

Laparoscopic Versus Open Pyeloplasty for Ureteropelvic Junction Obstruction in Children: A Systematic Review and Meta-Analysis

Abstract

Purpose: To comprehensively review the available evidences in the literature on the use of laparoscopic pyeloplasty (LP) vs open pyeloplasty (OP) for the repair of ureteropelvic junction (UPJ) obstruction in children.

Materials and Methods: Published studies until the end of October 2010 were searched from Medline, Embase, Web of Science, Ovid, and Cochrane databases. The literature search, quality assessment, and data extraction were independently performed by two reviewers. A systematic review and meta-analysis were performed by using Review Manager 4.2.8 software.

Results: Of 1403 studies, one randomized controlled trial (RCT), two prospective comparative studies, and six retrospective observational studies were eligible for inclusion criteria, comprising 694 cases of LP and 7334 cases of OP. The OP has significantly reduced operative time (weighted mean difference [WMD] = 59.00; 95% confidence interval [CI] = 41.15 to 76.85; $P < 0.00001$) and higher stent placement rate (odds ratio [OR] = 5.97; 95% CI = 3.17 to 11.26; $P < 0.00001$) compared with LP, whereas the duration of hospital stay was shorter in the LP group (WMD = -0.40; 95% CI = -0.77 to -0.03; $P = 0.03$). No difference was observed between LP and OP regarding complications (OR = 0.78; 95% CI = 0.46 to 1.34; $P = 0.37$) or success rate (OR = 1.76; 95% CI = 0.71 to 4.36; $P = 0.22$).

Conclusions: LP is a minimally invasive, safe, and effective therapy method for UPJ obstruction in children, with shorter hospital stay and excellent outcomes, and without additional risk of postoperative complications. Because of the publishing bias, a series of RCTs are necessary to explore the efficiencies of LP in the management of UPJ obstruction in children.

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腹腔镜与开放肾盂成形术治疗儿童肾盂输尿管连接部梗阻：系统性回顾和 Meta 分析

摘要

目的: 获取用腹腔镜肾盂成形术(LP)与开放肾盂成形术(OP)治疗儿童肾盂输尿管连接部(UPJ)梗阻的文献并进行系统评价。

材料与方法: 在 Medline, Embase, Web of Science, Ovid 和 Cochrane 等数据库上检索直到 2010 年 10 月末发表的文献。文献的检索、质量评价和数据的提取由 2 位独立的审评者进行。系统审查和 Meta 分析用 4.2.8 软件进行处理。

结果: 1403 篇文献, 其中一篇随机对照试验 (RCT), 2 篇前瞻性对照研究和 6 篇回顾性观测研究符合纳入标准, 包括 694 例 LP 和 7334 例 OP。与 LP 手术相比, OP 手术时间明显减少 (加权平均数差[WMD]=59.00; 95%的可信区间[CI]=41.15 至 76.85; P<0.00001) 和较高的支架留置率 (比值比[OR]=5.97; 95%可信区间=3.17 至 11.26; P<0.00001), 而住院时间 LP 明显缩短 (WMD=-0.40; 95%的可信区间=-0.77 至-0.03; P=0.03)。关于并发症 (比值比=0.78; 95%可信区间=0.46 至 1.34; P=0.37)或成功率(比值比=1.76; 95%可信区间=0.71 至 4.36; P=0.22), LP 与 OP 之间没有统计意义。

结论: LP 是治疗儿童 UPJ 梗阻的一种微创、安全和有效的方法, 住院时间较短和良好的成果, 并没有增加术后的并发症。因为出版偏见, 一系列研究 LP 治疗儿童 UPJ 梗阻效果的随机对照试验是必要。

Use of Neurosurgical Patties for Dissection in Laparoscopic Procedures of the Urinary Tract

Abstract

Minimal bleeding during endoscopic surgery of the urinary tract may prevent optimum vision. We used neurosurgical patties for dissection during our laparoscopic procedures in the pediatric population and aimed to describe this technique as an alternative to standard ways of dissection during laparoscopic procedures. We have performed 21 procedures, including pyeloplasties, nephrectomies, and management of duplication anomalies, by using 0.5 inch Codman neurosurgical patties. □ Use of neurosurgical patties during laparoscopic urologic procedures yields a clear vision that enables the surgeon to perform the procedure more comfortably and effectively. JOURNAL OF ENDOUROLOGY

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神经外科止血纱布在泌尿系腹腔镜手术游离中的应用

摘要

泌尿系内窥镜手术中减少出血可以获得最佳的视觉。我们在儿童腹腔镜手术中使用神经外科止血纱布游离, 本文旨在描述这种技术可作为替代标准的腹腔镜游离方法。我们已经完成手术 21 例, 包括肾盂整形术, 肾脏切除术, 和重复畸形的治疗。术中使用 0.5 英寸的科德曼 (Codman) 神经外科止血纱布。泌尿外科腹腔镜手术中使用神经外科止血纱布可提供一个清晰的视野, 使外科医生手术时更加舒适和有效。

Laparoendoscopic Single Site Nephrectomy With the SPIDER Surgical System: Engineering Advancements Tested in a Porcine Model

Abstract

Background and Purpose: The Single Port Instrument Delivery Extended Reach (SPIDER) surgical system was developed for true continuous instrument triangulation during laparoendoscopic single site (LESS) surgery. We present our initial preclinical experience with the SPIDER surgical system during renal surgery.

Material and Methods: Bilateral laparoscopic nephrectomies were performed in a live adult porcine animal model using the SPIDER device. A standard surgical approach was used via direct video guidance.

Results: The procedure was successfully performed without surgical error or complication. The SPIDER system proved easy to use with only a minimal learning curve. Intracorporeal surgical knots were tied without difficulty using this single site system.

Conclusions: Our initial experience with the SPIDER surgical system during renal surgery is promising. SPIDER allows for true single port instrument triangulation offering a superior operative experience to currently available LESS surgical systems.

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SPIDER 外科系统在单孔腹腔镜中的应用：在猪模型中的工程技术实验

摘要

背景及目的：经单孔器延伸可及距离器械（SPIDER）手术系统是为真正连续的在单孔腹腔镜内手术时，实现真正具有三角关系可连续操作的器械。我们报告我们在肾手术中使用 SPIDER 手术系统的初步临床前经验。

材料与方法：****在活体成年猪动物模型中使用 SPIDER 器械行腹腔镜下双肾切除术。直接视频引导下标准的手术。

结果：没有外科手术错误和并发症发生，手术成功实施。证明 SPIDER 系统易于使用，仅有一个小小的学习曲线。在这一单孔器械下打腔内手术结没有困难。

结论：我们的初步经验，SPIDER 手术系统在肾切除手术中是很有希望的。SPIDER 是实现真正具有三角关系可连续操作的器械，为现在单孔手术提供了卓越的手术经验。

Real-Time Tomographic Reflection in Facilitating Percutaneous Access to the Renal Collecting System

Abstract

Background and Purpose: Real-time tomographic reflection is a novel technique that uses a geometrically fixed arrangement of a conventional ultrasound transducer, a transducer-incorporated monitor, and a half-silvered mirror. This device, dubbed the Sonic Flashlight, generates a virtual anatomically scaled image, obviating the need for a separate monitor. It may therefore facilitate invasive procedures, such as percutaneous access to the

kidney. This proof-of-concept study assesses the feasibility of this technique for renal imaging and concomitant needle puncture guidance.

Materials and Methods: In a swine model with induced hydronephrosis, the Sonic Flashlight was used to visualize and guide needle access to the renal pelvis. Passage of a 7-inch, 18-gauge spinal needle was performed. Entry into the collecting system was confirmed by the aspiration of urine.

Results: The anechoic renal pelvis and hyperechoic needle tip could be seen with the Sonic Flashlight device. Successful access to the collecting system was obtained twice without difficulty. The sonographic image, appearing to emanate from the tip of the transducer, makes visualization and manipulation more intuitive. Furthermore, by placing the operator's eyes and hands in the same field as the sonogram, image-guided procedures are potentially easier to learn.

Conclusion: The relatively shallow depth of penetration of the current device limits its clinical usefulness. A new Sonic Flashlight with a greater depth of penetration is in development.

