PROSTATE CANCER EPIDEMIOLOGY IN THE EAST KAZAKHSTAN REGION, 2010-2019

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ABSTRACT

Relevance: From 2010 to 2019, prostate cancer incidence increased, and prostate cancer mortality decreased in Kazakhstan. The peak incidence was observed in patients aged 70 years and older. The East Kazakhstan region had a higher incidence and mor-tality from prostate cancer than the national average.

The study aimed to assess the indicators of prostate cancer epidemiology in the East Kazakhstan region from 2010 to 2019.

Methods: The study calculated prostate cancer incidence, mortality, one-year and five-year survival, and early detection from 2010 to 2019. The statistical significance was assessed by the one-factor linear regression method. Intensive epidemiological in-dicators were calculated per 100 000 male population.

Results: The prostate cancer incidence in East Kazakhstan increased from 2010 to 2019, while the mortality rate increased slightly. There was a statistically significant upward trend for incidence (p=0.009) and a statistically insignificant trend for mortali-ty (p=0.900).

One-year survival with prostate cancer tended to decrease. However, the trend of one-year survival rates had no statistical significance (p=0.202).

Five-year survival with prostate cancer in East Kazakhstan during the study peri-od tended to decrease. However, the trend in the five-year survival rates of patients with prostate cancer in East Kazakhstan had no statistical significance (p=0.826).

Early detection of prostate cancer in the early stages remained sustainable in the range of 72.7-77.4. In 2019, this indicator decreased to 63.2%.

The share of prostate cancer cases detected at stage III tended to increase. The proportion of prostate cancer cases detected at stage IV tended to decrease during the study period.

Conclusion: The prostate cancer epidemiological rates in East Kazakhstan were unstable in the study period. The incidence tended to increase; the mortality rate fluctu-ated within small limits and remained sustainable. The one-year survival rate tended to decrease. The five-year survival rate was slightly increasing. There was an increase in the detection of prostate cancer at stage III, while the detection at stage IV tended to decrease. Early detection of prostate cancer has decreased with an increase in detection at stage III. The proportion of prostate cancer cases detected at stage IV in the study pe-riod tended to decrease.

Keywords: Prostate cancer, incidence, mortality, survival, the East Kazakhstan region.

Introduction: Oncological diseases lead among the causes of death globally and are the main obstacles to increasing life expectancy [1]. According to the World Health Organization, cancer has become the first or second leading cause of death in people below 70 years in 112 out of 183 countries and ranked third or fourth in 23 more countries in 2019 [2]. Worldwide, the burden of cancer incidence and mortality is growing due to population aging and growth and the changes in the prevalence and distribution of major cancer risk factors, including those related to socioeconomic development [3, 4].

Prostate cancer was the second most common cancer and the fifth leading cause of cancer death among men in 2020. Almost 1.4 million new cases and 375,000 deaths from prostate cancer were registered in the world. Prostate cancer was the most common cancer in men in 112 countries, followed by lung cancer (in 36 countries), colorectal cancer, and liver cancer (in 11 countries). Lung cancer was the leading cause of cancer mortality in men in 93 countries, followed by prostate cancer (48 countries) and liver cancer (23 countries). In 2020, prostate cancer ranked second in countries with a high human development index, with a prevalence of 37.5 per 100,000 population, and ranked first in countries with a low human development index, with a prevalence of 11.3 per 100,000 population [1].

In Kazakhstan, prostate cancer incidence rose sharply from 2010 to 2019 due to the implementation of screening for prostate cancer by detecting serum pros-tate-specific antigens. However, in 2015-2016, there was a decrease in prostate cancer mortality in Kazakh-stan. In East Kazakhstan, prostate cancer incidence and

mortality were above the national average [5]. One of the reasons for that was a challenging environmental situation due to the chemical pollution from the extensive industrial production in Ust-Kamenogorsk – the administrative center of the East Kazakhstan region [6]. Radiation exposure from the long-term operation of the Semipalatinsk nuclear test site in East Kazakhstan also worsened the epidemiological situation for oncological diseases [7].

The study aimed to assess the indicators of prostate cancer epidemiology in the East Kazakhstan region from 2010 to 2019.

