

# 20 YEARS OF THE REFERENCE CENTER FOR PROSTATE TUMORS OF THE MINISTRY OF HEALTH AT THE DEPARTMENT OF UROLOGY IN SESTRE MILOSRDNICE UNIVERSITY HOSPITAL CENTER

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**SUMMARY** – The Department of Urology at the Sestre milosrdnice University Hospital Center is the oldest urological institution in the Republic of Croatia and this part of Europe. Today, the Department is a modern tertiary healthcare institution, where the most complex methods of urological practice are performed using modern medical devices and highly sophisticated technology. In 2011, our urology specialist education program was certified by the European Board of Urology (EBU) as the only one of its kind in Croatia. The program was recertified in 2017. The Department runs a program for the early detection of prostate cancer and performs more than 240 radical prostatectomies annually, which is the highest number of such interventions in Croatia. The aim of this study is to present the work and the activities of the Reference Center for Prostate Tumors of the Ministry of Health at the Department of Urology in Sestre milosrdnice University Hospital Center over the last 20 years. The database of the Reference Center for Prostate Tumors of the Ministry of Health at the Department of Urology in Sestre milosrdnice University Hospital Center was reviewed. During the twenty-year period, approximately 15,000 prostate interventions were performed due to benign and malignant diseases. Of this, 7,374 transrectal ultrasound guided prostate biopsies, 2,632 radical prostatectomies with open retropubic access, 3,988 transurethral prostate resections and 1,097 open suprapubic adenomectomies were performed. With the achieved scientific and professional results in monitoring, studying and improving the prevention, diagnosis and therapy of prostate tumors, as well as with the professional conditions and personnel, the Department of Urology in Sestre milosrdnice University Hospital Center truly justifies the title of the Reference Center for Prostate Tumors of the Ministry of Health of the Republic of Croatia awarded to it in 1998.

**Key words:** *Prostate; Prostate cancer; Department of Urology; Reference Center for Prostate Tumors; European Board of Urology (EBU)*

## Introduction

The Department of Urology in Sestre milosrdnice University Hospital Center is the oldest urological institution in the Republic of Croatia and this part of Europe. The first independent urology department was

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founded in 1928 and in 1943 it was awarded the status of a university department, the first one in Croatia.

Today, the Department of Urology in Sestre milosrdnice University Hospital Center is a modern tertiary healthcare institution where the most complex methods of urological practice are performed using modern medical devices and highly sophisticated technology. Our Department provides education to young doctors from all over Croatia, from undergraduate classes to specialist and subspecialist training in urology.

A reference center of the Ministry of Health is a health institution to which the Minister of Health awards the title of the Reference Center at the proposal of the National Health Council, with the opinion of the professional medical society, and in accordance with the provisions of the Health Care Act and the criteria defined by the Ordinance on the criteria for the award of the title of a reference center.

The Department of Urology in Sestre milosrdnice University Hospital Center has been the Reference Center for Prostate Tumors of the Ministry of Health since 1998. In the last 20 years, the Department staff have been trying to justify this name through surgical and scientific work. Over the years, experience has been gained, surgical techniques have been altered and the Department has even become an education center where urology practitioners across the country learn the skills of prostate tumor treatment. In 2011, our urology specialist education program was certified by the European Board of Urology (EBU) as the only one in the Republic of Croatia. The program was recertified in 2017. The Department runs a program of early detection of prostate cancer and performs more than 240 radical prostatectomies annually, which is the highest number of such interventions in Croatia.

## Aim

The aim of this study was to present the work and the activities of the Reference Center for Prostate Tumors of the Ministry of Health at the Department of Urology in Sestre milosrdnice University Hospital Center over the last 20 years.

## Methods

A review of the database of the Reference Center for Prostate Tumors of the Ministry of Health at the

Department of Urology in Sestre milosrdnice University Hospital Center was performed. Data from the medical history, operational protocols and histopathological findings were analyzed. The results are expressed in mean  $\pm$  standard deviation by period, and the difference in trends compared with the nonparametric t-test at the level of significance  $p < 0.05$ .