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实时断层反射有助于经皮肾径路进入肾收集系统

摘要

背景及目的: 实时断层成像反射是一种新型的技术, 使用几何方式固定常规超声探头, 使之成为具有监控器作用的探头, 其屏幕中显示一个半镀银的监视界面。这个设备复制了声波闪光信号, 辅助成像, 生成一个虚拟的解剖分层图像, 无须分开监测。因此可能提供侵入径路, 如经皮进入肾脏。本研究评估这种技术肾成像和引导穿刺的可行性以论证这一概念。

材料与方法: 在人为肾积水的猪模型中, 声波闪光信号用于监视和引导穿刺针进入肾盂。使用 7 英寸长 18G 的腰椎穿刺针。抽出尿液证实进入收集系统。

结果: 此声波闪光信号设备可以分辨无回声的肾盂和强回声的穿刺针, 两次成功进入收集系统没有困难。超声图像看似从传感器的尖端发出, 使可视化和操作更直观。此外, 通过将操作者的手和眼睛在同一成像屏幕上, 引导穿刺可能更容易学习。

结论：目前引导穿刺设备的深度相对较浅限制了其临床应用。一个新的（穿刺深度）相对更深的声波闪光信号设备正在研制。

The Locator: Novel Percutaneous Nephrolithotomy Apparatus to Aid Collecting System Puncture— A Preliminary Report

Abstract

Background and Purpose: Precise needle puncture of the renal collecting system is an essential step for successful percutaneous nephrolithotomy (PCNL). Puncture is technically challenging and has many pitfalls for the urologic surgeon. We describe the development of a novel navigation system, the Locator, to assist accurate percutaneous needle placement and compare this with conventional manual techniques.

Materials and Methods: The essence of the device is that it stabilizes the needle for PCNL puncture. It relies on an adjustable lockable multidirectional head that is securely fixed to the operating table. The radiolucent head holds a 10F metal guide that allows renal collecting system puncture. The system uses the traditional fluoroscopic “bull’s-eye sign” to achieve precise and fixed alignment. Objective assessment was obtained by in vitro testing using simulated PCNL puncture with and without using the Locator. Time to successful puncture and fluoroscopy screening time (FST) was assessed.

Results: Six urologic trainees were recruited to test the Locator. Simulated PCNL puncture was quicker and with reduced fluoroscopy when the apparatus was used. The mean FST for traditional hand vs Locator puncture was 46 vs 16 seconds ($P=0.03$), and the mean time to puncture was 225 vs 118 seconds ($P=0.26$).

Conclusion: The Locator is a simple, cheap, and novel assistant to achieving successful PCNL puncture. It achieves this by stabilizing the needle during puncture. Preliminary in vitro testing suggests that the device may reduce fluoroscopy exposure and be quicker. The device warrants further evaluation in the clinical setting.

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定位器：新的辅助进入收集系统的经皮肾穿刺器械-初步报告

摘要

背景及目的：穿刺针精确的穿刺入肾收集系统是成功的经皮肾镜取石术（PCNL）的一个必须步骤。穿刺是技术上的挑战，对每位泌尿系外科医生而言有很多陷阱。本文报告研制新的穿刺定位导航系统（定位器），有助于准确经皮穿刺并将定位器与传统的手穿刺技术进行比较。

材料与amp;方法：器械本身可以固定穿刺针行 PCNL 术的穿刺。它依赖于一个可调节并锁定的多向头,以牢固地固定在手术台上。这个可透射线的多向头可持 10F 的金属穿刺针向肾收集系统穿刺。该系统采用传统的透视的牛眼征（'bull's-eye sign'）实现精确和固定校准。通过体外测试模拟 PCNL 穿刺使用和不使用定位器进行客观的评估。评估分析成功穿刺时间和透视时间（FST）。

结果：6 位泌尿外科学员招募来测试定位器。当使用定位器时，模拟 PCNL 术穿刺更快，透视减少。传统手定位穿刺为平均透视时间 46 秒而定位器 16 秒（ $P=0.03$ ），穿刺平均时间传统手定位穿刺为 225 秒而定位器 118 秒（ $P=0.26$ ）。

结论：定位器是一个简单，便宜，和新的辅助工具,成功帮助 PCNL 术穿刺。穿刺中通过稳定穿刺针达到上述目的。初步的体外试验表明，该器械可以减少透视曝光量和达到更快的穿刺成功。在临床应用时该装置需作进一步的评估。

Preoperative Stenting Decreases Operative Time and Reoperative Rates of Ureteroscopy

Abstract

Purpose: Large stone burden can be treated ureteroscopically, but the treatment often requires more than one procedure. Placement of a preoperative stent may theoretically enhance stone clearance by dilating the ureter to facilitate both access and stone removal. This study determines the impact of stent placement before ureteroscopy on operative time, radiologic stone clearance, and reoperative rates.

Materials and Methods: We retrospectively reviewed the records of patients who underwent ureteroscopic stone intervention at our institution from 2002 to 2008 by a single surgeon. Nonstented matched controls were used for comparison. Demographics, stone characteristics (size, number, density, and location), presence of preprocedural ureteral stent, operative time, and results of postoperative imaging were compared between the two cohorts. Statistical analysis was performed.

Results: There were 104 patients included in the study (45 prestented and 59 nonstented). Median stone size was 1 cm (range 0.3–2.5 cm). Overall stone clearance was 95.8%. The median number of procedures was one. Prestenting significantly reduced operative time during first ureteroscopy in patients with large stone requiring multiple ureteroscopies ($p=0.008$) and total operative time to stone clearance in patients with stone >1 cm ($p=0.01$), but not in patients with stone burdens <1 cm ($p=0.48$). Prestenting also significantly reduced reoperative rates in patients with stone burden >1 cm ($p=0.001$), especially for stones located in proximal ureter and kidney. Prestenting improves postoperative radiologic clearance, but this was not statistically significant ($p=0.56$).

Conclusions: Results show that ureteroscopic lithotripsy of large stone burden can be performed with a high success rate. Preureteroscopic stent placement was associated with a decreased operative time and reoperative rates in patients with larger stone burdens of >1 cm.

术前留置内支架减少输尿管镜手术时间和再次手术率

摘要

目的: 大石头可以用输尿管镜治疗, 但治疗通常需要一个以上的手术。术前留置内支架理论上可提高结石清除, 因为支架扩张输尿管有利于输尿管镜的进出和取石。本研究目的在于明确输尿管镜术前留置内支架对手术时间, 放射下的结石清除率, 和再手术率的影响。

材料与方法: 本文回顾性研究 2002 至 2008 年, 在我院由一位医师输尿管镜治疗的结石病人。未留置内支架的做对照。比较两组间的人口统计学特征、石特征 (大小、数量、密度和位置)、术前存在输尿管内支架、手术时间和术后影像结果, 进行统计分析。

结果: 104 例患者纳入研究 (45 例术前留置内支架和 59 例术前无内支架)。平均结石大小为 1 cm (范围 0.3–4 cm)。总体结石清除率是 95.8%。手术次数的中位数是 1。术前有内支架, 当结石较大需要多次输尿管镜术时, 第一次手术的时间有统计意义 ($P=0.008$), 当结石 >1 cm, 清除结石的总时间有统计意义 ($P=0.01$); 但当结石负荷 <1 cm 时, 有无内支架没有统计意义 ($P=0.48$)。有内支架也明显减少结石 >1 cm 的再次手术率 ($P=0.001$), 尤其是位于输尿管上段和肾内的结石。术前有内支架可以提高术后放射学的结石清除率, 但这无统计学意义 ($P=0.56$)。

结论: 结果表明输尿管镜碎石术治疗大结石可以提高成功率。当结石负荷 >1 cm, 术前留置内支架可以减少手术时间和再次手术率。

The Clinical Research Office of the Endourological Society Percutaneous Nephrolithotomy Global Study: Tract Dilation Comparisons in 5537 Patients

Abstract

Purpose: The study focused on the use of balloon or telescopic/serial dilation methods in percutaneous nephrolithotomy (PCNL) in the Global PCNL Study.

Patients and Methods: Centers worldwide provided data from consecutive patients who were treated with PCNL during a 1-year period. Tract dilation was performed using a balloon or telescopic/serial dilator. Patient characteristics, perioperative complications, and treatment outcomes were assessed by the treating physician. Postoperative complications were graded according to the modified Clavien grading system.

Results: A total of 5537 eligible patients were entered in the database from November 2007 to December 2009, including 2277 (41.1%) who received balloon dilation and 3260 (58.9%) who

received telescopic/serial dilation. The predominant method used was telescopic/serial dilation in Asia (94.7%) and South America (98.0%), and balloon dilation in North America (82.6%). In Europe, the rates of balloon (50.7%) and telescopic/serial (49.3%) dilation procedures were similar. The rates of bleeding (9.4% vs 6.7%), blood transfusions (7.0% vs 4.9%), and drop in mean hematocrit level (4.5% vs 2.5%) were higher in the balloon vs telescopic/serial dilator group. Clavien scores II and IIIA were slightly in favor of the telescopic/serial dilator group. Median operative time was longer in the balloon dilation group (94.0 min vs 60.0 min).