Materials and methods: Data for the analysis was obtained from official statistical sources: Form No. 35 Annual "Report on patients with malignant neoplasms" and statistical materials "Indicators of the Oncological service of the Republic of Kazakhstan" from 2010 to 2019. The study calculated epidemiological indicators for prostate cancer, including incidence, mortality, one-year and five-year survival, and early detec-

tion since stage I-II cases are the most favorable from the point of effective treatment and patient survival. The study included all registered incidence and mortality cases for the study period. Intensive epidemiological indicators were calculated per 100,000 males.

Statistical processing was made using the Statistical Package for the Social Sciences (SPSS) version 20.0 for Windows (Semey State Medical University). The average long-term epidemiological indicators for the specified period were calculated. One-factor linear regression was used to analyze and evaluate the statistical significance of the trends revealed [8]. The study results were presented in arithmetic averages for the average incidence levels for the studied period and non-standardized linear regression coefficients (B) with 95% confidence intervals (CI). For each regression coefficient, the achieved statistical significance was recorded.

Results: Figure 1 shows prostate cancer incidence and mortality dynamics in East Kazakhstan from 2010 to 2019. The figures are provided per 100,000 males.
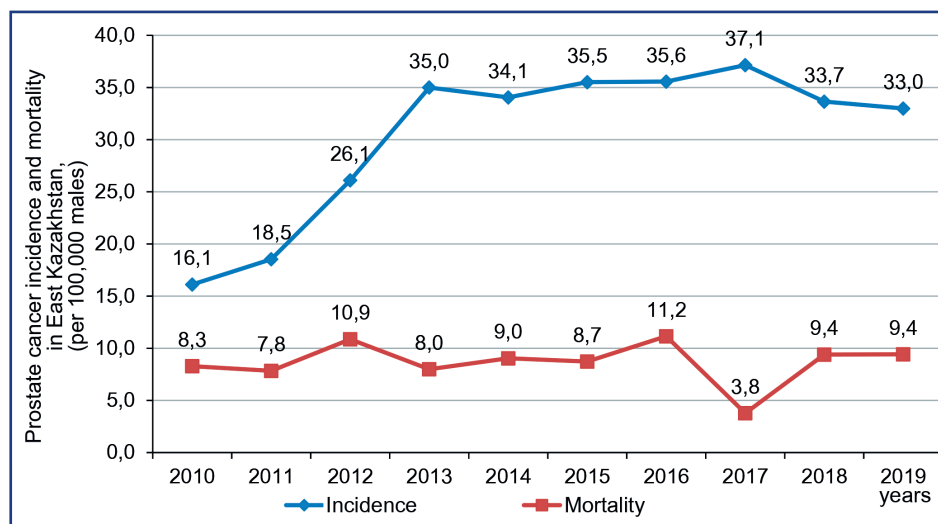

Figure 1 – Dynamics of prostate cancer incidence and mortality in East Kazakhstan, 2010-2019 (per 100,000 males)

According to Figure 1, prostate cancer incidence in East Kazakhstan increased significantly: from 16.1 in 2010 to 35.0 in 2013, obviously due to the implementation of prostate cancer screening by detecting serum prostate-specific antigens. Then the prostate cancer incidence rate decreased to 34.1 in 2014, slightly increased to 37.1 in 2017, and then decreased to 33.0 in 2019.

Prostate cancer mortality in East Kazakhstan fluctuated within small limits: from 8.3 in 2010 to 10.9 in 2012. Then there was a slight increase to 11.2 in 2016, a sharp decrease to 3.8 in 2017, and another increase to 9.4 in 2019.

Trend analysis showed a statistically significant upward incidence trend (B=0.31; 95% CI: -0.01, 0.52; p=0.009) and a statistically insignificant mortality

trend (B=-0.07; 95% CI: -1.27, 1.14; p=0.900) during the study period.

The patients' one-year and five-year survival are key treatment effectiveness indicators, which depend on timely prostate cancer detection at early stages. Figure 2 shows the dynamics of one-year survival of prostate cancer patients in East Kazakhstan from 2010 to 2019.

