LAPAROSCOPY

Original Article

Current laparoscopic practice patterns among urologists in Turkey

Türkiye'de ürologlar arasında laparoskopinin mevcut kullanım durumu

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ABSTRACT

Objective: Laparoscopic surgery has become increasingly popular in urology over the last decade. This survey was performed to evaluate the current practice patterns in laparoscopy among urologists in Turkey.

Material and methods: A detailed questionnaire about urologic laparoscopic practice patterns was distributed to 1242 urologists who were working in Turkey. The questions pertained to age, practice demographics, and the amount and variety of laparoscopy performed.

Results: Nearly half of the respondents (48.3%) already performed laparoscopy. Of the urologists in academic settings, including university hospitals and education and research hospitals, 69.6% and 59.4% performed laparoscopy, respectively. In state hospitals, the percentage of those who performed laparoscopy was lower (26.9%). The most important reasons mentioned for performing laparoscopy were shorter hospital stay, patient requests and greater flexibility of possible surgical techniques. The main laparoscopic procedures performed were nephrectomy (benign indication), 91%; renal cyst decortications, 90%; nephrectomy (malign indication), 65%; laparoscopic stone surgery, 47% and pyeloplasty, 38%. A large percentage (77.2%) of respondents intended to attend continuing education and to perform laparoscopy in the future.

Conclusions: Our results show that laparoscopic practice steadily increases in frequency and that urologists are willing to substitute open surgery for laparoscopic surgery. The performance of laparoscopic surgery has become a goal for most urologists in Turkey to achieve in the near future.

Key words: Laparoscopy; questionnaire; survey; urology.

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ÖZET

Amaç: Laparoskopik cerrahi üroloji alanında son on yılda giderek popüler olmuştur. Bu anket Türkiye'deki ürologların laparoskopi alanındaki mevcut pratiklerini araştırmak amacıyla gerçekleştirildi.

Gereç ve yöntemler: Ürolojik laparoskopi konusunda hazırlanan ayrıntılı bir anket formu Türkiye'de çalışan 1242 ürologa e-mail yoluyla gönderildi. Sorular, ürologun yaşını, çalıştığı yerin özelliklerini, yaptığı laparoskopik ameliyatların çeşitlilik ve miktarını kapsamaktaydı.

Bulgular: Ankete cevap verenlerin yaklaşık yarısı (%48.3) zaten laparoskopi uygulamakta olduğunu belirttiler. Üniversite hastanesi ve eğitim-araştırma hastanesi gibi akademik ortamlarda bulunan ürologların sırasıyla %69.6 ve %59.4'ü laparoskopi uygulamaktaydı. Devlet hastanesinde ise laparoskopi uygulayanların oranı daha düşüktü (%26.9). Laparoskopi uygulamak için öne sürülen en önemli nedenler; kısa hastanede kalış süresi, hastaların tercihi ve daha fazla cerrahi teknik sunabilmedir. Ana laparoskopik prosedürler şunlardır; benign endikasyonlarda nefrektomi %91, renal kist dekortikasyonu %90, malign endikasyonlarda nefrektomi %65, laparoskopik taş cerrahisi %47 ve pyeloplasti %38. Cevap verenlerin büyük çoğunluğu (%77.2) gelecekte eğitim alma ve laparoskopi uygulama niyetindedir.

Sonuç: Sonuçlarımız göstermektedir ki laparoskopi kullananların sayısı giderek artmaktadır ve ürologlar açık cerrahinin yerine laparoskopik cerrahi yapmaya isteklidirler. Laparoskopik cerrahi Türkiye'de ki çoğu ürologlar için yakın gelecekte başarmak istedikleri bir hedef olarak görünmektedir.

Anahtar sözcükler: Anket; laparoskopi; üroloji.

Introduction

Since the first report of a laparoscopic nephrectomy by Clayman et al.[1] in 1990, there has been a dramatic growth in the use of laparoscopic surgery in urology, particularly during recent years. The demand for this technique in urology has increased, as it reduces patient morbidity and the duration of their hospital stays. The list of applications for urological

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laparoscopic surgery continues to grow as patients more frequently require a choice in treatment options.[2,3]

The perception of laparoscopy and laparoscopic education in urologic practice in Turkey is poorly understood at present. We conducted this survey to gain a wider view of the current laparoscopic surgical practice patterns among urologists in Turkey.

Material and methods

In October 2010, a detailed questionnaire about urologic laparoscopic practice patterns was e-mailed to 1242 urologists working in Turkey. After an 8 wk reply period, the questionnaire was resent to the non-responding urologists. After a total 3 mo reply period, the data were entered into the database and analyzed by using SPSS (version 15.0) software. The questionnaire was anonymous, self-administered, and nonvalidated. It consisted of several parts and obtained information regarding objective and subjective judgments of the value of laparoscopy to urology.

The Institutional Local Ethics Committee approved the study protocol. The questions sought information on the surgeon's age, time in practice, type of responding hospital, academic degree and laparoscopic experience (current use of laparoscopy). For urologists who already used laparoscopy, further questions were administered to assess their reasons for preferring laparoscopic techniques, major concerns about laparoscopy and procedures with which they considered laparoscopy to be ineffective. Also included were some questions about education: whether they wanted to seek training on laparoscopy, where they would seek it and how much time they would consider spending.