Conclusions: The Global PCNL Study has identified differences in the method of dilation used between centers in Asia, Europe, and the United States. In the balloon dilation group, a total longer operative time and higher bleeding and transfusion rates were observed. The differences in outcome may be influenced by patient heterogeneity, including previous anticoagulation therapy or surgical procedures, in addition to the number of stones treated and rate of staghorn calculi, which were all higher in the balloon group.

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腔内泌尿外科协会办公室经皮肾取石全球性的临床研究：5537 例通道扩张的比较

摘要

目的：本研究着重在全球 PCNL 研究中气囊或套叠/串行扩张方法在经皮肾镜取石术的比较。

病人与方法：全世界的中心提供 1 年期间连续行 PCNL 术患者的资料。通道扩张是用气囊或套叠/串行扩张器扩张。病人的特点,手术并发症,及治疗结果由治疗医生进行评估。根据修正 clavien 分级系统进行术后并发症的分级。

结果：从 2007 年 11 月到 2009 年 12 月,共有 5537 例符合条件的患者纳入数据库。其中气囊扩张 2277 例 (41.1%),套叠/串行扩张 3260 例 (58.9%)。套叠/串行扩张在亚洲 (94.7%) 和南美州 (98%) 在主导地位,气囊扩张在北美 (82.6%) 在主导地位。在欧洲两者相似,气囊扩张 50.7%,套叠/串行扩张 49.3%。与套叠/串行扩张相比,气囊扩张出血率 (9.4% vs 6.7%),输血率 (7% vs 4.9%) 和平均红细胞下降水平 (4.5% vs 2.5%) 较高。Clavien 评分 II 和 IIIA 稍有利于套叠/串行扩张组。平均手术时间气囊扩张组较长 (94.0min vs 60.0min)。

结论：全球 PCNL 研究显示扩张方法在亚洲,欧洲和美国中心的不同。本研究观察到气囊扩张组总手术时间较长和出血和输血率较高。结果的差异可能是病人的异质性,包括以前的抗凝治疗或外科手术,此治疗的结石数目和鹿角形结石的比率,上述因素可能是气囊扩张组都较高。

Tracking Intraoperative Fluoroscopy Utilization Reduces Radiation Exposure During Ureteroscopy

Abstract

Purpose: Recent studies have demonstrated deleterious effects of ionizing radiation from diagnostic and therapeutic imaging procedures. One of the barriers to minimizing patient exposure is physician awareness. We prospectively studied whether providing surgeons with feedback on their fluoroscopy utilization would affect intraoperative fluoroscopy times.

Materials and Methods: In 2007, we prospectively began to track fluoroscopy usage for all urology cases. Nine months later, surgeons started to receive periodic reports with their mean fluoroscopy time compared with their peers. We reviewed all ureteroscopic cases for nephrolithiasis from the date tracking began (2006-2010, n=11).

Using the initial 9-month period as a control, we studied the effect of providing feedback on mean fluoroscopy times in subsequent periods and analyzed patient factors that may affect radiation exposure.

Results: Mean fluoroscopy times for unilateral ureteroscopy decreased by 24% after surgeons received feedback (2.74±.08 minutes, $p<.002$). On multivariate analysis, factors that independently predicted decreased fluoroscopy times included female sex ($p<.02$), stones in the distal ureter ($p<.04$), and if the surgeon had received feedback ($p<.0004$). Factors that increased fluoroscopy times included the presence of hydronephrosis ($p<.001$), use of a ureteral access sheath ($p<.04$), ureteral balloon dilation ($p<.0001$), and placement of a postoperative stent ($p<.002$).

Conclusions: Providing surgeons with feedback on their fluoroscopy usage reduces patient and surgeon radiation exposure. Implementing such a tracking system requires minimal changes to existing operating room staff workflow. Further study is warranted to study the impact of this program on other procedures that utilize fluoroscopy in urology and other specialties.

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利用跟踪透视影像反馈方法减少输尿管镜术中辐射的暴露

摘要

目的: 最近的研究表明, 诊断和治疗中的影像检查, 其电离辐射对(人体)有害。尽量减少病人暴光的一个障碍是医生意识。本文前瞻性的研究外科医生利用透视影像方法是否会影响术中透视次数。

材料与方法: 2007年, 我们前瞻性地开始跟踪利用透视影像方法的所有泌尿外科病例。9个月后, 医生开始接受平均透视时间并与同行相比较的定期报告(手术中)。我们回顾从2006–2010,

311 例所有输尿管镜治疗肾结石的病例。用最初 9 个月期间的病例作为对照，我们研究随后的期间内平均透视时间的影响并分析可能影响辐射暴露的病人因素。

结果： 外科医生利用透视影像反馈方法后，单侧输尿管镜术平均透视次数下降了 24% (2.74–2.08min, $P=0.002$)。多变量分析显示，透视时间减少的独立预测因素，包括女性 ($P=0.02$)，输尿管下段结石 ($P=0.04$)，以及如果外科医生接受透视影像反馈方法。透视时间增加的因素包括存在肾积水 ($P=0.001$)，使用输尿管镜鞘 ($P=0.04$)，输尿管球囊扩张器 ($P=0.0001$)，和留置内支架 ($P=0.002$)。

结论： 提供外科医生透视影像反馈系统可以减少患者和医生的辐射暴露。实施这样一个跟踪系统需要最小的改动现有的手术室工作人员的工作流程。进一步的研究本方法对其他手术的影响是必须的，这包括泌尿外科和其他专科使用透视的手术。

Minimally Invasive Percutaneous Ablation of Parapelvic Renal Cysts and Caliceal Diverticula Using Bipolar Energy

Abstract

Background and Purpose: The use of bipolar electrocautery has proven advantages over monopolar energy during transurethral surgery by limiting hyponatremia and its clinical sequelae. Percutaneous ablation of caliceal diverticula and parapelvic renal cysts has been shown to be an effective surgical approach for the management of these conditions when clinically indicated. We present single center results of percutaneous ablation of renal cysts and caliceal diverticula using a bipolar energy technique and compare the results with a cohort of patients undergoing the procedure using monopolar energy.

Patients and Methods: Between July 2006 and June 2010, 30 patients with caliceal diverticula and renal cysts underwent percutaneous ablation using the bipolar resection system with saline irrigation (group 1). This group was compared with a cohort of 19 patients who underwent traditional ablation using a standard resectoscope, monopolar energy, and glycine irrigation (group 2). We evaluated operative times, change in hematocrit and serum sodium levels from preoperative levels, complication rates, as well as symptomatic and radiographic success rates.

Results: The mean operative times were 87 minutes and 63 minutes for groups 1 and 2, respectively ($P = 0.07$). The mean percent decrease in hematocrit was 3.27 – 1.93 in group 1 and 3.82 – 2.09 in group 2 ($P = 0.16$), and the mean decrease in serum sodium level was - 0.21 – 2.24mEq/L in group 1 and 3.78 – 2.18 mEq/L in group 2 ($P < 0.001$). There were no intraoperative complications. One patient needed ureteral stent placement for persistent urine leak. All patients with symptomatic renal cysts reported resolution of their discomfort, with radiographic success confirmed in 89% in group 1 and 79% in group 2 ($P = 0.41$).

Conclusions: Percutaneous ablation of caliceal diverticula and renal cysts using a bipolar resection system is feasible and appears to have efficacy similar to that of the monopolar system. In addition, use of isotonic saline

as the irrigation medium appears to reduce the risk of postoperative hyponatremia.

