageal cancer among men and women in the Karakalpakstan Republic and regions was compared. During the study period (2011-2021), 1672 patients with newly diagnosed RP were registered in the Republic of Karakalpakstan. Of these, 38.6% - in men and 61.4% in women, women had one and a half times more cases than men. But in the last 5 years (2017-2021) in the male and female population of the Republic of Karakalpakstan, intensive indicators in the incidence of esophageal cancer have decreased compared to the previous years.

Key words: esophageal carcinoma, incidence, men, women.

INTRODUCTION

Malignant tumors of the esophagus are among the most prognostically unfavorable oncological diseases of the gastrointestinal tract [6,7,9]. Approximately 80% of all cases of esophageal cancer are diagnosed in developing countries, where the dominant histological form is squamous cell carcinoma. At the same time, adenocarcinoma, with rare exceptions, is found only in industrially developed countries. Esophageal cancer incidence is characterized by marked

geographic variability, with a 100-fold or greater difference between the highest and lowest rates. The highest incidence (>150) is noted in Iran and other countries of the so-called Caspian belt, namely, in some areas of Turkmenistan and Kazakhstan adjacent to the Caspian Sea, as well as in Karakalpakstan, and in these regions endemic for esophageal cancer, the incidence is high among both men and women. The incidence of esophageal cancer in the Muynak region of Karakalpakstan is 126 among men and 150 among women. Other areas of high incidence include certain regions of China. High incidence is also observed in Zimbabwe among black men (19). In developed countries, relatively high incidence of esophageal cancer (>10) is recorded in France (Calvados–17) and in the USA among black men (11). In Russia, the incidence of esophageal cancer is relatively low (St. Petersburg: men - 8, women - 2) and is comparable with similar indicators in other European countries. However, in some regions, for example in Yakutia, the incidence of esophageal cancer is significantly higher. A very high incidence of esophageal cancer (more than 150) is observed among the small peoples of the North and Far East of Russia. Mortality from esophageal cancer correlates with incidence rates and has the same geographical features. The incidence of esophageal cancer is decreasing in most countries of the world, including Russia [3,8]. However, in a number of developed countries in recent years there has been an increase in the incidence of adenocarcinoma of the cardiac part of the esophagus, which, according to data from a number of cancer registries, accounts for more than 50% of all cases of esophageal cancer. In esophageal cancer, 5-year survival ranges from 5–12% and remains unchanged for two decades [3,4]. They are characterized by a latent aggressive course, a high prevalence of the tumor process at the time of diagnosis, early and extensive lymphogenous metastasis, high mortality, even after radical surgery. The disease manifests itself early, however, the results of early diagnosis cannot be considered satisfactory [2,4,9].

Purpose of the study. The purpose of this study was to conduct an epidemiological assessment of incidence rates of esophageal cancer in the Republic of Karakalpakstan for the period 2011–2021, as well as incidence rates among the male and female population for the same period.

Material and methods.

The information basis was the data from the official reporting documentation of the oncology dispensary of the Republic of Karakalpakstan (form No. 7 “Information on malignant neoplasms” for 2011–2021) and data from state statistics of the Republic of Karakalpakstan on the population (by district) [1]. Since the absolute numbers of cases fluctuated during the year, the situation was

assessed in two-stage periods: (2011–2015, 2016–2021). The absolute number, intensity indicators, growth rate, and incidence rates were calculated [10,11]. Statistical processing of the material was carried out using applied computer programs.

The discussion of the results.

During the study period (2011-2021), 1,672 patients with a newly diagnosed esophageal cancer were registered in the Republic of Karakalpakstan. Of these, 38.6% were in men and 61.4% in women; women had one and a half times more cases of the disease than men, including the incidence of esophageal cancer, which remained virtually unchanged from 0.1 in 2011 to 0.1 in 2016 per 1,000 population. In 2017, this figure dropped to 0.09 (Table 1).

Table 1

Esophageal cancer between continents of registered patients

Indicator	Disease registered at first diagnosis										
Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1000 people	0,1	0,05	0,1	0,08	0,09	0,1	0,08	0,08	0,06	0,07	0,09
Absolute value (modulus) of a real number.	170	88	177	142	163	184	150	150	127	151	170

Due to the uneven spread of the disease over time, the studied indicators were conditionally analyzed according to two indicators.

According to the Republic of Karakalpakstan, 924 cases of esophageal cancer were registered in 2011-2016, and 748 in 2017-2021. The intensity rates were 0.08 and 0.07 per 1000 inhabitants, respectively, a decrease of 0.14% was observed. Over the past 5 years (2017-2021), a decrease in the incidence of esophageal cancer was observed in the male and female population of the Republic of Karakalpakstan compared to previous years (Table 2).

Table 2

Dynamics of esophageal cancer incidence rates among the population in the Republic of Karakalpakstan

Period	Intensity indicators , $^{0}/_{0000}$	
	Men	Women
2011-2016yy.	0,4 (0,35-0,45)	0,6 (0,65-0,56)
2017-2021yy.	0,35 (0,36-0,35)	0,49 (0,46-0,52)
Growth rate between 2011-2016 and 2017-2021, %	-12,5%	-18,3%

In the structure of esophageal cancer incidence among the population in 2011–2021 by age structure, the maximum proportion of esophageal cancer in men was observed in the following age groups: 45–59 years (61.2%), 60+ years (77.5%), and in women – 45–59 years (35%), 60–64 years (25%) and 65–69 years (31%). Over the past few years, the share of this disease in the structure of oncopathology among the population in this region in these age categories has remained unchanged. The increase in the incidence rate in men occurred due to an increase in age indicators, i.e. at the age of 60+ years. Indeed, in the region, the incidence of malignant tumors of the esophagus increases with age (Table 3). In the female population, there was a tendency for the incidence rates to decrease at 45-60 years of age, and their increase at 60+ years of age.

Table 3.

Age	Men		Women	
	2011-2016	2017-2021	2011-2016	2017-2021
0-18	0	0	0	0
19-44	0,28 (0,23-0,33)	0,26 (0,27-0,25)	0,49 (0,65-0,33)	0,61 (0,66-0,57)
45-60	1,6 (1,48-1,67)	0,8 (0,77-0,83)	2,1 (2,73-1,56)	1,7 (2,25-1.3)
60+	2,2 (1,84-2,56)	2,54 (2,58-2,5)	3,47 (3,15-3,79)	3,6 (3,9-3,37)

Conclusion. Thus, in the population of the Republic of Karakalpakstan over the past 11 years, there has been a tendency for the incidence of esophageal cancer to increase compared to previous years. The increase in incidence among men and women is observed mainly at an older age. The disease has an unfavorable prognosis, since the detection rate of patients with a diagnosis of malignant neoplasm at stages I–II for the first time in their life is 25.2%, which limits the possibility of radical treatment. Therefore, the issue of early diagnosis of esophageal cancer is acute, in which an important role should be given to screening with regular endoscopic examination of mature and elderly patients.

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