The results were evaluated to ascertain whether practice characteristics associated with laparoscopic surgery were related to surgeon age, time in practice, practice type or academic degree. The results were expressed in absolute numbers and percentages; the chi square test was used for testing the significance of qualitative data.

Results

A total of 1242 surveys were e-mailed, of which 446 (35.9%) were returned. The incomplete questionnaires were excluded from the study. Ultimately, 414 (33.3%) responses were evaluated. The demographic information of the responders is shown in Table 1.

We found that nearly half of the respondents (48.3%) already perform laparoscopy. Younger urologists ($p<0.05$) and those in practice for short time ($p<0.05$) were more likely to report performing laparoscopy than older respondents (Table 1).

Table 1. Demographic characteristics of survey responders and the percentage of laparoscopy performed

	No (%)	No (%) of laparoscopy performed
Age		
<40	185 (44.7%)	94 (50.9%)
41-50	161 (38.9%)	85 (52.8%)
>51	68 (16.4%)	21 (30.9%)
Years in practice		
<10	217 (52.4%)	106 (48.8%)
11-20	133 (32.1%)	72 (54.1%)
>21	64 (15.5%)	22 (34.4%)
Type of practice		
University Hospital	112 (27.1%)	78 (69.6%)
Education and Research Hospital	96 (23.2%)	57 (59.4%)
State Hospital	108 (26.1%)	29 (26.9%)
Private Hospital	98 (23.7%)	36 (36.7%)
Academic degree		
Professor	52 (12.6%)	30 (57.7%)
Assoc. Prof.	58 (14.0%)	36 (62.1%)
Ass. Prof.	46 (11.1%)	36 (78.3%)
Operator Dr.	258 (62.3%)	98 (38.0%)
Total	414 (100%)	

The distribution of urologists by health facilities and the percentage of urologists performing laparoscopic surgery by practice type are illustrated in Table 1. The number of survey responders for each practice type was roughly equal. Of the urologists in academic settings, including university hospitals and education and research hospitals, 69.6% and 59.4% perform laparoscopy, respectively. On the other hand, in state and private hospitals, the percentage of those who perform laparoscopy was lower (26.9% and 36.7%, respectively). Thus, the percentage of urologists performing laparoscopy in academic hospitals was statistically higher ($p<0.05$).

The analysis, which included proportions of urologists who performed laparoscopy, revealed that the most important reasons mentioned for performing laparoscopy were the shorter hospital stay, patient request and offering more surgical techniques. Major concerns regarding laparoscopy included economic factors, organizational difficulties, high investment costs, insufficient training facilities, a steep learning curve and lack of scientific data.

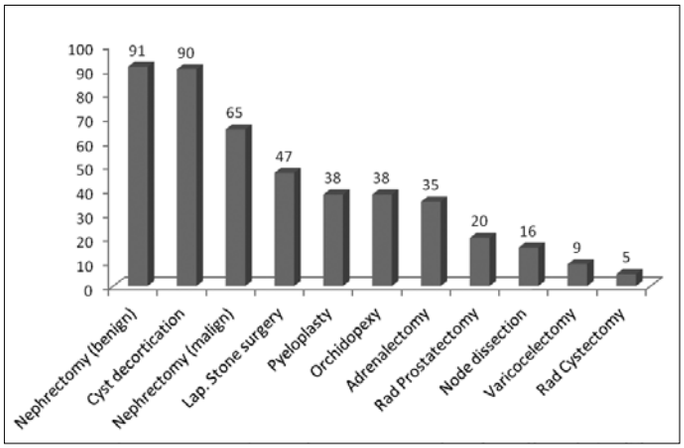

Figure 1. Laparoscopic procedures most commonly performed by urologists (%)

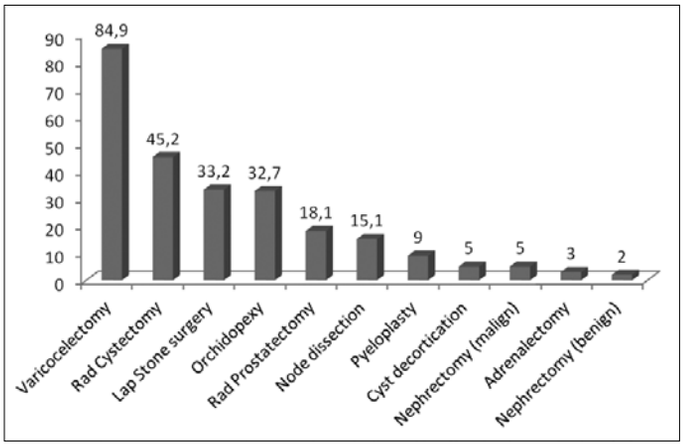

Figure 2. Laparoscopic procedures believed ineffective by urologists (%)

The number and percentage of laparoscopic procedures performed in eleven different randomly selected conditions were indicated in Figure 1. The main laparoscopic procedures, according to the proportion of urologists who perform laparoscopic surgery, were nephrectomy (benign indication), 91%; renal cyst decortications, 90%; nephrectomy (malign indication), 65%; laparoscopic stone surgery, 47% and pyeloplasty, 38%. The procedures that are believed ineffective included varicocelectomy, radical cystectomy, orchidopexy and laparoscopic stone removal (Figure 2).