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微创经皮双极电凝治疗肾盂旁囊肿和肾盏憩室

摘要

背景及目的：经尿道手术已被证明双极电切优于单极，因减少了低钠血症和临床后遗症。经皮电凝治疗肾盏憩室和肾盂旁囊肿已被证明是一种有效的手术方法来治疗这些在临床上有指征治疗的病例。本文报告目前我们单中心经皮双极电凝治疗肾囊肿和肾盏憩室的病例并与使用单极治疗的（队列）病例进行比较。

病人与方法：2006年7月至2010年6月，组1经皮双极电凝盐水冲洗治疗肾盏憩室、肾囊肿30例。组2电极电凝使用标准电切镜，单极能源，和甘氨酸治疗（队列病例）19例。评估手术时间，术前术后红细胞的变化和血清钠的水平，并发症率，以及症状和影像学的成功率。

结果：平均手术时间组1为87min，组2 63min（ $P=0.07$ ）。红细胞压积平均百分比下降组1为 3.27 ± 1.93 ，组2为 3.82 ± 2.09 （ $P=0.16$ ），而平均血清钠水平降低组1为 -0.21 ± 2.24 mEq/L，组2为 3.78 ± 2.18 mEq/L（ $P<0.001$ ）。没有术中并发症。1例患者持续尿漏需要留置输尿管内支架。所有患者都是症状性的肾囊肿，术后无症状，影像学检查，组1成功率89%，组2为79%（ $P=0.41$ ）。

结论：经皮双极电凝治疗肾盏憩室、肾盂囊肿是可行的，与单极相比似乎有疗效相似。此外，使用等渗盐水灌洗减少了术后低钠血症的风险。

The Impact of Previous Ureteroscopic Tumor Ablation on Oncologic Outcomes After Radical Nephroureterectomy for Upper Urinary Tract Urothelial Carcinoma

Abstract

We investigated whether a history of endoscopic tumor ablation impacts oncologic outcomes after radical nephroureterectomy (RNU) for upper urinary tract urothelial carcinoma (UTUC). Using a multi-institutional database that contained patients who were treated with RNU, oncologic outcomes were assessed according to history of ureteroscopic tumor ablation. Disease-free survival (DFS) and cancer-specific survival (CSS) were estimated using the Kaplan-Meier survival analysis. Multivariate Cox regression analyses were performed to determine independent predictors of disease recurrence and cancer-specific mortality after RNU. The study included 1268

patients, 853 men and 415 women, with a mean age of 67.5 years (range 32–94 y) and 52.8 months median follow-up after RNU. A total of 175 (13%) patients underwent RNU after endoscopic tumor ablation and 1093 (87%) patients underwent RNU without a history of endoscopic ablation. The 5-year DFS and CSS rates were 72% and 77% in those with a history of tumor ablation vs 69% and 73% in those without a history of ablation ($P=0.171$ and $P=0.365$, respectively). In multivariate Cox regression analysis, history of ablation therapy was not associated with disease recurrence or cancer-specific mortality (hazard ratio [HR]: 0.79, $P=0.185$ and HR: 0.7, $P=0.078$, respectively). Our collaborative international efforts suggest that in selected patients, endoscopic tumor ablation does not adversely affect the recurrence and survival after subsequent RNU for UTUC. Our data support the continued role of ureteroscopic ablation of UTUC in appropriately selected patients.

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上尿路上皮癌输尿管镜下切除术对后来肾输尿管根治术结果的影响

摘要

本研究探讨既往行输尿管镜下上尿路上皮癌肿瘤电切除术是否对后来的肾输尿管根治术(RNU)治疗上尿路上皮癌(UTUC)结果有无影响。本研究使用的是多个机构的病例资料,纳入的是RNU治疗的病例,评估既往行输尿管镜下上尿路上皮癌电切除术对其后根治术结果的影响。用Kaplan-Meier生存分析法评估无病存活率和肿瘤特异性存活率。多参数Cox回归分析确定疾病复发和肿瘤特异性死亡率(CSS)的独立预测因素。本研究1268例患者,其中男853例,女415例,平均年龄67.5岁(范围32–94年)。RNU术后平均随访52.8个月。共有175例(13%)术前曾行内镜下肿瘤电切除术,1093例(87%)术前没有内镜下肿瘤电切的病史。5年DFS和CSS率,有肿瘤电切病史的是72%和77%,而无肿瘤电切病史的是69%和73%($P=0.171$ 和 $P=0.365$,分别)。多参数Cox回归分析发现既往有肿瘤电切病史的与肿瘤的复发或肿瘤特异性死亡率(分别是,危险比:0.79, $P=0.185$ 和危险比:0.7, $P=0.078$)无关。我们的国际合作研究表明,在选择病例,内镜切除(上尿路)肿瘤对后来的RNU治疗UTUC的复发和生存时间无影响。本研究资料支持在选择适当的病例可继续对UTUC行输尿管镜下电切治疗。

The Impact of Laparoscopic Nephrectomy on Patient Outcome: A Community Perspective

Abstract

Background and Purpose: Despite laparoscopic nephrectomy now being established as the favored technique for extirpative renal surgery, adoption of the technique is not universal, particularly in the

community setting. We describe our experience with establishing a laparoscopic program in a regional hospital and the benefits that have accrued to our community as a result.

Patients and Methods: We performed a retrospective review of all patients undergoing nephrectomy in Geelong during the 10-year period that spanned the introduction of the laparoscopic approach. Patients were divided into two groups based on the timing of their surgery in relation to the first attempted laparoscopic nephrectomy in Geelong 椶德 relaparoscopic 揆 (n?29) or 憫 postlaparoscopic 揆 (n?08). In the latter group, this was regardless of the actual approach used. Demographic, clinical, and operative details were recorded and compared between the two groups.

Results: Since the first attempt in 2001, the number of laparoscopic nephrectomies has increased annually, such that now 56% of all nephrectomies are performed via this approach. In the prelaparoscopic and postlaparoscopic groups, 73% and 78% of nephrectomies were performed for malignancy, respectively; the remainder were performed for a variety of benign conditions or trauma. Since the introduction of laparoscopy, the mean operative time for nephrectomy has increased by 1 hour (141 vs 201min, $P<0.001$), mean length of stay has decreased by 3.9 days (12 vs 8.1 d, $P<0.002$), and the incidence of both minor and major complications has fallen ($P<0.05$).

Conclusions: The introduction of laparoscopic nephrectomy results in significant benefits to the community by reducing cohort morbidity and length of stay.

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患者的结果对腹腔镜肾切除术的影响：地方医院的情况

摘要

背景及目的：尽管腹腔镜肾切除术现在已成为肾摘除的热门技术，但是此项技术的采用并不普遍，特别是在地方医院。本文报告我们的经验，在地方医院推广腹腔镜手术并因此使其受益。

病人与方法：本文是回顾性研究，收集 10 年期间在吉朗（Geelong）引入腹腔镜手术阶段所有行肾切除术的患者。依据在 Geelong 开展腹腔镜的时间，患者被分为 2 组。组 1 在 Geelong 第一次试图做腹腔镜肾切除术前即“腹腔镜前”组（N=129）；组 2“腹腔镜后”组（N=208）。在后一组（组 2），实际没有考虑到腹腔镜手术的实际应用情况。记录 2 组的人口学特征、临床和手术资料并进行比较。

结果：由于 Geelong 是在 2001 开始第一次尝试腹腔镜肾切除手术，所以以后腹腔镜肾切除术的手术量逐年增加，到现在腹腔镜肾切除术的手术量占肾脏切除的 56%。肾切除治疗恶性肿瘤，组 1 为 73%，组 2 为 78%；其余的病例是各种良性疾病或创伤。自引入腹腔镜手术以来，肾切除手术时间平均增加了 1 小时（141VS201min, $P=0.001$ ），平均住院天数减少 3.9 天（12VS8.1, $P=0.002$ ），轻微和严重并发症发生率都有下降（ $P<0.05$ ）。

结论： 地方医院开展腹腔镜肾切除术减少系列并发症和住院天数， 给其带来显著效益。

Comparison of Oncological Results, Functional Outcomes, and Complications for Transperitoneal Versus Extraperitoneal Robot-Assisted Radical Prostatectomy: A Single Surgeon's Experience

Abstract

Background and Purpose: To compare the oncologic results, functional outcomes, and complications of transperitoneal (TP) and extraperitoneal (EP) robotic radical prostatectomy.

Patients and Methods: From June 2007 to April 2009, 105 patients underwent TP robotic radical prostatectomy, and 155 patients underwent EP robotic radical prostatectomy. Clinicopathological and perioperative data were compared between the two groups. Postoperative complications and functional outcomes including potency and incontinence were assessed.

Results: Patient demographics were similar in the TP and EP groups. No significant differences in positive surgical margins were noted between the groups. The total operative time, number of lymph nodes removed, and estimated blood loss were also not significantly different. However, the robot console time was shorter for the EP group than for the TP group (89.1 vs. 107.8 minutes, $p=0.03$). Postoperative pain scale scores were lower in the EP group than in the TP group (2.7 vs. 6.3, $p<0.001$). The incidence of ileus and hernia were lower in the EP group; however, the incidence of lymphocele was higher in the EP group. Postoperative potency and continence rates were similar between the groups; however, the EP group had a faster recovery of continence compared with the TP group.