## Results

During the twenty-year period from 1 January 1998 to 31 December 2017, approximately 15,000 prostate interventions were performed due to benign and malignant diseases (Table 1). Of this, 7,374 transrectal ultrasound guided prostate biopsies, 2,632 radical prostatectomies with open retropubic access, 3,988 transurethral prostate resections and 1,097 open suprapubic adenomectomies were performed. Changes in the treatment of benign enlargement of the prostate by introducing pharmacological therapy resulted in the reduction of surgical treatment of this condition (Fig. 1).

Table 1. Total number of prostate procedures over the last 20 years

1998-2017	No. of procedures
Radical prostatectomies	2632
Prostate biopsies	7374
TURP	3988
Transvesical adenomectomy	1097
Total	15091

The number of benign prostatic hyperplasia surgeries decreased from  $314.30 \pm 64.48$  to  $194.20 \pm 46.97$  ( $p = 0.0002$ , 95% CI 67.10 - 173.10) in the period 1998-2008 and 2008-2017, respectively. The comparison of the number of radical prostatectomies performed during the first 10 years of the Reference Center for Prostate Tumors (mean  $71.60 \pm 54.36$ , range 4-136) with the subsequent 10 years ( $191.60 \pm 23.74$ , range 157-247) provides an insight into an increasing trend of the surgical treatment of prostate cancer ( $p < 0.001$ , 95% CI -159.41 to -80.59). In the observed periods, the number of biopsy procedures increased from  $262.3 \pm 154.1$  to  $475.1 \pm 74.44$  ( $p < 0.001$ , 95% CI -326.50 to -99.10) (Fig. 2). We managed to de-

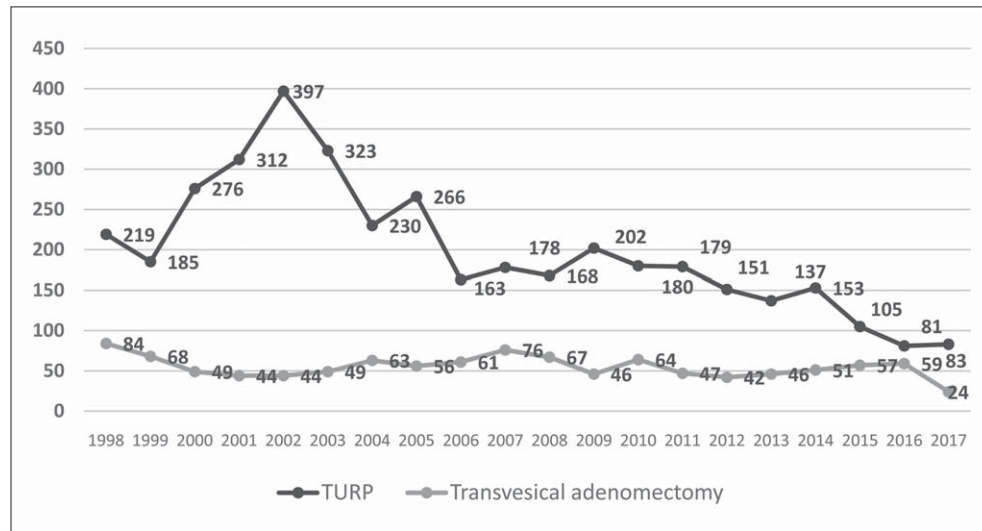


Fig. 1. Number of TURP and transvesical adenectomies over the last 20 years.