The trends in one-year survival (Figure 2) demonstrated a wave-like fluctuation, decreasing to 36.8% in 2014. Then the one-year survival increased to 68.8% in 2016, dramatically decreased to 42.9% in 2017, and amounted to 33.3% in 2019. However, the regression analysis showed no statistical significance of changes in one-year survival (B=-0.114; 95% CI: -0.303, 0.075; p=0.202).
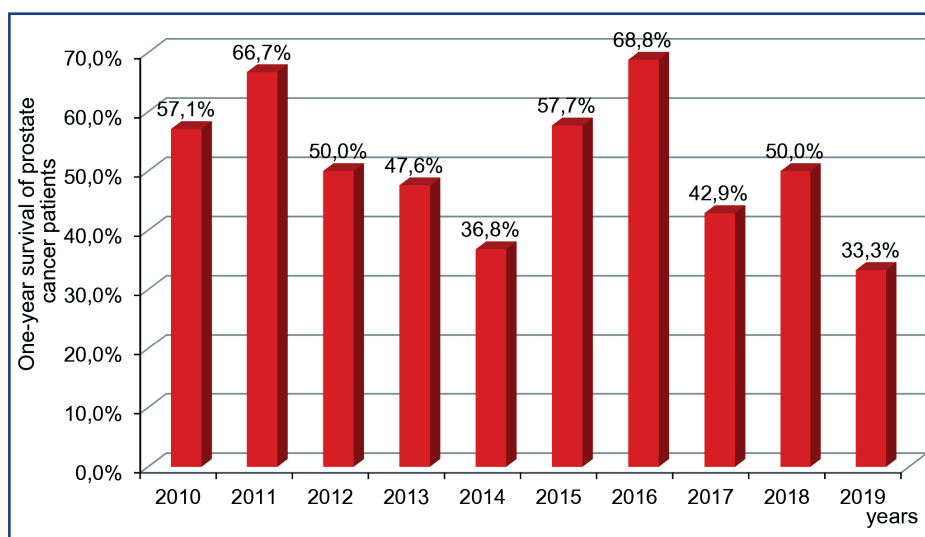
Figure 2 – Trends in one-year survival of prostate cancer patients, 2010-2019

The trends in the five-year survival of prostate cancer patients in East Kazakhstan from 2010 to 2019 are presented in Figure 3.

The dynamics of five-year survival of prostate cancer patients (Figure 3) showed that the five-year survival progressively decreased from 32.8% in 2010 to 17.5% in 2016 and began to increase in 2017, reaching 32.5% by 2019. However, the regression analysis showed no statistical significance of changes in five-year survival (B=-0.038; 95% CI: -0.428, 0.351; p=0.826).

Since the prostate cancer stage at detection is a critical prognostic factor for patient survival, early detection is crucial from both clinical and public health perspectives. Figure 4 shows the trends in prostate cancer detection by stages in East Kazakhstan from 2010 to 2019.
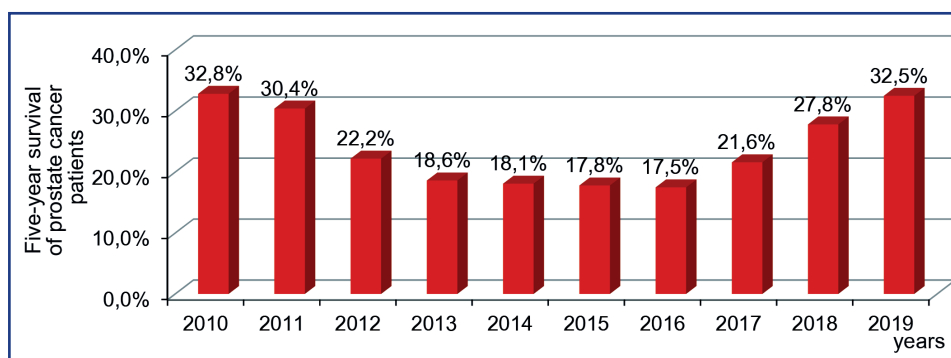

Figure 3 – Trends in five-year survival of prostate cancer patients, 2010-2019

As seen in Figure 4, in East Kazakhstan, during the study period, the share of prostate cancer detection at stages I-II increased from 55.7% in 2010 to 80.7% in 2013. The early prostate cancer detection rate varied from 72.7 to 77.4, with a decrease to 63.2% in 2019. The share of late prostate cancer detection (stages III and IV) tended to decrease. However, the share of prostate cancer cases detected at stage III, which equaled 21.7% in 2010, decreased to 10.5% in 2013 but reached 24.9% in 2019. The share of prostate cancer cases detected at stage IV decreased from 22.6% in 2010 to 12.0% in 2019. According to the regression analysis, the trend in early detection rate for prostate cancer was statistically insignificant (B=0.28; 95% CI: -0.01, 0.56; p=0.053).