Conclusions: The EP approach has similar oncological and perioperative results, less postoperative pain, less bowel-associated complication, and better functional outcomes than those of the TP approach. The EP approach may be an important alternative in robotic radical prostatectomy.

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会阴与腹膜外径路机器人-辅助前列腺癌根治术的控瘤效果、功能和并发症的比较：一个外科医生的经验

摘要

背景及目的: 比较机器人-辅助前列腺癌根治术经会阴与腹膜外途径的控瘤效果、功能和并发症。

病人与方法: 2007年6月到2009年4月, 105例患者行经会阴机器人前列腺癌根治术(组1, TP组), 155例行腹膜外机器人前列腺癌根治术(组2, EP组)。比较2组间患者的临床病理及围手术期的资料。并评估术后并发症和功能结果(包括性功能和尿失禁)。

结果: 2组间的病人的人口统计学资料相似。2组间的手术切缘阳性无差别。总手术时间, 切除的淋巴结数目, 估计失血量也无统计学意义。然而, 机器人控制台操作时间TP组比EP组短(89.1vs107.8 min, $P=0.03$)。术后疼痛评分EP组比TP组低(2.7vs6.3, $P=0.001$)。肠梗阻和疝的发病率EP组低; 然而, 淋巴囊肿的发生率EP组较高。2组间术后性功能和控尿功能类似; 然而, 与TP组相比, EP组术后控尿能力恢复更快。

结论: 与TP组相比, EP组在肿瘤控制与围手术期结果方面相似, 术后疼痛轻, 肠道相关并发症少和更快的功能恢复。EP径路可能是机器人前列腺癌根治术的一个重要选择。

Surgical Steps That Elongate Operative Time in Robot-Assisted Radical Prostatectomy Among the Obese Population

Abstract

Introduction: The association between increased body mass index (BMI) and prolonged operative time (OT) in robot-assisted laparoscopic radical prostatectomy (RLRP) has been suggested before. It is unclear, however, which RLRP step contributes to this finding. We aimed to assess the association between BMI and duration of RLRP steps.

Patients and Methods: Records of patients who underwent RLRP between 2003 and 2009 were reviewed retrospectively. Demographics (including BMI) and OT were recorded. We reviewed total OT (incision to closure) and separate duration of sequential steps of RLRP: In room to incision (preparation), incision to robot docking (port-placement), docking to endopelvic fascia dissection end (retroperitoneal space development), dorsal vein complex (DVC) control, DVC-control end to prostate detachment (prostate dissection), vesicourethral anastomosis (anastomosis), and undocking time (undocking). We divided this cohort into BMI groups (<25, 25.0 to 29.9, 30.0 to 34.9, and ≥ 35) and compared their characteristics and OT.

Results: A total of 555 patients were analyzed. OT was significantly different across BMI groups with medians of 159, 181, 178, and 191 minutes for BMI <25, 25 to 29.9, 30 to 34.9, and ≥ 35 kg/m², respectively ($P=0.002$). For BMI <25, preparation and prostate dissection were significantly shorter.

There was a correlation between higher BMI and longer time of prostate dissection with nerve-sparing technique ($P=0.016$), but not with a non-nerve-sparing approach ($P=0.658$). Higher BMI was associated with longer times of DVC-control and vesicourethral anastomosis ($P=0.048$ and $P=0.035$,

respectively).

Conclusions: Higher BMI is significantly associated with prolonged total OT for RLRP with specific steps (preparation, nerve-sparing dissection, DVC-control, anastomosis) responsible for this result. These data need to be considered when planning RLRP in the obese population.

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在肥胖人群中行机器人辅助前列腺癌根治术延长手术时间的手术步骤

摘要

目的: 以前已经发现在机器人辅助腹腔镜前列腺癌根治术(RLRP)中, 随着身体质量指数(BMI, 体重指数)的增加其手术时间(OT)也延长。然而, 目前还不清楚, 究竟 RLRP 哪一步影响手术时间。本研究的目的是评估身体质量指数与 RLRP 手术各步骤的时间关系。

病人与方法: 回顾性研究 2003 到 2009 年间记录的行 RLRP 术的病例。获取人口学特征(包括身体质量指数)和手术时间的资料。审查记录 RLRP 总手术时间(切口到关闭)和按手术顺序每步单独的时间: 在手术室切开(准备), 切开到安装机器人机械臂(通道放置), 盆内筋膜的游离(扩大腹膜外间隙), 控制阴茎背静脉复合体(DVC), DVC 控制后到切除前列腺, 膀胱尿道吻合(吻合), 卸载机械臂的时间。按体重指数(< 25, 25~29.9, 30~34.9 和 > 35)分组并比较组间的特点和手术时间。

结果: 共分析 555 例患者。随着体重指数的变化, 组间手术时间有统计意义($P=0.002$), 体重指数 < 25, 25~29.9, 30~34.9 和 > 35 kg/m² 对应的手术时间中位数分别 159, 181, 178, and 191 min。当 BMI < 25 时, 准备时间和前列腺切除的时间明显缩短。保留神经血管束切除前列腺的手术时间, 高 BMI 于长手术时间有明显的相关性 ($P=0.016$); 不保留神经血管束, 两者之间无相关性 ($P=0.658$)。较高的体重指数, 其 DVC 的控制和膀胱尿道吻合时间也较长(分别, $P=0.048$ 和 $P=0.035$)。

结论: RLRP 术中, 高体重指数与总手术时间延长有明显的正相关, 包括一些具体的手术步骤都受体重指数的影响, 如手术准备, 神经血管束的游离, 阴茎背静脉复合体的控制, 膀胱尿道吻合。当给肥胖人群行 RLRP 手术时, 上述因素应该给予考虑。

Routine Day-Case Laparoscopic Pyeloplasty: A Paradigm Shift?

Abstract

Purpose: To determine whether day-case surgery (DS) laparoscopic pyeloplasty (LP) is feasible and safe.

Patients and Methods: Thirty-two consecutive patients, planned for DS LP between March 2006 and January 2010 at a single urologic center, were enrolled in this retrospective observational study. Every patient underwent LP after a standard pathway of care for DS. We collected demographic and medical information, including renographic data. The success rate of DS and reasons for unplanned overnight admission and readmission were collected and evaluated.

Results: There were 20 (62.5%) females and 12 (37.5%) males with a median age of 37 years (range 11 to 69 y). The pelviureteral junction obstruction was on the left side in 19 (59.3%) patients and on the right side in 13 (40.6%) patients. The most common symptom was loin pain (68.75%). The majority of patients were classified according to their physical status as American Society of Anesthesiologists (ASA) 1 (59.37%), ASA 2 (37.5%), and only one patient (3.1%) as ASA 3. Surgical time varied from 90 to 210 minutes (mean 148.9 min, standard deviation 34.70). Twenty-five (78.12%) patients were successfully discharged on the same day. Two (6.25%) patients were readmitted after surgery. On follow-up renography, 96.15% had improved drainage. This is a small retrospective study reporting initial experience.

Conclusions: The DS LP is feasible and safe. To improve the success rate and to decrease the readmission rate, objective preoperative, intraoperative, and discharge criteria should be developed for DS and validated in randomized studies.

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腹腔镜肾盂成形术(LP)可以变成常规一天(住院)的手术(DS)吗?: 一种模式的转变

摘要

病人与方法: 对 2006 年 3 月至 2010 年 1 月, 在一个泌尿外科中心行 DS LP 手术的连续 32 例患者纳入本回顾性研究。每例患者按照一个标准途径管理后行 DS LP 手术。我们收集人口学特征和医疗信息资料, 包括肾图等。收集和评估 DS 手术成功率, 非计划的突然入院和再入院的原因。

结果: 有 20 例 (62.5%) 女性和 12 例 (37.5%) 男性纳入本研究, 平均年龄 37 岁 (范围 11-69 岁)。左侧肾盂输尿管交界处梗阻 19 例 (59.3%), 右侧 13 例 (40.6%) 患者。最常见的症状是腰痛 (68.75%)。根据美国麻醉医师协会评分, 术前对大多数患者的身体状况进行了分类, ASA 1 级 59.37%, ASA 2 级 37.5%, 只有 1 例病人 ASA 3 级, 占 3.1%。手术时间 90-210 min (平均 148.9 min, 标准差 34.70)。25 例 (78.12%) 患者在手术当天顺利出院。2 例 (6.25%) 再次入院。肾图随访, 96.15% 尿液排泄改善。这是一个小的回顾性研究报告的初步经验。

结论: DSLP 手术是可行的和安全的。为了提高成功率,减少再住院率,应该进行客观的术前,术中和出院标准的制定,并进行随机研究的验证。

Outcome of Regional Lymph Node Dissection in Conjunction with Laparoscopic Nephroureterectomy for Urothelial Carcinoma of the Upper Urinary Tract

Abstract

Objective: To obtain accurate disease staging, we routinely perform regional lymph node dissection (LND) in conjunction with laparoscopic nephroureterectomy (NU) to treat urothelial carcinoma of the upper urinary tract. The present study evaluated the feasibility and usefulness of LND in laparoscopic NU.