The interest level of each urologist in laparoscopic training was evaluated. More than 3 quarters of responders (77.2%) intend to pursue some kind of training for laparoscopy. Most (78.8%) desire to complete the training in their own country. Regarding the time required for successful training, 11.5% of the respondents replied 1 month, 37.7% replied 3 months, 32.9% replied 6 months and 18.0% replied over than 1 years.

Discussion

Laparoscopic surgery continues to gain acceptance as a standard of care in urology which improves the quality of life for patients.[4,5] Surgical outcomes comparable to traditional techniques, combined with reduced morbidity, blood loss, shorter hospital stays and improved quality of life, contribute to the growing acceptance of laparoscopic surgery among urologists and patients alike.[5] Interest in laparoscopic surgery among urologists has grown significantly over the past decade. Thus, we tried to clarify the perception of laparoscopy among urologists in Turkey.

In 2002, Kaynan et al.[6] reported that only 12% of urologists successfully performed laparoscopy in California. Another study published in 2004 from the American Midwest revealed 21% of participants performed a significant amount of laparoscopy.[7] The percentage of urologists actively performing laparoscopy has been very low in the past. In a recent study in Saudi Arabia, 54.3% of urologists actively performed laparoscopy in their practices.[8] Our results support these findings. In our survey, 48.3% of urologists actively performed laparoscopy in their practices. Also, the percentage of urologists performing laparoscopic surgery is increasing with time. As supported by similar studies, the majority of laparoscopic urologic procedures were performed by younger surgeons and by surgeons who have been in practice for a short time.[6-8] Our study showed that urologists in academic hospitals, both in university hospitals and in education and research hospitals, tended to perform more laparoscopic surgeries. It appears that academic hospitals prioritize teaching the laparoscopic techniques that represent indispensable training for future urologists.

Although the percentage of urologists who perform laparoscopy is increasing, some urologists still do not perform this technique. We evaluated their apprehensions about laparoscopy. The reasons for not performing laparoscopic surgery, ranked by importance, were as follows: costs, a steep learning curve, a longer time in surgery and insufficient training facilities. Concerns about the steep learning curve and the insufficient training facilities demonstrate the importance of more comprehensive training facilities in medical schools.[2,9] Considering that the practice of minimally invasive laparoscopic surgery has become widespread, an increased emphasis has been placed on laparoscopic education. In our survey, a large percentage (77.2%) of respondents without experience with laparoscopy intended to pursue further education and to perform laparoscopy in the future. Investigating by department, Laguna et al. found that 85% of departments where no laparoscopy was performed intended to introduce it in the future.[2] This is a higher percentage than was described by Vogeli et al. (50%).[10] Because of the steep

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learning curve, especially for reconstructive laparoscopy, the training period should be at least several months long in order to enable the urologists to practice reconstructive laparoscopy.[11] In our survey, the time required for training was suggested most frequently as 3 to 6 months. Among those who would like to introduce laparoscopy in their practice, approximately 75% of them want to seek education in their own country.

The most common laparoscopic procedures, according to the proportion of urologists who perform laparoscopic surgery, were nephrectomy (benign indication), renal cyst decortications, nephrectomy (malign indication), laparoscopic stone surgery and pyeloplasty. Laparoscopic renal surgery has become much more accepted, and currently urologists consider laparoscopy to be the technique of choice for approaching the kidney.[12,13] Other procedures, such as radical cystectomy, varicocelectomy and radical prostatectomy, were among the least common. We suggest that as robot-assisted laparoscopic surgery becomes more prevalent, reconstructive urologic procedures such as radical cystectomy and prostatectomy will become more widespread in Turkey.

On the other hand, varicocelectomy was identified as the most ineffective use of laparoscopic procedures. While laparoscopic varicocelectomy can provide higher magnification, the laparoscopic approach requires skills that take a long time to learn, is more invasive than an open microsurgical approach, requires general anesthesia and costs much more than open techniques.[14] The use of laparoscopic varicocelectomy is still controversial; radical cystectomy, laparoscopic stone removal and orchidopexy were also identified as ineffective uses of laparoscopy.

In conclusion, as the applications of laparoscopic surgery steadily expand, and as patient request increases, urologists should offer laparoscopic surgery to their patients. Our results show that minimally invasive laparoscopic surgery continues to gain acceptance as a standard of care in urology and that urologists are willing to substitute open surgery with laparoscopy. At present, approximately 50% of urologists perform and nearly 80% intend to introduce laparoscopy.

As a result, the role of laparoscopic surgery in urology is growing, and almost all urologists in Turkey intend to offer it in the near future.

Disclosure Statement
No competing financial interests exist.

Conflict of interest
No conflict of interest was declared by the authors.

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