Original Article
Özgün Araştırma

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An Investigation into the Daily Preferences and Individual Experiences of Urologists Performing Endoscopic Prostate Surgery

Endoskopik Prostat Cerrahisi Yapan Ürologların Günlük Tercihleri ve Bireysel Deneyimlerine İlişkin Bir Araştırma

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ABSTRACT

Objective: This study aimed to evaluate contemporary practice patterns, surgical preferences, and perioperative management strategies among urologists performing endoscopic prostate surgery for benign prostatic hyperplasia (BPH) in Türkiye.

Materials and Methods: A cross-sectional, nationwide survey was conducted using a structured online questionnaire distributed to practicing urologists who perform endoscopic prostate surgery. The survey assessed demographic characteristics, surgical experience, preferred endoscopic techniques, postoperative catheter management, use of intraoperative voiding tests, and antibiotic prophylaxis practices. Data were analyzed using descriptive statistics.

Results: A total of 112 urologists completed the survey. Transurethral resection of the prostate (TURP) constituted the majority of BPH surgeries for most respondents, with 57.1% reporting that TURP accounted for 76–100% of their procedures. Bipolar TURP was the preferred energy source in 81.2% of cases. Postoperative catheter removal was most commonly performed at 48–72 hours (61.6%), whereas only 0.9% preferred removal within 24 hours. Intraoperative voiding tests were routinely performed by 86.6% of respondents, and 64.3% considered them predictive of postoperative success. Nearly half of participants (48.2%) reported extending antibiotic prophylaxis beyond a single preoperative dose.

Conclusions: Endoscopic prostate surgery practices in Türkiye demonstrate substantial variability, particularly regarding catheter management, antibiotic use, and intraoperative voiding assessment. While bipolar TURP remains the dominant modality, discrepancies between evidence-based recommendations and real-world practice highlight the need for further research and potential standardization of perioperative care.

Keywords: lower urinary tract symptoms, prostatic hyperplasia, transurethral prostatectomy

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ÖZET

Amaç: Bu çalışmanın amacı, Türkiye'de benign prostat hiperplazisi (BPH) nedeniyle endoskopik prostat cerrahisi uygulayan ürologlar arasında güncel uygulama modellerini, cerrahi tercihleri ve perioperatif yönetim stratejilerini değerlendirmektir.

Gereç ve Yöntemler: Prostat endoskopik cerrahisi yapan ürologlara dağıtılan yapılandırılmış bir çevrimiçi anket kullanılarak ülke çapında kesitsel bir araştırma yapılmıştır. Anket, demografik özellikler, cerrahi deneyim, tercih edilen endoskopik teknikler, ameliyat sonrası kateter yönetimi, intraoperatif işeme testlerinin kullanımı ve antibiyotik profilaksisi uygulamalarını değerlendirmiştir. Veriler tanımlayıcı istatistikler kullanılarak analiz edilmiştir.

Bulgular: Ankete toplam 112 ürolog katıldı. Katılımcıların büyük çoğunluğu için BPH ameliyatlarının çoğunluğunu transüretral prostat rezeksiyonu (TURP) oluşturdu; %57,1'i TURP'nin işlemlerinin %76–100'ünü oluşturduğunu bildirdi. Bipolar TURP, vakaların %81,2'sinde tercih edilen enerji kaynağıydı. Ameliyat sonrası kateter çıkarılması en sık 48–72 saat sonra (%61,6) gerçekleştirilirken, sadece %0,9'u 24 saat içinde çıkarılmasını tercih etti. Katılımcıların %86,6'sı ameliyat sırasında işeme testlerini rutin olarak yaparken, %64,3'ü bu testleri ameliyat sonrası başarıyı öngören bir faktör olarak değerlendirdi. Katılımcıların neredeyse yarısı (%48,2), antibiyotik profilaksisini tek bir ameliyat öncesi dozun ötesine uzattığını bildirdi.