Patients and Methods: Thirty-nine patients undergoing laparoscopic NU with regional LND were included in the present study. We evaluated the number of lymph nodes (LNs) resected, pathological node status, adverse events, and survival data. Node count was compared with that of 41 patients who underwent open NU between 1990 and 2008.

Results: The median number of LNs removed was 10 (range, 2–59) in the laparoscopic NU group and 10 (range, 1–65) in the open NU group (Mann–Whitney U-test, $p=0.82$). Pathological examination demonstrated positive LNs in four patients (10.3%) and three of the four patients received adjuvant chemotherapy. Although chylous drain discharge was detected just after resuming dietary intake in eight patients, it resolved without significant problem. Five-year overall survival by stage was 100% for pT2_ disease, 55% for pT3 disease, and 0% for pT4 disease.

Conclusions: LND can be performed safely and effectively during laparoscopic nephroureterectomy. We consider that accurate node staging and subsequent stratification are mandatory for disease management.

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区域淋巴结清扫结合腹腔镜肾输尿管切除治疗上尿路尿路上皮癌的疗效

摘要

目的: 获得准确的疾病分期后,我们在腹腔镜肾输尿管切除(NU)治疗上尿路尿路上皮癌术中常规行区域淋巴结清扫术(LND)。本研究评估在腹腔镜肾输尿管切除(NU)治疗上尿路尿路上皮癌术中行区域淋巴结清扫术的可行性和实用性。

病人与方法: 39 例行腹腔镜肾输尿管切除治疗上尿路尿路上皮癌并行区域淋巴结清扫术的患者纳入本研究。评估淋巴结切除的数量,淋巴结病理状态,合并症,和生存数据。淋巴结切除的数量与 1990 至 2008 年间行开放肾输尿管切除术的 41 例患者进行比较。

结果: 腹腔镜组淋巴结清除数目的中位数是 10 (范围, 2 - 59), 开放组是 10 (范围, 1 - 65) (Mann - Whitney U-检验, $P=0.82$)。病理检查显示 4 例 (10.3%) 淋巴结阳性,其中 3 例接受辅助化疗。尽管恢复饮食摄入后 8 例检测到乳糜漏,但无重大问题出现后自行消失。5 年总生存期 \leq pT2 的患者为 100%, pT3 的为 55%, pT4 的为 0%。

结论: 在腹腔镜肾输尿管切除中行区域淋巴结清扫术是安全和有效的。我们认为,准确的淋巴结分期和随后的分层是疾病管理必须的。

Retroperitoneoscopic Nephrectomy and Nephroureterectomy in Children and Adolescents: Analysis of a Single-Center

Experience

Abstract

Introduction and Objectives: Retroperitoneoscopic nephrectomy in children was considered by some authors to be the final gold standard in children. Hence, we reviewed our data focusing on the safety and efficacy of the procedure.

Materials and Methods: In the period from November 2005 till February 2010, 35 patients were operated by a single surgeon (the first author); patients comprised 18 boys and 17 girls, with a mean age of 7.5 years (range:1-19 years). In all patients, the retroperitoneoscopic approach was used with the use of only three trocars, one 10-mm optic trocar and two 5-mm trocars. The retroperitoneal space was established either by direct insufflations into the Gerota fascia, which is grasped and opened under vision, or using a balloon dilator to widen the space and then incising the Gerota fascia under control of the optic trocar, then control of the pedicle is performed, and the specimen is extracted from the same optic trocar.

Results: The mean operative time is 75 minutes (range: 45-120 minutes). Nineteen nephrectomies and 16 nephroureterectomies were performed. Blood loss was minimal, blood transfusion was not given, and conversion to open surgery was not needed. There were no intraoperative complications, and only one postoperative hematoma resolved spontaneously. The mean hospital stay was 2 days (1-3 days).

Conclusion: Retroperitoneoscopic nephrectomy in children is safe and feasible. Blood loss is minimal, hospital stay is very short, and complications are minimal. It has excellent cosmetic outcome.

后腹腔镜儿童和青少年肾切除术和肾输尿管切除术：单中心经验分析

摘要

目的：儿童后腹腔镜肾切除术被一些作者认为是最终的金标准手术。因此，本研究回顾性我们的数据资料，重点评估手术的安全性和有效性。

材料与方法：对 2005 年 11 月至 2010 年 2 月间，由一位外科医生（第一作者）做的 35 例手术进行总结；其中男 18 例，女 17 例，平均年龄 7.5 岁（范围：1 - 19 岁）。所有的患者，后腹腔镜手术径路采用 3 孔套管，1 个为 10mm 光镜套管，2 个 5mm 套管。用直接充气到 Gerota 筋膜（直视下提起和分开）或用气囊扩张建立腹膜后空间，然后光镜下切开 Gerota 筋膜，控制肾蒂，切下肾脏，经光镜的套管孔取出肾脏。

结果：平均手术时间 75min（范围：45 - 120min）。19 例肾切除，16 例肾输尿管切除。失血量很少，没有输血，没有中转开放。没有术中并发症，术后仅有 1 例血肿自行吸收。平均住院天数 2 天（1 - 3 天）。

结论：儿童后腹腔镜肾切除术是安全的和可行的。失血量很少，住院时间很短且并发症低。该手术具有良好的美容效果。

Cancer Control, Continence, and Potency After Laparoscopic

Radical Prostatectomy Beyond the Learning and Discovery

Curves

Abstract

Purpose: To investigate the results of laparoscopic radical prostatectomy (LRP) beyond the learning and discovery curves of 700 patients previously reported by the authors for potency.

Patients and Methods: Five hundred consecutive patients underwent LRP during a 28-month period with a minimum follow-up of 12 months. Median age (with range) = 61.0 (33–76) years;

prostate-specific antigen level = 7.0 (1–37); biopsy Gleason sum = 7 (4–10). Clinical stage was T₁ in 41.0%, T₂ in 54.2%, and T₃ in 4.8%. Nerve preservation (NP) was performed bilaterally in 57.9%, unilaterally in 15.3%, and on neither side in 26.8%.

Results: Median operative time was 157 (91–331) minutes, with no conversions or intraoperative blood transfusions; 0.4% of patients received a transfusion postoperatively, and 4.2% had complications. There were no rectal injuries. The overall positive margin rate was 13.0% and correlated with pathologic parameters. At a minimum of 1 year follow-up (mean = 13.5 (12–36) mos), overall survival was 100%, and biochemical disease-free survival was 98.8%. The pad-free rate was 97.4%. Potency (International Index of Erectile Function-5 score \geq 17) at a mean follow-up of 13.5 months in previously potent men in their 4th, 5th, 6th, and 7th decades after bilateral NP was 100.0%, 91.8%, 82.9%, and 60.0% and after unilateral NP was 100%, 66.7%, 50.1%, and 0.0%. Overall potency after bilateral neurovascular bundle NVB preservation was 86.9%.

Conclusion: LRP is capable of matching or exceeding the best results for open radical prostatectomy and robot-assisted radical prostatectomy when performed by an experienced surgeon in a high-volume setting. These results suggest that the method used to perform radical prostatectomy is a less important determinant of success than surgical experience.