One-year survival of prostate cancer patients in East Kazakhstan decreased from 66.7% in 2011 to almost twofold in 2014 but increased to 68.8% in 2016. Then, it decreased to 33.3% in 2019. However, the trend in one-year survival rates was not statistically significant (p=0.202).

The five-year survival of prostate cancer patients in East Kazakhstan during the study period decreased from 32.8% in 2010 to 17.5% in 2016. Then it increased and reached 32.5% in 2019. However, the trend in five-year survival of prostate cancer patients in East Kazakhstan was statistically insignificant (p=0.826).

In 2013-2015, in 11 regions of Kazakhstan, where the screening program was conducted, prostate cancer was detected at stages I-II in 1763 men (58.6%)

and stages III-IV – in 1244 (41.4%). In 5 regions with no screening, prostate cancer was detected at stages I-II in 372 men (43.5%), with 483 cases of prostate cancer detected at stages III-IV (56.5%) [9].
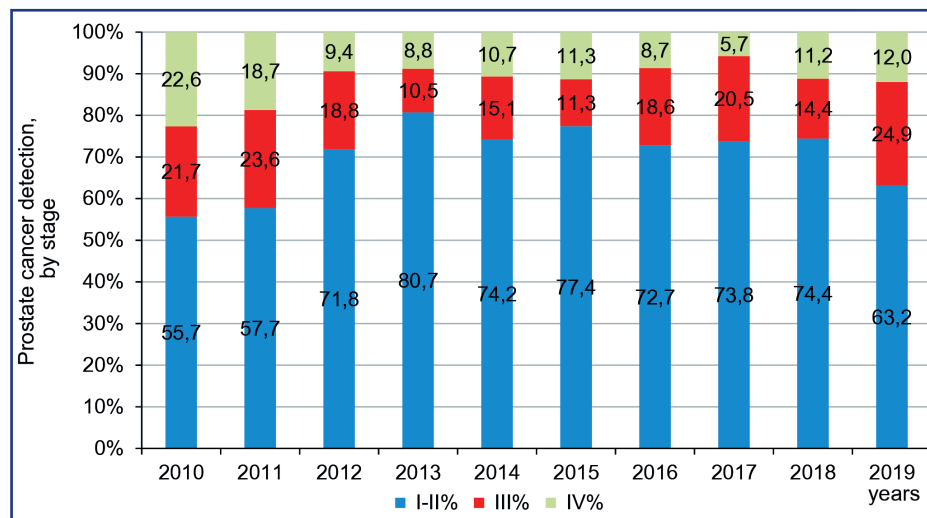

Figure 4 – Trends in prostate cancer detection by stage, 2010-2019

According to our study, early detection of prostate cancer in East Kazakhstan increased in 2013, remained stable between 72.7-77.4, and decreased to 63.2% in 2019. At that, the share of detection at late stages III and IV tended to decrease. Thus, the share of cases detected at stage III decreased till 2013 and then increased, reaching 24.9% in 2019. However, the share of cases detected at stage IV was decreasing.

Discussion: Prostate cancer incidence varies from 6.3 to 83.4 per 100,000 males in different regions of the world, with the highest rates in Northern and Western Europe, the Caribbean, Australia, New Zealand, North America, and South Africa, and the lowest rates in Asia and North Africa. Regional mortality rates correspond to the incidence. The highest mortality is registered in the Caribbean, Sub-Saharan Africa, and Micronesia/Polynesia. Prostate cancer is the leading cause of cancer death among men in 48 countries, including Sub-Saharan Africa, the Caribbean, Central and South America (Ecuador, Chile, and Venezuela), and Sweden [10].

In Kazakhstan, more than 1,200 new prostate cancer cases are registered yearly. This malignant pathology is more common in men of the Caucasian race than in Asians. Kazakhstan has a relatively high prostate cancer prevalence among elders. The number of patients with this pathology in Kazakhstan tends to increase [11].