Sonuç: Türkiye'deki endoskopik prostat cerrahisi uygulamaları, özellikle kateter yönetimi, antibiyotik kullanımı ve intraoperatif işeme değerlendirmesi açısından önemli ölçüde değişkenlik göstermektedir. Bipolar TURP baskın yöntem olmaya devam ederken, kanıta dayalı öneriler ile gerçek dünya uygulamaları arasındaki tutarsızlıklar, perioperatif bakımın daha fazla araştırılması ve potansiyel standardizasyonuna duyulan ihtiyacı vurgulamaktadır.

Anahtar Kelimeler: alt üriner sistem semptomları, prostat hiperplazisi, transüretral prostatektomi

INTRODUCTION

Benign prostatic hyperplasia (BPH) is a prevalent medical condition among aging men and a major contributor to lower urinary tract symptoms. The prevalence of lower urinary tract symptoms attributable to BPH increases substantially with age, affecting nearly half of men over 50 and up to 80% of those over 70 years old (1, 2). Although transurethral resection of the prostate (TURP) has historically been regarded as the gold standard surgical treatment for obstruction due to BPH, there is ongoing debate regarding whether endoscopic enucleation techniques will become the new gold standard (3).

In recent years, technological advancements and improvements in energy platforms have expended the spectrum of endoscopic surgical options. These include bipolar TURP, monopolar TURP, thulium laser enucleation of the prostate (ThuLEP), Holmium laser enucleation (HoLEP), Aquablation®, and minimally invasive surgical therapies (MISTs) such as Urolift® and Rezūm™ (4, 5). With this increasing diversity, surgical decision-making has become more individualized and often depends on the surgeon's expertise, equipment availability, prostate volume, bleeding risk, and patient preferences. Both the American Urological Association and the European Association of Urology provide guideline-based recommendations for selecting appropriate transurethral therapies. These guidelines consider prostate size, comorbidities, and expected functional outcomes but ultimately allow surgeons flexibility to choose modalities that align with their experience and local practice patterns (6, 7).

Despite this wide range of treatment options, real-world clinical practice varies significantly across countries and even among surgeons within the same healthcare system. In Türkiye, endoscopic prostate surgery—including monopolar/bipolar TURP and laser-based procedures—remains widely practiced in both state and training hospitals. However, national data describing variations in surgical preferences, energy source utilization, and postoperative care are limited. This study aims to provide an updated overview of clinical practice, highlight variability among surgeons, and contribute to efforts toward standardizing endoscopic BPH surgery in Türkiye.

MATERIALS AND METHODS

This cross-sectional survey study was conducted to investigate the daily practice patterns, surgical preferences, and individual experiences of urologists performing endoscopic prostate surgery. A structured Google Forms questionnaire was distributed electronically to practicing urologists across various hospital settings, including state hospitals, training and research hospitals, private institutions, and university hospitals. The inclusion criteria consisted of urology specialists who are currently practicing in Türkiye and performing endoscopic prostate surgery, including TURP or other endoscopic procedures for BPH. The exclusion criteria were: urologists who do not perform endoscopic prostate surgery in their current practice; residents or trainees without independent surgical authority; incomplete questionnaire responses that prevented the reliable interpretation of key variables; and duplicate submissions (only the first complete response was included). Participation was voluntary and anonymous.

The intraoperative voiding test (Chambers test) is performed intraoperatively to assess urine flow qualitatively after completion of resection, providing immediate feedback on surgical adequacy. Prior feasibility and prospective studies have demonstrated that intraoperative voiding or voiding score assessments correlate with postoperative voiding success, supporting its potential predictive value (8).

The questionnaire consisted of a total of 30 questions, divided into sections evaluating the following: (1) demographic and professional characteristics (age, years in practice, academic title, hospital type), (2) endoscopic prostate surgery experience (annual surgical volume and estimated proportion of TURP among BPH surgeries, other experienced procedures), (3) specific surgical preferences related to TURP (energy source selection, postoperative catheter removal habits, use of Chambers test, and antibiotic prophylaxis approaches).