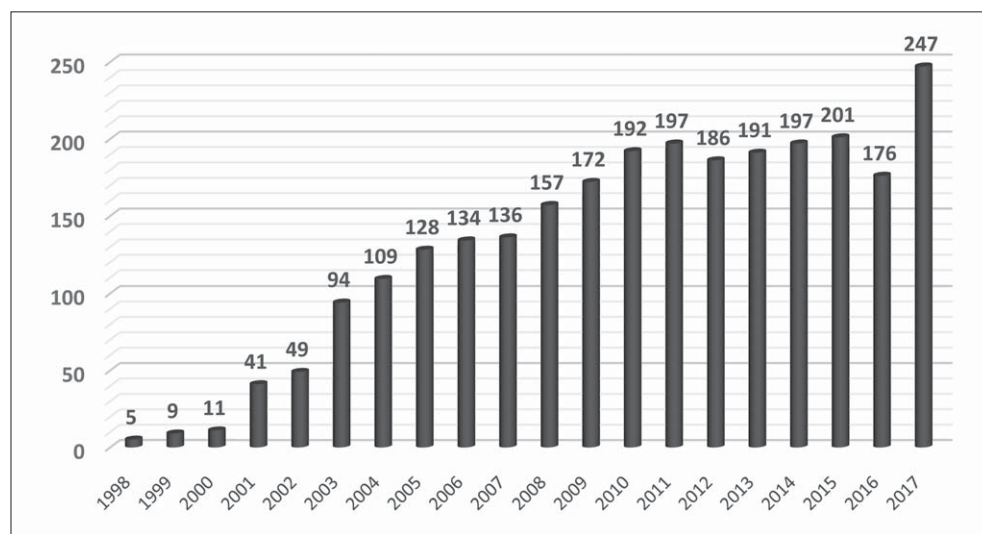


Fig. 2. Number of radical prostatectomies 1998–2017.

crease the proportion of insignificant prostate cancer among patients who had undergone radical prostatectomy in the studied period with the introduction of active surveillance for prostate cancer (Fig. 3.). In addition to analyzing the change in treatment trends in the Reference Center, the validation of results and the quality of treatment is compared to other centers of excellence, as evidenced by the extensive published material that accompanies the work of the Reference Center. It is of note that over the years the topics of scientific articles have been changing. Throughout the

whole period, benign prostatic conditions remained of interest both regarding treatment options and studying practice patterns<sup>1-4</sup>. Nevertheless, most of our publications relate to prostate cancer. Some of the studies discussed biopsy issues<sup>5-8</sup>, while others discussed prognostic parameters and treatment options<sup>9-29</sup>. Over the last years, authors focused on the importance of insignificant cancers and active surveillance as an emerging approach to treating patients with this diagnosis<sup>30,31</sup>. Global influence of prostate specific antigen use on mortality was also analyzed<sup>32</sup>.

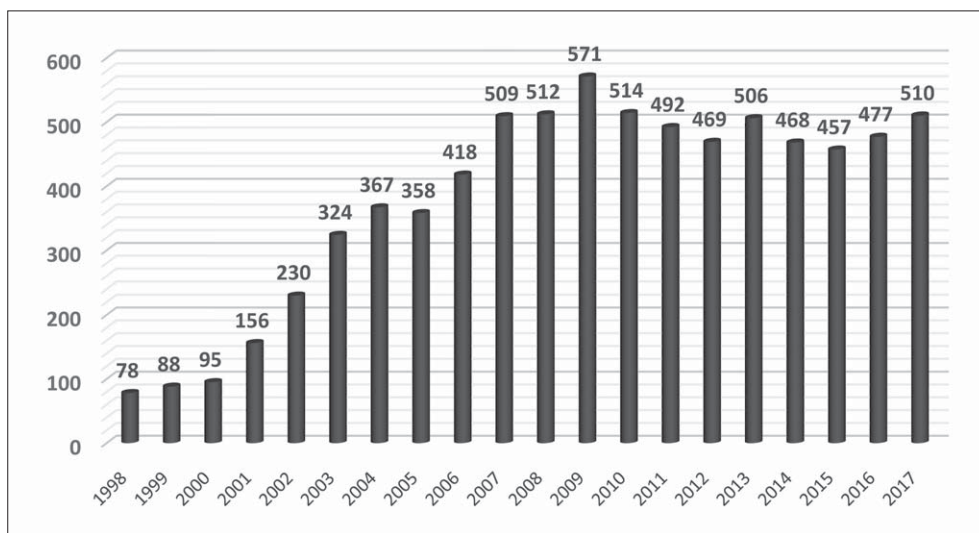


Fig. 3. Number of transrectal ultrasound guided prostate biopsies 1998–2017.

