

ANALYSIS OF THE RANGE OF ANTI-PROSTATE CANCER MEDICINES REGISTERED IN THE REPUBLIC OF UZBEKISTAN

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Abstract: This research work is devoted to studying the registration of drugs against prostate cancer.

The results of the years studied in the study showed that the consumer market of the Republic of Uzbekistan in the field of drugs against prostate cancer is usually satisfied with imported drugs by 55.6%. The analysis of registration in the State Register of medicines and medical products of the Republic of Uzbekistan showed that among foreign countries, Russia is leading with a share of 33.3%). The analysis of the drug form showed that all the received drugs are used in the form of sprays, lyophilisates, tablets, capsules and implant preparations. It was found that the capsule form of the drug was registered mainly by domestic manufacturers.

Keywords: drugs against prostate cancer, group assortment, State Register, manufacturers, type of drug form.

According to the World Health Organization (WHO), more than 1.41 million patients are diagnosed with prostate cancer every year, and 70-80% of them develop a pathological process. Since this disease is mainly caused by male sex hormones, hormone therapy methods are also used in the treatment.

In the treatment of prostate cancer, depending on the stage of the disease, several methods of treatment differ. These are surgical treatment, hormonal therapy, chemotherapy, and nutritional therapy. In the treatment of prostate cancer by hormone therapy, the following methods are used: surgical method - surgical removal of testicles (surgical castration), releasing - hormone luteinizing hormone agonists, antiandrogens, estrogens.

In prostate cancer, the enlargement of the prostate gland is characterized by the formation of cancer cells, rapid growth and metastases. This disease can occur at any age, and is characterized by a high incidence in men over 60 [10, 11].

Prostate cancer is a relatively slow-growing disease. But like other malignant tumors, if it exists for a long time and is not treated, it grows slowly, damages healthy tissues, and causes local metastases in the nearest lymph nodes. In advanced stages, prostate cancer can grow into the walls of the bladder neck, rectum, or pelvis. Tumor cells can be transported by blood flow to other organs (bones, lungs, liver, etc.) and cause new metastases [9].

The purpose of the study: to study the drugs used in the treatment of prostate cancer registered in the State Register of Medicines and Medical Products of the Republic of Uzbekistan for the years 2020-2022 based on content analysis. Analysis of the assortment of this studied pharmacological group and determination of its future prospects is of great importance in conducting marketing research in the pharmaceutical market. In this regard, it is important to study the assortment of drugs for the treatment of prostate cancer.

Materials and methods: the State Register of drugs and medical products registered in the Republic of Uzbekistan, the method of assortment analysis of drugs, comparative analysis.

Results and discussions: currently, in the analysis of the assortment of this pharmacotherapeutic group, the table below the data of the State Register of Medicines and Medical Products of the Republic of Uzbekistan of drugs, medical products and medical techniques for 2020-2022 allowed in the medical practice of the Republic of Uzbekistan and given in the picture (tables No. 1, No. 2 and Fig. 1). Analysis of registrations by country of origin shows that 55.6% of prostate cancer drugs come from abroad. The share of the CIS countries is 33.3%, while the share of local manufacturers is 11.1%. At the same time, it should be noted that the registration of manufactured adoptogenic drugs is growing every year.

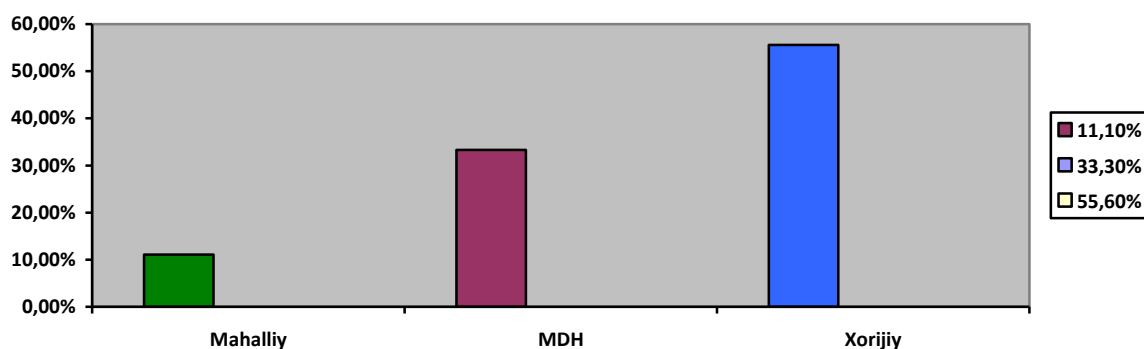
Table № 1 List of drugs against prostate cancer allowed in the Republic of Uzbekistan in 2020-2022

№	Name of the drug	Pharmacotherapeutic group	Company	Form of production	2020 y.	2021 y.	2022 y.
1	Buserelin (Buserelin)	Anticancer drug (gonadotropin-releasing hormone analogue)	Produced for Fram-Sintez, AO Deko OOO	Spray	+	-	-
2	Buserelin-Depo	Anticancer drug (gonadotropin-releasing hormone analogue)	Produced for Fram-Sintez, AO Deko OOO	Lyophilisate	+	-	-
3	Bicalutamid Grindex	Anticancer drug AO Grindeks Kocak Farma Ilac ve	Manufactured by Latvia for Kimya Sanayi A.S	Tablet	-	+	-
4	Bikatero 50/Bikatero 150	Anti-cancer drug	Hetero Labs Limited	Tablet 50 mg, 150 mg	+	-	-
5	Eligard	Anti-cancer drug	Manufactured by Astellas Pharma Europe B.V., Netherlands for Tolmar Inc	Spray	+	-	-
6	Bicalutamid	Anti-cancer drug	Farm-Sintez – AO Narod	Tablet	-	+	+
7	Diferelin/Dipherelina	Anti-cancer drug	Made in France for	LYOPHILISATE		+	+

