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ACTIVE DETECTION OF COLORECTAL CANCER IN ANDIJAN REGION

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SUMMARY
The article discusses the active identification of individuals *with risk factors for colorectal cancer in the Andijan region . Active detection of CRC in 2019 was 25.5%, which was associated with low detection of CRC at an early stage (6.04% - stage 1, 64.4% - stage 2, 18.8% - stage 3, 10.7% - Stage 4).*
KEY WORDS . *Colorectal cancer , detection, screening, prevention.*

RELEVANCE

Colorectal cancer (CRC) is the third leading cause of cancer mortality in the world. The incidence of CRC is increasing, especially in developing countries. The tumor is colorectal adenocarcinoma, which develops from glandular epithelial cells of the colon. In pathogenesis - a genetic or epigenetic mutation of a certain cell[1] . Abnormal activation of replication and inhibition of apoptosis leads to the formation of a benign adenoma, which subsequently evolves into carcinoma and metastasizes [2,5].

The primary function of the large intestine is the reabsorption of water, minerals and chyme nutrients. The lumen of the colon contains microflora that breaks down the remaining large molecules. To enhance reabsorption, the epithelium is organized along the axis of cristae and villi. Colon stem cells are located at the bottom of the cristae. The function of stem cells is self-renewal and regeneration of the intestinal epithelium [7,9]. As cells differentiate, they migrate from the bottom of the cristae toward the tip of the villus. Differentiated epithelial cells include various populations, including Paget cells, enteroendocrine cells, and enterocytes. After reaching the apex of the villi after 14 days, the cells enter a state of apoptosis and are eliminated with fecal masses [10]. This process is regulated by signaling proteins and growth and transformation factors [11].

CRC is a heterogeneous group of diseases pathogenetically caused by various variants of mutations, which explains the difficulty in developing molecular therapies [4] . Surgery remains the primary treatment option when the disease is diagnosed early, but its effectiveness is reduced in the case of long-standing, complicated, metastatic tumors, which account for up to 25% of all newly diagnosed cases [6,14] . In these patients, neoadjuvant cytotoxic therapy is a treatment option, but tumor recurrence and progressive drug resistance remain a problem [13,15] .

An accurate understanding of the mechanisms of development of colorectal cancer, external and genetic risk factors, and molecular evolution will make it possible to develop variants of patient management tactics in order to prevent the risk of development and progression of pathology.

PURPOSE OF THE STUDY

And a study of the active detection of colorectal cancer in the Andijan region .

MATERIALS AND METHODS OF RESEARCH

We conducted a retrospective study , during which we analyzed epidemiological data on the characteristics of the incidence of colorectal cancer in the Andijan region of Uzbekistan based on the archives of the Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology for 2016-2019; and prospective, during which the results of our own colonoscopic screening were analyzed and an algorithm for population-based CRC screening was developed. And we analyzed data from the archives of the Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology for 2016-19. The annual statistics of morbidity, primary morbidity, active detection, detection depending on the stage of the tumor, mortality and survival associated with CRC were studied.

RESULTS

A study of the active detection of colorectal cancer (that is, detection during preventive examinations) showed that only 38 patients (25.50%) were identified during medical examinations. At the same time, in rural areas, active detection was 28.57% (32 out of 112 cases), in the city - 16.22% (6 out of 37, chi square = 2.44, n.d.), that is, the availability of preventive medicine is comparable in the city and rural areas . Among women, 21.88% of patients were actively identified (14 out of 64 people), among men - 28.24% (24 out of 85, chi square = 0.84, n.d.).

Active detection of rectal cancer was observed in 29.41% of cases, recto-sigmoid junction - 23.53%, colon - 19.57% (Fig.