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非学习和发现曲线的腹腔镜前列腺癌根治术后肿瘤控制，尿控和勃起功能

摘要

目的: 研究非学习和发现曲线的 700 例腹腔镜前列腺癌根治术(LRP)结果，其中的勃起功能作者先前已有报告。

病人与方法: 在 28 个月期间内，连续 500 例患者行 LRP 术，并至少随访 12 个月。年龄中位数(范围)为 61 (33 - 76) 岁；前列腺特异抗原水平 7 (1 - 37)；活检 Gleason 评分 7 (4 - 10)。临床分期 T1 是 41%，T2 是 54.2%，T3 是 4.8%。保留双侧神经血管束(NP)的患者是 57.9%，单侧的 15.3%，没有保留的 26.8%。

结果: 平均手术时间为 157 (91 - 331) min，没有中转开放或术中输血；术后 0.4%的患者输血，并发症发生率 4.2%。无直肠损伤。整体的切缘阳性率为 13%，与相应的病理参数一致。至少随访 1 年(平均 13.5 (12 - 36) 月)，总生存率为 100%，生化无病存活率为 98.8%。不使用尿垫率 97.4%。术前有勃起功能的病人(国际勃起功能指数-5 评分 \geq 17) 年龄在 40, 50, 60, 70, 术后平均随访 13.5 个月，手术保留双侧性神经的分别是 100%，91.8%，82.9%和 60%；保留单侧的 100%，66.7%，50.1%和 0%。双侧神经血管束保留后总勃起功能 86.9%。

结论: 当大量的手术由一位有经验的外科医生做时, LRP 是能够与开放和机器人辅助前列腺癌根治术相匹配或效果更好的手术。本研究表明, 决定前列腺癌根治术成功的因素中, 手术经验比(采用哪种)手术方式更重要。

Combining Open and Laparoscopic Surgery for Partial

Nephrectomy

Abstract

Purpose: We present a simple and easy to apply surgical approach for partial nephrectomy that combines open and laparoscopic surgery allowing for vascular control in technically challenging renal tumors and for reduction of ischemia time.

Patients and Methods: Five patients underwent partial nephrectomy using the combined laparoscopic/open approach. After complete laparoscopic mobilization of the kidney and securing of the renal vessels, the kidney is transferred extracorporally through a small pararectal incision for tumor resection.

Results: The technique was feasible in all cases, with no conversion needed. In three cases, no clamping of the renal artery was necessary. The mean operative time was 219 minutes (range 195–260 min). Pathologic examination revealed no malignancy in two (40%) cases. The estimated median blood loss was 500mL (range 250–1000 mL). Renal function decreased from 84.9mL/min (range 48.0–89.0mL/min) to 78.8mL/min (range 52.6–82.6mL/min). Mean hospital stay was 5 days (range 3–14 d).

Conclusion: Based on our initial experience, we propose a feasible surgical option for minimally invasive partial nephrectomy, which is, in particular, suitable for technically challenging renal tumors (endophytic and central tumors, large tumors, tumors in solitary kidneys).

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开放和腹腔镜联合肾部分切除术

摘要

目的: 本研究提出开放和腹腔镜联合肾部分切除术的一个简单易行的方法控制技术上挑战的肾蒂和减少热缺血时间。

病人与方法: 5 例患者使用腹腔镜联合/开放的方法行肾部分切除术。腹腔镜下完成肾脏的游离和肾蒂的控制, 通过腹直肌旁切口, 开放下将肾脏转移到腹膜外, 行肾脏部分切除术。

结果: 该技术是可行的, 没有中转开放手术。3 例没有必要钳夹肾动脉。平均手术时间为 219 min (范围 195 - 260 min)。2 例病理检查没有发现恶性肿瘤 (40%)。平均失血量估计 500 mL (范围 250 - 1000 mL)。肾功能从 84.9ml/min (范围 48 - 89.0ml/ min) 下降到 78.8ml/min (范围 52.6 - 82.6ml/ min)。平均住院天数为 5 天 (范围 3 - 14 天)。

结论: 根据我们的初步经验, 我们提出了一个微创肾部分切除术可行的手术选择, 这特别适合于技术上具有挑战性肾肿瘤手术 (内生型和中央型肿瘤, 较大的肿瘤, 孤立肾肿瘤)。

Evaluation of Ureteral Stent Placement After Retroperitoneal

Laparoscopic Ureterolithotomy for Upper Ureteral Stone:

Randomized Controlled Study

Abstract

Purpose: To determine the necessity of ureteral stent placement after retroperitoneal laparoscopic ureterolithotomy (RLU) for upper ureteral stones more than 1 cm.

Patients and Methods: Between May 2006 and May 2009, 104 RLUs were performed as primary management of large upper ureteral stones. The patients were randomly divided into two groups: In group 1 (52 patients), RLU was performed without stent placement afterward, and in group 2 (52 patients), the stent was placed after RLU. The mean stone size was 16.8 cm in group 1 and 18.2 cm in group 2. The stent in group 2 was placed cystoscopically.

Results: All procedures were performed successfully. The mean operative time was 48 minutes in group 1 vs 65 minutes in group 2. The mean drainage time was 4.1 days in group 1 vs 2.3 days in group 2. All the patients were followed up for a period of 6 months with no recorded cases of residual stone or ureteral stricture.

Conclusion: RLU for large upper ureteral stones could be considered as a primary line for treatment as regards the economic status in developing countries. Laparoscopic ureterolithotomy (LU) without stent placement for upper ureteral stones is safe, cost effective, has less operative time, and needs no auxiliary procedures when compared with the use of stent placement after LU, which adds costs and discomfort for the patient.

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经后腹腔镜腹腔镜输尿管上段切开取结石术留置输尿管内支架的评估: 随机对照研究

摘要

目的: 评估经后腹腔镜腹腔镜输尿管上段切开取结石(RLU)治疗输尿管上段>1 cm 结石, 留置输尿管内支架有否必要。

病人与方法: 2006年5月至2009年5月, 输尿管上段大结石首选 RLU 治疗的患者 104 例。患者被随机分成 2 组: 组 1 为 52 例, RLU 术后不留置输尿管内支架; 组 2 也是 52 例, RLU 术后留置输尿管内支架。组 1 平均结石大小为 16.8 cm; 组 2 为 18.2 cm。组 2 的内支架是经膀胱镜下留置的。

结果: 所有手术成功。组 1 手术时间平均为 48min, 组 2 为 65min。平均引流时间组 1 为 4.1 天, 组 2 为 2.3 天。6 个月内, 所有患者随访, 没有发现结石残留或输尿管狭窄。

结论: 就经济情况而言, 在发展中国家, RLU 可以作为治疗输尿管上段大结石一线治疗方法。腹腔镜输尿管切开取石术 (LU) 治疗输尿管上段结石不留置内支架与留置内支架相比, 前者是安全的, 更经济有效的, 可减少手术时间, 且不需要辅助的手术; 后者费用增加, 且内支架导致患者不适。

Single Injection Results of Endoscopic Treatment of Vesicoureteric Reflux with Different Tissue-Bulking Substances in Patients with End Stage Renal Failure

Abstract

Purpose: To evaluate the outcome of subureteral injections by using calcium hydroxyapatite (CaHa), dextranomer/ hyaluronic acid copolymer (Dx/HA), and polydimethylsiloxane (PDS) in patients with end-stage renal failure (ESRF) who have vesicoureteral reflux (VUR).

Patients and Methods: One hundred-one patients (166 renal units) with ESRF secondary to VUR were included in this retrospective study. The reflux was bilateral in 65 of the cases. CaHa, Dx/HA and PDS were used in 57, 26, and 18 patients, respectively. All patients were reviewed with regard to age, sex, reflux grade, type of injected materials, injectable agent volume, and outcome.

Results: The reflux resolved completely in 30 patients (50/96 renal units, 52.1%), in 17 patients (27/44 renal units, 61.4%), and in 4 patients (5/26 renal units, 19.2%) with CaHa, Dx/HA, and PDS, respectively. Regression rates of reflux to grade I with these agents in the same order were 3.1% (2 patients, 3/96 renal units), 4.5% (1 patient, 2/44 renal units), and 11.5% (2 patients, 3/26 renal units). Thus, the overall success rate were noted as 55.2%, 65.9%, and 30.7%, respectively. There was no difference among these three injectables with regard to overall success rates ($P = 0.062$). No significant correlation with age, reflux grade, agent volume, and significant difference with sex were observed ($P > 0.05$).

Conclusions: In this group of patients, the success rate of the subureteral injection treatment does not appear to be affected by the type of the injectable agent. In addition, the cure rates were independent from the individual factors, reflux grades, and injected volumes.