Our study showed that the incidence rate in East Kazakhstan tended to increase from 2010 to 2019 and peaked in 2017, amounting to 37.1 per 100,000 males. The increase in prostate cancer incidence has been observed since 2013, when a screening program was introduced to detect serum prostate-specific antigens.

The prostate cancer mortality in East Kazakhstan was growing slightly. It peaked in 2016 at 11.2 per 100,000 males, then decreased to 9.4 per 100,000 male population. The upward trend was statistically significant for incidence (p=0.009) and statistically insignificant for mortality (p=0.900).

Survival rates are among the most important indicators to assess the quality of cancer control programs. Research shows an improving survival with prostate cancer [12]. However, studies on prostate cancer survival in Asia report contradictory results. In China, from 1992 to 2000, the five-year relative survival with prostate cancer amounted to 32.5% [13], while in South Korea, a study by K.W. Jung et al. registered a five-year survival of 67.2% in 1996-1999 and 93.3% in 2010-2014 [14-16]. In a study in Iran, the overall five-year survival rate was 36.1% [17]. In another study conducted among various ethnic groups in China for many years, the survival rate ranged from 26.6% to 78%, indicating a noticeable tendency to fluctuate and a significant difference between different ethnic groups [18]. A study by H. Xu et al. in China revealed a substantial difference in five-year survival with prostate cancer between patients with arterial hypertension (28.5%) and the control group (48.3%) [19].

Conclusion: The prostate cancer epidemiological rates in East Kazakhstan were unstable in the study period. The incidence showed a statistically significant upward trend, with no sharp fluctuations in mortality rates. The one-year survival showed a statistically insignificant decrease at a statistically negligible increase in the five-year survival. There was an increase in the detection of prostate cancer at stage III, while the detection at stage IV tended to decrease.

References:

1. Bray F., Laversanne M., Weiderpass E., Soerjomataram I. The ever-increasing importance of cancer as a leading cause of premature death worldwide // Cancer. – 2021. – Vol. 127(16). – P. 3029-3030. https://doi.org/10.1002/cncr.33587

2. World Health Organization (WHO). Global Health Estimates 2020: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2019. https://www.who.int/data/gho/data/themes/mortality-and-global-health-estimates/ghe-leading-causes-of-death. 11.12.2020.

3. Mattiuzzi C., Lippi G. Current cancer epidemiology // J. Epidemiol. Glob. Health. – 2019. – Vol. 9 (4). – P. 2-17. https://doi.org/10.2991/jegh.k.191008.001

4. Gersten O., Barbieri M. Evaluation of the Cancer Transition Theory in the US, Select European Nations, and Japan by Investigating Mortality of Infectious- and Noninfectious-Related Cancers, 1950-2018 // JAMA Netw. Open. – 2021. – Vol. 4(4). – Art. ID: e215322. https://doi.org/10.1001/jamanetworkopen.2021.5322

5. Erembaeva A. A., Bajyzbekova D. A., Ismailova A. D. Ocenka mnogoletnej dinamiki onkologicheskoj zabolevaemosti i smertnosti v Respublike Kazaxstan s pomoshh'yu modeli avtoregressii i prointegrirovannoj skol'zyashhej srednej // Zdravooxranenie Kyrgyzstana. – 2021. – №. 2. – S. 106-112 [Eremeeva A. A., Bayyzbekova D. A., Ismailova A.D. Evaluation of the long-term dynamics of cancer incidence and mortality in the Republic of Kazakhstan using an autoregression model and an integrated moving average // Healthcare of Kyrgyzstan. – 2021. – No. 2. – P. 106-112 (in Russ.)]. https://zdrav.kg/images/106-112.pdf

6. Xakimov M.K., Iskakov M.B. Dinamika onkologicheskix zabolevanij v gruppax radiacionnogo riska postradavshego naseleniya Vostochno-Kazaxstanskoj oblasti // Vestnik KGMA imeni I.K. Axunbaeva. – 2020. – T. 1. – №. 1. – S. 59-72. [Khakimov M.K., Iskakov M.B. Dynamics of oncological diseases in radiation risk groups of the affected population of the East Kazakhstan region // Bulletin of the I.K. Akhunbayev KSMA. – 2020. – Vol. 1. – No. 1. – P. 59-72 (in Russ.)]. https://vestnik.kgma.kg/index.php/vestnik/article/view/15