The study was approved by the by the Ethics Committee of Malatya Turgut Özal University (Approval No: 2025/395, Date: 2025-11-16) and conducted in accordance with the 1975 Declaration of Helsinki, as revised in 2013. The study included a total of 112 urologists, all of whom completed the questionnaire in full.

Statistical Analysis

Responses were collected via an online form and exported for analysis. Descriptive statistics were used to summarize the findings. Continuous variables were presented as median (min-max), and categorical variables as number and percentage (n, %). No identifying personal data were collected. Since this study was designed as an exploratory, descriptive survey, no inferential statistical analyses were planned or performed.

RESULTS

Participant Characteristics

A total of 112 urologists participated in the study. The mean age was 42.2 years with a range of 30 to 65 years, and the mean duration of specialization in urology was 11.2 years with a range of 1 to 35 years. Participants reported a mean of 13.3 years' experience performing endoscopic prostate surgery. The majority of respondents were specialists (67.0%), followed by associate professors (17.0%), professors (12.5%), and assistant professors (3.6%). Most worked in training and research hospitals (56.2%), while the rest were employed in private clinics (19.6%), state hospitals (13.4%), or university hospitals (10.7%) (Table 1).

Surgical Volume and Distribution of TURP

When asked to estimate the proportion of TURP among their BPH surgeries, more than half of the participants (57.1%) reported that TURP constituted 76–100% of their BPH procedures. Annual TURP volume varied: 40.2% performed fewer than 20 procedures, 29.5% performed between 20 and 39, 23.2% performed between 40 and 79, and 7.1% performed more than 80 (Table 2).

Table 1. Demographic and professional characteristics of the participants

Variables	Value
Age (years), median (min-max)	42.2 (30-65)
Years as urology specialist, median (min-max)	11.2 (1-35)
Years performing endoscopic prostate surgery, median (min-max)	13.3 (2-33)
Academic title, n (%)	
Specialist	75 (67.0)
Assistant professor	4 (3.6)
Associate professor	19 (17.0)
Professor	14 (12.5)
Type of hospital, n (%)	
State hospital	15 (13.4)
Training and research hospital	63 (56.2)
Private hospital or clinic	22 (19.6)
University hospital	12 (10.7)
Estimated TURP rate among BPH surgeries, n (%)	
0%	4 (3.6)
<25%	4 (3.6)
26-50%	18 (16.1)
51-75%	22 (19.6)
76-100%	64 (57.1)
TURP procedures performed in a year, n (%)	
<20	45 (40.2)
20-39	33 (29.5)
40-79	26 (23.2)
>80	8 (7.1)

Table 2. TURP practice patterns and surgical preferences

Variables	n (%)
Preferred energy source during TURP	
Bipolar	91 (81.2%)
Monopolar	21 (18.8%)
Preferred postoperative catheter removal time	
<24 hours	1 (0.9%)
24-48 hours	34 (30.4%)
48-72 hours	69 (61.6%)
>72 hours	8 (7.1%)
Do you perform intraoperative voiding test (Chambers test)?	
Yes	97 (86.6%)
No	15 (13.4%)
Do you consider intraoperative voiding test predictive of postoperative success?	
No idea	17 (15.2%)
Not at all	23 (20.5%)
Yes	82 (64.3%)
Prophylactic antibiotic use for TURP	
Preoperative single dose	29 (25.9%)
Preoperative + short course postoperative (1-2 days)	54 (48.2%)
Preoperative + long course postoperative	29 (25.9%)

TURP Practice Patterns

The majority of participants (81.2%) preferred bipolar energy during TURP, while 18.8% reported using monopolar systems. The majority of urologists (61.6%) removed the catheter at 48–72 hours, followed by 24–48 hours (30.4%). Only 0.9% opted for removal within 24 hours, while 7.1% kept the catheter in for longer than 72 hours. Most participants (86.6%) reported routinely performing an intraoperative voiding test. Additionally, 64.3% believed that the test predicts postoperative success, while 20.5% thought it does not, and 15.2% stated that they had no clear opinion. Antibiotic practices varied: 48.2% administered a preoperative dose plus a short postoperative course of 1–2 days, 25.9% administered only a single preoperative dose, and 25.9% preferred a longer postoperative antibiotic regimen.