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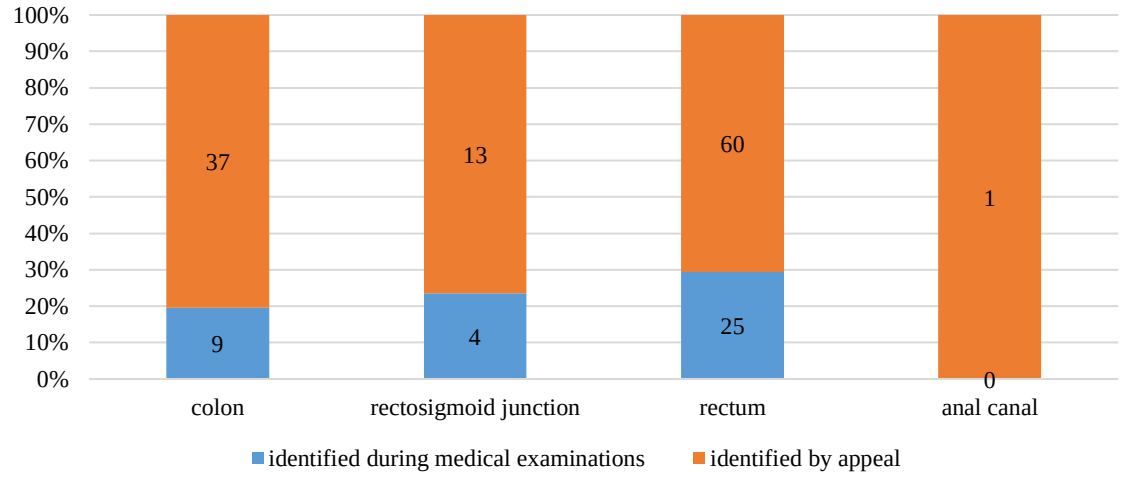
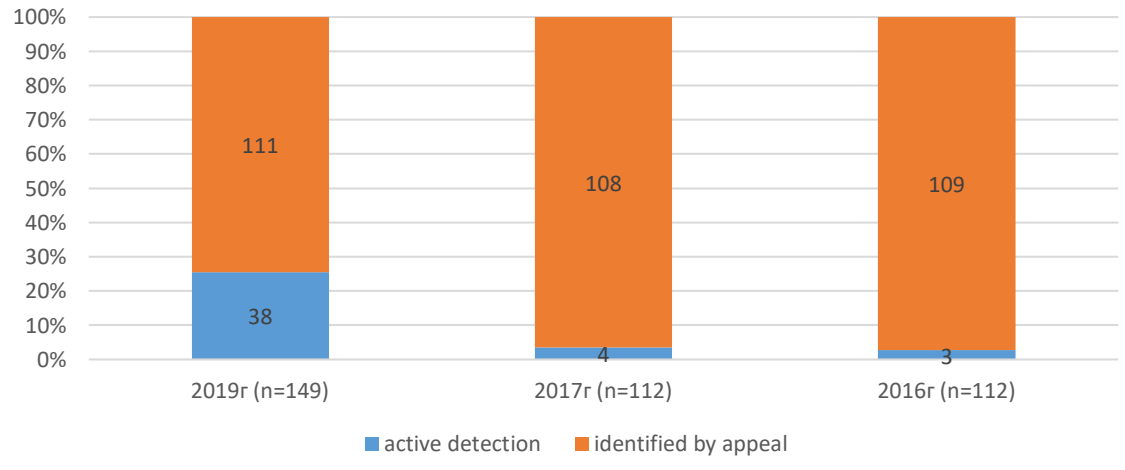
1). The patient with anal cancer was also not identified during a medical examination. Thus, the probability of active detection of colorectal cancer in the population of the Andijan region in 2019 did not depend on the location of the tumor (chi square = 1.91, n.d.).

Fig. 1. Active detection of colorectal cancer of various localizations in the Andijan region according to 2019 data (chi square = 1.91, n.d.)



A comparison of the active detection rate over time from 2016 to 2019 (Figure 1) showed that in 2019, during preventive examinations, a significantly larger proportion of patients with colorectal cancer were identified compared to 2017 and 2016 (25.50% versus 3.57% and 2.68%, respectively, chi square = 42.28, $p < 0.001$), which indicates significant progress in the aspect of early detection of colorectal cancer and preventive health care.

Fig. 2 the proportion of patients with colorectal cancer actively detected among all newly diagnosed patients in 2016-2019 in the Andijan region



Also in terms of diagnosis: by 2019, the diagnosis of colorectal cancer was confirmed morphologically in 100% (Fig. 2), while in 2016 and 2017 this figure was significantly lower (92.79% and 92.86%, respectively, chi square = 11.17, $p < 0.01$).