7. Ospanov E.A., Adylxanov T.A., Tokanova Sh.E., Semenova Yu.M., Daulet'yarova M.A., Bolsynbekova S.O., Zhumykbaeva N.K. Zabolevaemost' i smertnost' ot raka predstatel'noj zhelezy v Respublike Kazaxstan za 10-letnij period (s 2007 po 2016 gg.) // Georgian Medical News – 2017. – №11(272). – S.17-22 [Ospanov E.A., Adylkhanov T.A., Tokanova Sh.E., Semenova Y.M., Dauletyarova M.A., Bolsynbekova S.O., Zhumykbaeva N.K. Prostate cancer incidence and mortality in Kazakhstan over 10 years (from 2007 to 2016) // Georgian Medical News – 2017. – No.11 (272). – P.17-22 (in Russ.)]. https://geomednews.com/s/480918712df344a4a77508d4cd7815ab/files/uploaded/V272_N11_November_2017.pdf

8. Grzhibovskij A. M., Ivanov S. V., Gorbatova M. A. Odnofaktornyj linejnyj regressionnyj analiz s ispol'zovaniem programmnogo obespecheniya Statistica i SPSS // Nauka i zdravooxranenie. – 2017. – №. 2. – S. 5-33 [Grzhibovsky A.M., Ivanov S. V., Gorbatova M. A. One-factor linear regression analysis using Statistics and SPSS software // Science and healthcare. – 2017. – No. 2. – P. 5-33 (in Russ.)]. https://doi.org/10.34689/SH.2017.19.2.001

9. Ishkinin Y., Zhylkaidarova A., Nurgaliyev N., Auyezova E., Oshibayeva A., Gorbunova N. Population-based Prostate Cancer Screening in Kazakhstan // Iran J. Public Health. – 2017. – Vol. 46 (7). – P. 917-922. https://pubmed.ncbi.nlm.nih.gov/28845402/

10. Sung H., Ferlay J., Siegel R.L., Laversanne M., Soerjomataram I., Jemal A., Bray F. Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries // CA Cancer J. Clin. – 2021. – Vol. 71(3). – P. 209-249. https://doi.org/10.3322/caac.21660

11. Gassanov Z., Kaidarova D., Ismailov Z., Nurgaliev N., Zhylkaidarova A., Nyushko K., Chingisova Z., Tanabayeva S., Fakhradiyev I. Study of prostate cancer prevalence in Kazakhstan // Arch. Balk. Med. Union. – 2020. – Vol. 55, no. 4. – P. 582-591. https://doi.org/10.31688/ABMU.2020.55.4.0

12. Chen S.L., Wang S.C., Ho C.J., Kao Y.L., Hsieh T.Y., Chen W.J., Chen C.J., Wu P.R., Ko J.L., Lee H., Sung W.W. Prostate cancer mortality-to-incidence ratios are associated with cancer care disparities in 35 countries // Sci. Rep. – 2017. – Vol. 7. – Art. ID: 40003. https://doi.org/10.1038/srep40003

13. Chen J.G., Chen H.Z., Zhu J., Yang Y.L., Zhang Y.H., Huang P.X., Chen Y.S., Zhu C.Y., Yang L.P., Shen K., Qiang F.L., Wang G.R. Cancer survival in patients from a hospital-based cancer registry, China // J. Cancer. – 2018. – Vol. 9, no. 5. – P. 851-860. https://doi.org/10.7150%2Fjca.23039

14. Jung K.W., Won Y.J., Kong H.J., Oh C.M., Lee D.H., Lee J.S. Cancer statistics in Korea: Incidence, mortality, survival, and prevalence in 2011 // Cancer Res. Treat. – 2014. – Vol. 46(2). – P. 109-123. https://doi.org/10.4143/crt.2014.46.2.109

15. Hong S., Won Y.J., Park Y.R., Jung K.W., Kong H.J., Lee E.S., Community of Population-Based Regional Cancer Registries. Cancer statistics in Korea: incidence, mortality, survival, and prevalence in 2017 // Cancer Res. Treat. – 2020. – Vol. 52 (2). – P. 335-350. https://doi.org/10.4143%2Fcrt.2020.206