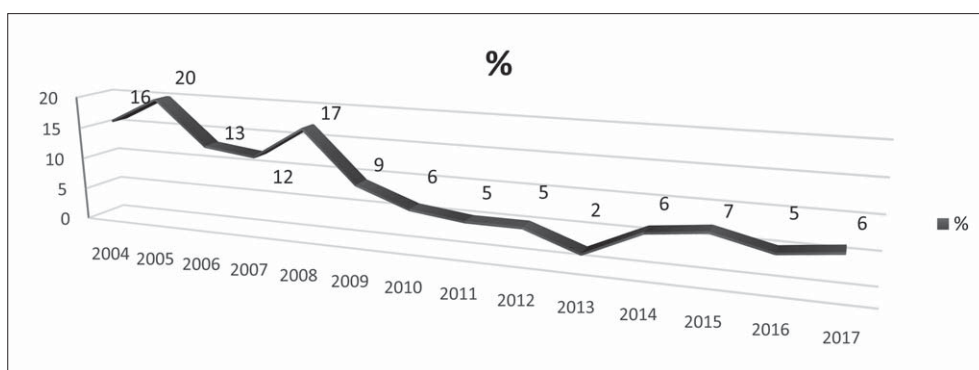


Fig. 4. Proportion of indolent prostate cancers (%) among all surgically treated patients at our Center.

## Conclusion

With the achieved scientific and professional results in monitoring, studying and improving prevention, diagnosis and therapy of prostate tumors, as well as professional and personnel conditions, the Department of Urology in Sestre milosrdnice University Hospital Center truly justifies the title of the Reference Center for Prostate Tumors of the Ministry of Health awarded to it in 1998.

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## Sažetak

20 GODINA REFERENTNOG CENTRA ZA TUMORE PROSTATE MINISTARSTVA ZDRAVSTVA  
U KLINICI ZA UROLOGIJU KBC SESTRE MILOSRDNICE

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Klinika za urologiju Kliničkog bolničkog centra Sestre milosrdnice najstarija je urološka ustanova u Republici Hrvatskoj, a i u ovom dijelu Europe. Danas je Klinika za urologiju moderna medicinska ustanova tercijarne zdravstvene zaštite gdje se najsloženije metode urološke prakse izvode pomoću suvremenih medicinskih uređaja i visoko sofisticirane tehnologije. Program edukacije specijalizanata je 2011. godine certificiran od strane European Board of Urology (EBU) kao jedini takav u Hrvatskoj, a recertificiran je 2017. godine. U našoj se Klinici provodi program ranog otkrivanja raka prostate, a godišnje se obavlja preko 240 radikalnih prostatektomija što je ujedno i najveći broj takvih zahvata u Hrvatskoj. Cilj rada je prikazati rad i aktivnost Referentnog centra Ministarstva zdravstva za tumore prostate u Klinici za urologiju KBC „Sestre milosrdnice“ u posljednjih 20 godina. Učinjen je pregled baze podataka Referentnog centra za tumore prostate Ministarstva zdravstva u Klinici za urologiju KBC „Sestre milosrdnice“. Tijekom dvadesetogodišnjeg razdoblja učinjeno je oko 15 000 zahvata na prostati zbog benignih i malignih bolesti. Od toga je učinjena 7 374 biopsija prostate vođene transrektalnim ultrazvukom, 2 632 radikalnih prostatektomija otvorenim retropubičnim pristupom, 3 988 transuretralnih resekcija prostate i 1 097 otvorenih suprapubičnih adenomektomija. Postignutim znanstvenim i stručnim rezultatima u praćenju, proučavanju i unaprjeđenju prevencije, dijagnostike i terapije tumora prostate kao i stručno-kadrovskim uvjetima, Klinika za urologiju KBC Sestre milosrdnice opravdava naslov Referentnog centra za tumore prostate Ministarstva zdravstva Republike Hrvatske koji nosi od 1998. godine.

*Ključne riječi: Prostata; Karcinom prostate; Klinika za urologiju; Referentni centar za tumore prostate; European Board of Urology (EBU)*