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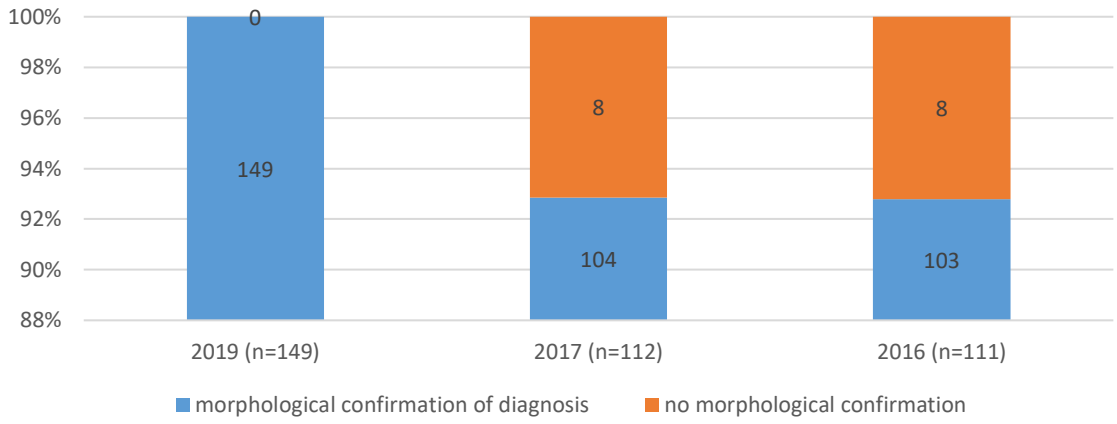
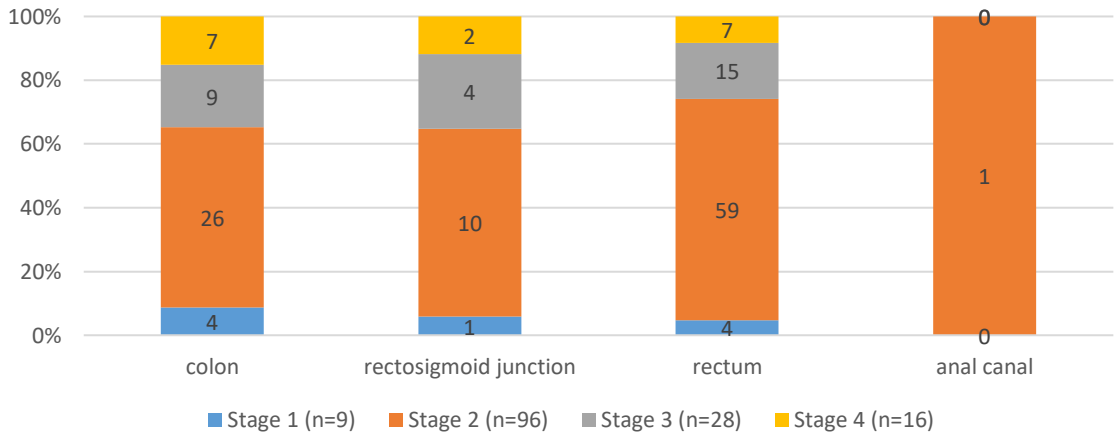
Fig. 3 Proportion of morphologically confirmed diagnoses in patients with colorectal cancer first registered in 2016-2019 (chi square=11.17, p<0.01)



Among patients with colorectal cancer newly diagnosed in 2019, the disease was most often detected in the 2nd stage (64.4%), less often in the 3rd and 4th stages (18.8% and 10.7%, respectively), the most It was rarely possible to detect the disease in the first stage, when minimally invasive therapeutic intervention is possible. Thus, the analysis shows the insufficient effectiveness of preventive CRC screening.

The frequency ratio of the stages at which CRC was detected was comparable for all tumor locations (Fig. 4).

Fig. 4 Frequency of distribution of CRC cases by stage and localization at the time of primary diagnosis among patients identified in 2019 in the Andijan region (n= 3.85, n.d.)



In the dynamics of observation since 2016, there was an improvement in the efficiency of the preventive diagnostics service for CRC (Fig. 5): the proportion of patients detected at the first stage of CRC increased from 0.9% to 6%, and the proportion of patients detected at the 3rd and 4th stages – decreased from 39.6% to 29.5% (reliability of frequency difference between all observation points = 16.02, $p < 0.05$).

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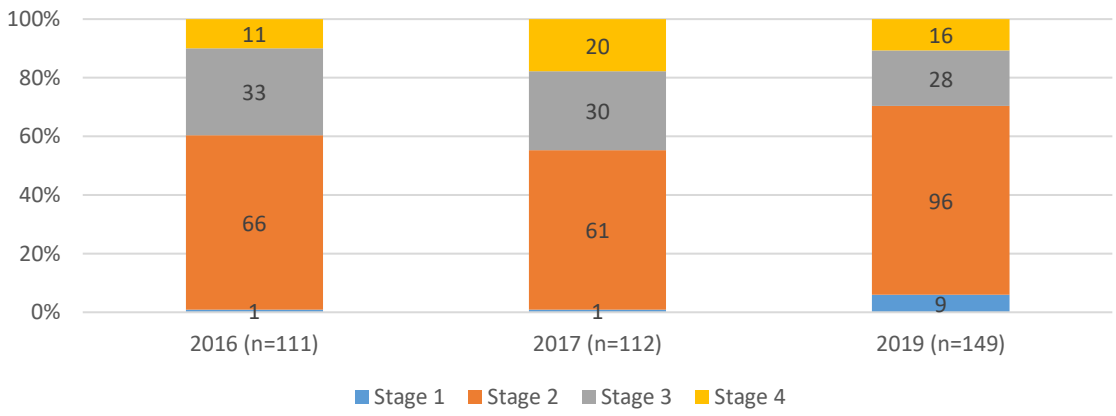
Fig. 5 Dynamics of the ratio of CRC stages during primary diagnosis in the Andijan region of the Republic of Uzbekistan for 2016-2019 (chi square = 16.02, p < 0.05)



CONCLUSIONS

Active detection of CRC in 2019 was 25.5%, which was associated with low detection of CRC at an early stage (6.04% - stage 1, 64.4% - stage 2, 18.8% - stage 3, 10.7% - Stage 4).

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