16. Jung K.W., Won Y.J., Oh C.M., Kong H.J., Lee D.H., Lee K.H., Community of Population-Based Regional Cancer Registries. Cancer Statistics in Korea: Incidence, Mortality, Survival, and Prevalence in 2014 // Cancer Res Treat. – 2017. – Vol. 49(2). – P. 292-305. https://doi.org/10.4143/crt.2017.118

17. Zahir S.T., Nazemian M.R., Zand S., Zare S. Survival of patients with prostate cancer in Yazd, Iran. // Asian Pac. J. Cancer Prev. – 2014. – Vol.15 (2). – P. 883-886. https://doi.org/10.7314/APJCP.2014.15.2.883

18. Wang F., Feng J., Chen P., Liu X., Ma M., Zhou R., Chang Y., Liu J., Li J., Zhao Q. Probiotics in Helicobacter pylori eradication therapy: Systematic review and network meta-analysis // Clin. Res. Hepatol. Gastroenterol. – 2017. – Vol. 41(4). – P. 466-475. https://doi.org/10.1016/j.clinre.2017.04.004

19. Xu H., Zhang L.M., Liu J., Ding G.X., Ding Q., Jiang H.W. The association between overall survival of prostate cancer patients and hypertension, hyperglycemia, and overweight in Southern China: A prospective cohort study // J. Cancer Res. Clin. Oncol. – 2013. – Vol. 139 (6). – P. 943-951. https://doi.org/10.1007/s00432-013-1407-3

АҢДАТПА

ШЫҒЫС ҚАЗАҚСТАН ОБЛЫСЫНДАҒЫ 2010-2019 ЖЫЛДАРДАҒЫ ҚУЫҚАСТЫ БЕЗІ ОБЫРЫНЫҢ ЭПИДЕМИОЛОГИЯСЫ

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Өзектілігі: *Қазақстанда 2007-2016 жылдар аралығында қуықасты безі обырымен (ҚБО) сырқаттанушылықтың өсуі және одан болатын өлім-жітімінің төмендеуі байқалды. ҚБО ісігі ауырушаңдық 70 жастан жоғары. Шығыс Қазақстан облысы ҚБО аурушаңдығы мен өлім-жітімінің жоғары көрсеткіштерімен сипатталады.*

Зерттеудің мақсаты. *Шығыс Қазақстан облысында 2010-2019 жылдары ҚБО эпидемиологиялық көрсеткіштерін бағалау*

Әдістері: *№35 нысан жылдық "Қатерлі ісіктермен ауыратын науқастар туралы есеп". 2010-2019 жылдар аралығында аурушаңдық, өлім, бір жылдық, бес жылдық өмір сүру, ҚБО ерте сатысында анықталды есептелді. Статистикалық маңыздылығын бағалау үшін бір факторлы сызықтық регрессия әдісі қолданылды. Қарқынды эпидемиологиялық көрсеткіштер 100 000 ер адамға есептелген*

Нәтижелер: *ШҚО-да 2010-2019 жылдары аурушаңдық көрсеткіші өсу үрдісіне ие болды. ШҚО-да ҚБО болатын өлім-жітім көрсеткіші аздап өсу үрдісіне ие болды. Бұл ретте сырқаттанушылық үшін статистикалық маңызды өсу трені байқалды (р=0,009), ал өлім көрсеткіштері үшін трені статистикалық елеусіз болды (р=0,900). Науқастардың біржылдық өмірсіру көрсеткіш ҚБО болған кеміді. Алайда біржылдық өмір сүру көрсеткіштерінің трені статистикалық мәнге ие болмады (р=0,202). ШҚО-да ҚБО бар пациенттердің бес жылдық өмір сүру динамикасы зерттелген кезеңде төмендеу үрдісіне ие болды. Алайда, ШҚО-да ҚБО бар пациенттердің*

бес жылдық өмір сүру көрсеткіштерінің тренді статистикалық мәнге ие болмады (р=0,826). ҚБО ерте сатысында тұрақты көрсеткіштерге ие болды және 72,7-77,4 аралығында өзгерді, ал 2019 жылы бұл көрсеткіш 63,2%-ға дейін төмендеді. Анықталған ҚБО үлесі III сатыда ұлғаю үрдісіне ие болды. IV сатыдағы ҚБО үлесі зерттелетін кезеңде төмендеу үрдісіне ие болды