			Ipsen Pharma, Ipsen Pharma Biotech				
8	Zoladex LA	Anti-cancer drug	Astra Zeneca UK Limited	implant	-	+	-
9	Zoladex	Anti-cancer drug	Astra Zeneca UK Limited	implant	-	+	-
10	Eligard	Anti-cancer drug	Manufactured by Astellas Pharma Europe B.V., Netherlands for Tolmar Inc	LYOPHILISATE	-	+	-
11	Prostanik	Estrogen	Nika Pharm, OOO	CAPSULE	-	-	+

Table № 2. Analysis of Prostate Cancer Drugs by Producing Countries in 2020-2022

№	Producing countries	Assortment positions	Quantitative share, %
		9	100
Foreign countries		5	55,6
1	India	1	11,1
2	France	1	11,1
3	USA	1	11,1
4	Great Britain	1	11,1
5	Turkey	1	11,1
CIS countries		3	33,3
6	Russia	3	33,3
7	Local producers	1	11,1



Green – local

Purple – CIS

Blue - Foreign countries

Figure 1. Analysis of countries producing drugs against prostate cancer registered in the Republic of Uzbekistan as of 2020-2022

According to the results of the analysis of the assortment of anti-prostate cancer drugs, according to the State Register, 8 assortment positions are represented by the name of the company in the pharmaceutical market of Uzbekistan. These drug forms are presented in the following types: sprays, lyophilisates, tablets, capsules, and implant preparations (Table No. 3).

Table № 3 Analysis of drugs against prostate cancer registered in the Republic of Uzbekistan for 2020-2022 by drug forms

№	Drug form	Assortment position	Share, %
1	Sprays	1	12,5
2	Capsules	1	12,5
3	Tablets	3	37,5
4	Lyophilisates	2	25,0
5	Implants	1	12,5
Total		8	100

The analysis of the registration of the countries that produced anti-prostate cancer drugs shows that the main part of yshby drugs is 55.6%. Comes from foreign countries. CIS countries account for 33.3%, and local producers account for 11.1%. Most of the drugs used in prostate cancer in the Republic of Uzbekistan come from foreign countries. Among the manufacturers of local countries, Russia is the leader. Among the CIS countries, Russia is in the first place in terms of assortment. An analysis of the assortment of anti-prostate cancer drugs by drug form was also carried out, as shown in table №3 and picture 2.

Effectiveness of current anti-prostate cancer drugs used in Uzbekistan depends, in particular, on the convenience of the drug form, which determines the consumption characteristics of the drug. According to the analysis of the assortment of anti-prostate cancer drugs registered in the Republic of Uzbekistan by the forms of drugs, there are a total of 8 positions, of which 12.5% are sprays, 37.5% are tablets, lyophilizates accounted for 25.0%, capsules for 12.5%, implant preparations for 12.5% (table 2; diagram 2).

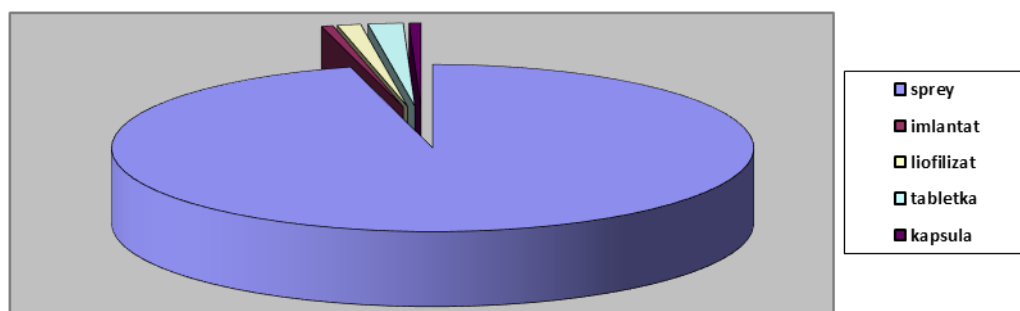


Figure 2. Assortment of anti-prostate cancer drugs registered in the Republic of Uzbekistan by drug forms as of 2020-2022

According to the results of the conducted research, the medicinal preparations registered in the Republic of Uzbekistan are characterized by the homogeneity in terms of the source of acquisition and the types of drug forms. In our republic, the majority of these drugs correspond to drugs produced by foreign countries. Based on the above, it should be said that the production of anti-prostate cancer drugs by local manufacturers based on natural raw materials is one of the current problems of providing the population with high-quality and affordable drugs (Table №4; Figure 4).

Today, among the anti-cancer drugs in the Republic of Uzbekistan, the drugs for the treatment of prostate cancer are imported mainly from abroad and from the CIS countries. There are currently 1 anti-prostate cancer drugs in Uzbekistan. This drug was created by scientists of the Institute of Plant Substances Chemistry of the Republic of Uzbekistan and is produced by "Nikapharm" LLC. Due to the fact that the prices of drugs imported from abroad and the CIS are several times higher, it is important to create highly effective, non-toxic drugs based on local raw materials.

Summary The analysis of the registration by country of manufacture shows that 0.3% of domestic drugs are anticancer drugs, of which 5% are drugs for the treatment of prostate cancer. These indicators compared to foreign drugs, anticancer drugs make up 3.3%, of which 3.5% are drugs for the treatment of prostate cancer, and the CIS countries' share of anticancer drugs is 14%, of which 3.8% are prostate cancer drugs. medicinal preparations. At the same time, it should be noted that the registration of anti-cancer drugs produced abroad is growing every year.

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