Figure 1 shows urologists' preferred surgical approaches for prostate surgery, categorised by prostate volume. We surveyed urologists' preferred surgical approaches in four scenarios: prostate volume of less than 80 cc, 80–100 cc, 100–150 cc, and greater than 150 cc. When prostate volume was less than 80 cc, bipolar TURP was the most frequently chosen surgical approach (70%), followed by monopolar TURP (15%). For prostate volumes between 80 and 100 cc, the first and second most common choices were bipolar TURP and HoLEP (46% and 28%, respectively). For prostate volumes between 100 and 150 cc, the most popular choices were open prostatectomy (OP) and HoLEP (45% and 38%, respectively). For patients with prostate volumes greater than 150 cc, the first and second most common choices were OP and HoLEP (82% vs 16%).

We also questioned participants about their preferences for preoperative laboratory and clinical tests, and summarized the results in Figure 2. While 98% of participants considered prostate-specific antigen (PSA) to be an essential assessment, the respective values for urinary ultrasound and urine culture were 90% and 89%. On the other hand, only five participants (4.5%) deemed diagnostic cystoscopy indispensable, five (4.5%) deemed transrectal ultrasound necessary, and two (1.8%) deemed urodynamic studies necessary.

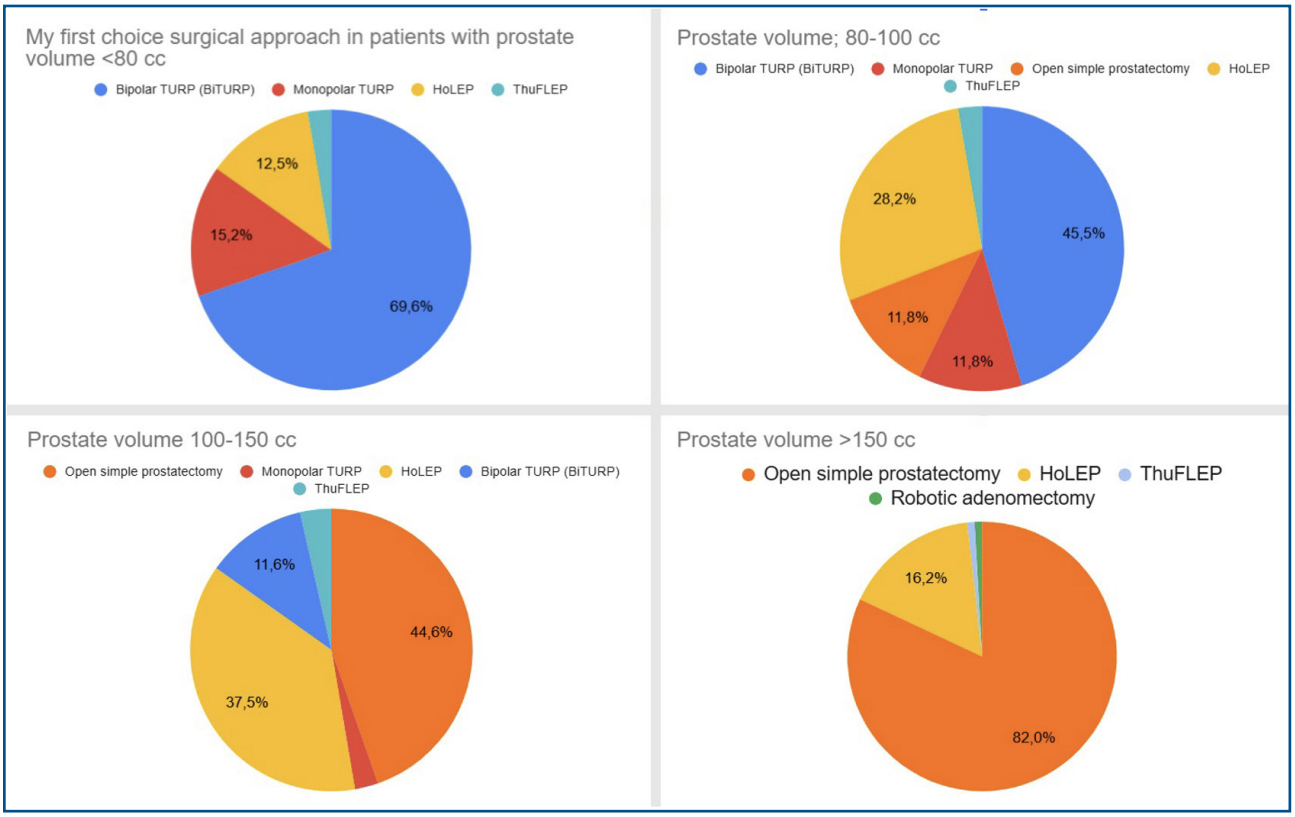

Figure 1. Participants' surgical preferences based on prostate volume

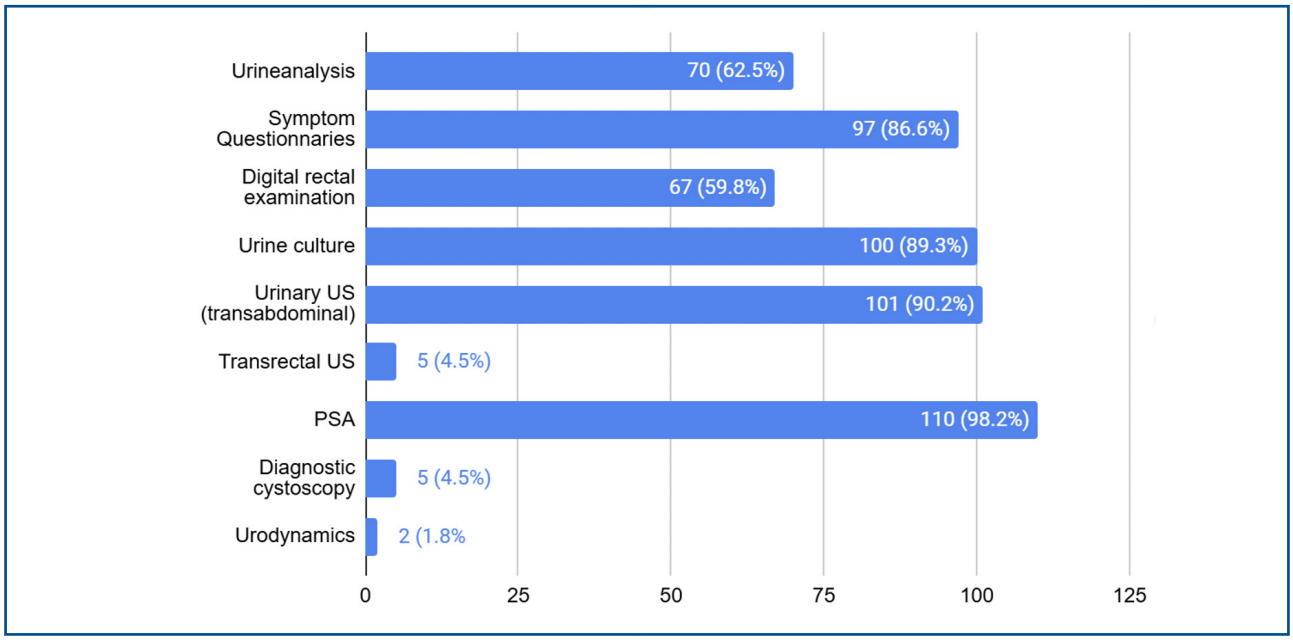

Figure 2. Clinical and laboratory tests that participants deemed necessary before BPH surgery

DISCUSSION

We conducted a nationwide survey to describe how urologists in Türkiye perform endoscopic BPH surgery, focusing on technique choice and perioperative management. The findings of this study demonstrate that TURP remains the dominant surgical modality for BPH, with a clear preference for bipolar energy systems, consistent with trends reported in international surveys.