Қорытынды: *Зерттеу кезеңінде ШҚО-да қуық асты безінің қатерлі ісігінің эпидемиологиялық көрсеткіштері тұрақсыз болды. ҚБО аурушаңдығы ұлғаю үрдісіне ие болды, өлім көрсеткіші аз шекте ауытқыды және тұрақты сипатқа ие болды. Біржылдық өмір сүру динамикасы ҚБО төмендеді. Бес жылдық өмір сүру серпіні статистикалық тұрғыдан шамалы өсу трендіне ие болды. III сатыда ҚБО анықтаудың жоғарылауы байқалды, IV сатысында ҚБО анықтау төмендеу тенденциясына ие болды. ҚБО ерте сатысында анықтау III кезеңде анықтаудың артуына байланысты төмендеді. IV сатыдағы ҚБО үлесі зерттелетін кезеңде төмендеу үрдісіне ие болды*

Түйінді сөздер: *Қуықасты безі обыры (ҚБО), аурушаңдық, өлім-жітім, өмір сүру деңгейі, Шығыс Қазақстан облысы.*

АННОТАЦИЯ

ЭПИДЕМИОЛОГИЯ РАКА ПРЕДСТАТЕЛЬНОЙ ЖЕЛЕЗЫ В ВОСТОЧНО-КАЗАХСТАНСКОЙ ОБЛАСТИ ЗА 2010-2019 годы

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Актуальность: *В Казахстане в 2010-2019 гг. наблюдался рост заболеваемости и снижение смертности от рака предстательной железы (РПЖ). Пик заболеваемости РПЖ приходится на возраст 70 лет и старше. Восточно-Казахстанская область характеризуется более высокими показателями заболеваемости и смертности от РПЖ, чем в среднем по стране.*

Цель исследования *– оценить эпидемиологические показатели РПЖ в Восточно-Казахстанской области за 2010-2019 гг.*

Методы: *Рассчитывались инцидентность, смертность, однолетняя, пятилетняя выживаемости, выявляемость РПЖ на ранних стадиях за период 2010-2019 гг. Для оценки статистической значимости использовался метод однофакторной линейной регрессии. Интенсивные эпидемиологические показатели рассчитывались на 100 000 мужского населения.*

Результаты: *Показатель заболеваемости в ВКО за 2010-2019 гг. имел тенденцию к значительному росту, а показатель смертности от РПЖ в ВКО – к небольшому росту. При этом наблюдался статистический значимый восходящий тренд для заболеваемости (р=0,009), а для показателей смертности тренд был статистически незначимым (р=0,900).*

Показатель однолетней выживаемости пациентов с РПЖ имел тенденцию к снижению, которая не была статистически значимой (р=0,202).

Динамика пятилетней выживаемости пациентов с РПЖ в ВКО за изучаемый период имела тенденцию к снижению, однако также без статистической значимости (р=0,826).

Выявляемость РПЖ на ранних стадиях была стабильной и варьировала в пределах 72,7-77,4, однако в 2019 г. этот показатель снизился до 63,2%.

Доля случаев РПЖ, выявленных на III стадии, имела тенденцию к увеличению. Доля случаев РПЖ, выявленных на IV стадии, за изучаемый период имела тенденцию к снижению.

Заключение: *Эпидемиологические показатели РПЖ в ВКО за изучаемый период имели нестабильный характер. Показатель заболеваемости имел статистически значимый тренд к увеличению, показатель смертности от РПЖ существенно не изменялся. Наблюдался статистически незначимый тренд снижения однолетней выживаемости. Также наблюдался статистически незначимый тренд увеличения пятилетней выживаемости. Отмечен рост выявляемости РПЖ на III стадии, выявляемость РПЖ на IV стадии имела тенденцию к снижению. Выявляемость РПЖ на ранних стадиях снизилась за счет увеличения выявляемости на III стадии. Доля РПЖ на IV стадии за изучаемый период имела тенденцию к снижению.*

Ключевые слова: *рак предстательной железы (РПЖ), заболеваемость, смертность, выживаемость, Восточно-Казахстанская область.*

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