Large international surveys have shown that TURP is still widely used despite the growth of laser enucleation, vaporization, and MISTs. Lee et al. reported that resection and vaporization techniques accounted for more than half of transurethral BPH procedures. In contrast, endoscopic enucleation accounted for 22% of cases on a global scale, with bipolar TURP being the most commonly employed modality within this category (9). Research findings similarly demonstrate that, although enucleation is increasing, TURP still accounts for a significant proportion of BPH surgeries. From 2013 to 2019, the utilization rate of TURP within the broader context of BPH surgeries exhibited a modest decline, from 47.2% to 44.9% (10). Despite its increasing popularity, the utilization of HoLEP remains below 10%, as evidenced by the extant literature (11, 12).

Our results suggest that, in Türkiye, the transition has largely favored bipolar TURP rather than complete replacement by enucleation techniques, likely reflecting equipment availability, training exposure, and institutional infrastructure. The preference for bipolar TURP observed in our cohort is supported by robust comparative evidence. Randomized trials and long-term studies report similar functional outcomes for bipolar and monopolar TURP, with less bleeding and TUR syndrome with bipolar systems (13–15). Furthermore, systematic reviews have demonstrated lower rates of urethral stricture following bipolar TURP compared with monopolar systems, reinforcing its favorable safety profile (16).

Multiple randomized trials and clinical studies have evaluated the optimal timing of urethral catheter removal after endoscopic prostate surgery. Early removal (within 24 hours) following TURP has been shown to be safe and is associated with shorter hospital stay and reduced catheter-related discomfort without significantly increasing re-catheterization rates compared with delayed removal at 48–72 hours (17,18). In the present study, 61.6% of urologists reported removing the catheter at 48–72 hours, while only 0.9% preferred removal within 24 hours. This gap suggests

that local protocols, hospital logistics, and surgeon preferences may be driving catheter timing more than published evidence.

In our cohort, 86.6% of urologists reported routinely performing the intraoperative voiding test, and 64.3% considered it predictive of postoperative success. Although several clinical studies have shown that intraoperative voiding score is effective in predicting the success of TURP, there are limited published data on this subject (8, 19). Despite its widespread use, there is limited evidence regarding the potential benefits or risks of this procedure.

Nearly half of respondents (48.2%) reported extending antibiotic prophylaxis into the postoperative period, despite guideline recommendations favoring a single preoperative dose. This practice variation mirrors findings from previous surveys, where antibiotic duration was often influenced by institutional culture rather than guideline adherence (9). Several limitations of this study should be acknowledged, including potential selection bias due to voluntary participation in an online survey, possible over-representation of urologists working in training and research hospitals, and the absence of regional stratification across different parts of Türkiye. Additionally, outcomes such as complication rates and functional results were not assessed. Finally, while this study provides valuable national-level insights, the findings may not be generalizable to healthcare systems with different resource availability or training structures.

CONCLUSIONS

Despite these limitations, this study represents one of the first comprehensive evaluations of endoscopic prostate surgery practice patterns in Türkiye. By contextualizing national trends within the existing global literature, our findings contribute to a broader understanding of how guideline recommendations, technological advances, and local factors shape real-world surgical practice.

Conflict of Interests: No potential conflict of interest relevant to this article was reported.

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Ethical Approval: This study approved by the Ethics Committee of Malatya Turgut Özal University (Approval No: 2025/395, Date: 2025-11-16). Informed consent was obtained from all individual participants included in the study. Procedures were in accordance with those outlined by the Declaration of Helsinki.

Authorship Confirmation Statement: All authors contributed to the study conception and design, drafting the article or revising it critically for important intellectual content, and final approval of the version to be published.

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