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内镜下单次注射组织胶 (Tissue-Bulking Substances) 治疗伴有膀胱输尿管反流性终末期肾病

摘要

目的: 评价输尿管粘膜下注射钙羟基磷灰石 (CaHa), 酞/透明质酸共聚物 (Dx/HA), 和聚二甲基硅氧烷 (PDS) 治疗膀胱输尿管反流(VUR)性终末期肾病(ESRF)疗效。

病人与方法: 本回顾性研究包括 101 个 (166 肾脏) 膀胱输尿管反流(VUR)性终末期肾病(ESRF)患者。双侧反流 65 例。CaHa, Dx/HA 和 PDS 分别应用的患者数是 57, 26 和 18 例。对所有患者的年龄, 性别, 反流级别, 注射的材料, 注射的量和疗效进行回顾。

结果: 反流完全治愈, CaHa, Dx/HA 和 PDS 依次是 30 例 (50/96 肾脏, 52.1%), 17 例 (27/44 肾脏, 61.4%), 和 4 例 (5/26 肾脏, 19.2%)。使用上述物质注射, 降到反流 1 级, 顺序同上分别是 3.1% (2 例, 3/96 脏), 4.5% (1 例, 2/44 肾脏), 和 11.5% (2 例, 3/26 肾脏)。因此, 总的成功率则分别为 55.2%, 65.9%和 30.7%。就总的成功率而言, 三种注射物质间无明显差异 ($P=0.062$)。本研究发现疗效与年龄, 反流级别, 注射的材料, 注射的量无显著相关性, 与性别有显著性差异 ($P>0.05$)。

结论: 本研究发现输尿管粘膜下注射治疗的成功率似乎与注射物质的种类没有关系。此外, 治愈率与患者的个体因素, 反流级别和注射物质的量无关。

Long-Term Results of Bipolar Radiofrequency Needle Ablation of the Prostate for Lower Urinary Tract Symptoms

Abstract

Purpose: To report the first long-term experience on the efficacy of bipolar transurethral radiofrequency needle ablation (RFA) in patients with lower urinary tract symptoms that are secondary to benign prostatic hyperplasia.

Patients and Methods: A nonrandomized prospective cohort of 12 candidates for transurethral resection of the prostate underwent bipolar transurethral RFA in 2004 (mean age 63; prostate volume

34 cc). Patients were evaluated preoperatively and at 3, 12, 36, and 60 months postprocedure. International Prostate Symptom Score(IPSS), quality-of-life (QoL) index, peak urinary flow rate (Q_{max}), postvoid residual volume (PVR), and need for a second procedure were evaluated at each follow-up interval.

Results: Significant improvement in urinary symptoms and voiding parameters occurred at 1 year after the procedure. Mean improvements for IPSS, QoL, and Q_{max} were 12 points, 3.5 points, and 8 mL/s, respectively. Improvement, however, was not sustained in the long term. Nine patients ultimately had treatment failure necessitating a secondary procedure, one at 2 months, five after 3 years, and three by 5 years. Two patients were lost to follow-up. Only one patient had long-term benefit from the procedure.

Conclusion: In the short term, bipolar RFA produced clinically meaningful improvement in symptom scores and voiding parameters. The majority of patients, however, eventually experienced treatment failure and needed additional surgical procedures. Only 8% of patients had long-term (> 5 years) benefit.

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针刺双极射频消融前列腺治疗下尿路症状的长期疗效

摘要

目的: 首次报告经尿道针刺双极射频消融(RFA)治疗因良性前列腺增生致下尿路症状患者的长期疗效。

病人与方法: 2004年, 一个非随机前瞻性队列研究中, 12例拟行经尿道前列腺切除术的患者行经尿道双极射频消融(平均年龄63岁; 前列腺体积34CC)。术前和术后3, 12, 36和60个月进行评估。评估内容包括: 国际前列腺症状评分(IPSS), 生活质量(QoL)指数, 最大尿流率(Q_{max}), 残余尿量(PVR), 并在随访期间评估是否需二次手术。

结果: 术后1年, 尿路症状和排尿参数明显改善。平均IPSS, QoL和 Q_{max} 分别是12分, 3.5分和8 mL/s。然而, 再进一步的随访, 没有进一步的改善。9例最终治疗失败, 需再次手术, 1例消融后2个月, 3例3年和3例5年。2例失访。只有1例患者从消融手术中长期受益。

结论: 在短期内, 双极射频消融明显改善临床症状评分和排尿参数。然而, 大多数患者最终治疗失败需再次手术。只有8%的患者长期(> 5年)受益。

Silicone Catheters May Be Superior to Latex Catheters

in Difficult Urethral Catheterization After Urethral Dilation

Abstract

Background and Purpose: Urethral dilation in the setting of difficult urethral catheterization is sometimes necessary to avoid suprapubic catheterization. Anecdotally, we have observed that less dilation is needed when advancing a silicone catheter over a Glidewire compared with a latex catheter of the same size. Our aim was to quantify the difference in the resistance to buckling between silicone and latex catheters.

Materials and Methods: A BOSE Electroforce load testing device was used to test 12F and 16F silicone and latex catheters under tensile and compressive forces. This information was used to characterize the buckling (kinking) behavior of the catheters.

Results: Silicone catheters showed more than 50% greater resistance to kinking when compared with regular latex or coude latex catheters.

Conclusions: In the setting of the difficult urethral catheterization, silicone catheters should be used after urethral dilation, advanced through a Glidewire, because they offer more resistance to buckling and might necessitate less dilation than conventional latex catheters.

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在尿道扩张后困难留置导尿管时，硅胶导尿管可能比乳胶导尿管容易

摘要

背景及目的：在尿道难插导尿管时，进行尿道扩张有时是需要的这样可避免行耻骨上造瘘。有趣的是，我们观察到当经 **Glidewire** 导丝插入硅胶导尿管时，与相同大小的乳胶导尿管相比只需较小扩张。本研究的目标是量化两者之间的差异。

材料与方法：BOSE 电子测量称测试 12F 和 16F 硅胶和乳胶导尿管的抗扭力和抗压缩力。此信息可提供导尿管抗扭曲的特性。

结果：硅胶导尿管比普通乳胶或库特（**coude**）乳胶导管抗扭力大 50%。

结论：在导尿困难的病例，尿道扩张后应当使用硅胶导尿管，经 **Glidewire** 导丝插入，因为与传统乳胶导尿管相比，他们提供更多的抗屈曲和可能需要较少扩张。

Efficacy of Local Subcutaneous Anesthesia Versus

Intramuscular Opioid Sedation in Extracorporeal Shockwave

Lithotripsy: A Randomized Study

Abstract

Purpose: To evaluate the analgesic efficacy of local subcutaneous (SC) anesthesia compared with intramuscular (IM) opioid sedation during extracorporeal shockwave lithotripsy (SWL) in a randomized study.

Patients and Methods: After informed consent was obtained, 125 patients with urolithiasis who were scheduled for SWL were included in the study. The patients in each treatment session were randomized to receive either IM meperidine (group A) or SC infiltration of 10mL 2% lidocaine and 10mL 0.5% bupivacaine at the area of shockwave entry (group B). Degree of pain was rated by the patient using a five-point visual analogue scale (VAS).

Results: The study included 88 (70.4%) men and 37 (29.6%) women with a mean age of 47.6_12.5 years and a mean body mass index (BMI) of 28.16_4.67 kg/m². Of the patients, 89, 26, and 10 received a single, two, or more than two treatment sessions, respectively (176 sessions). Maximum stone length was 10.68_5.12 mm. Pretreatment stent placement was performed in 17 (13.6%) patients (28 sessions). Group A comprised 89 treatment sessions while 87 were involved in group B. Both groups were similar. Supplemental intravenous sedation was needed in two (2.5%) and four (4.6%) sessions in groups A and B, respectively. VAS was not different between both groups ($P=0.063$). Patients with pretreatment stent placement had significantly lower VAS score compared with patients without stents ($P=0.012$). Sex and BMI had no impact on the VAS score.

Conclusions: Local SC anesthesia alone is effective for analgesic purposes during extracorporeal SWL. Sex, age, and BMI have no relation to analgesia requirement.

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局部皮下和肌肉注射阿片类镇静药物在体外冲击波碎石术疗效的比较：随机对照研究

摘要

目的：本研究是随机对照研究，评价在体外冲击波碎石术(SWL)中局部皮下(SC)和肌肉注射(IM)阿片类镇静药物的麻醉效果并比较。

病人与方法: 签署知情同意书, 125 例拟行 SWL 术的尿路结石患者纳入本研究。接受治疗的每例患者被随机分为肌肉注射度冷丁 (A) 组或在冲击波进入区域皮下浸润注射 2%利多卡因 10mL 和 0.5%布比卡因 10mL (B) 组。使用 5-分视觉类比评分(VAS)评价患者疼痛的程度。

结果: 本研究包括男性 88 例 (70.4%), 女性 37 (29.6%) 例, 平均年龄 47.6 ± 12.5 岁, 平均身体质量指数(BMI)为 28.16 ± 4.67 kg/m²。其中 89, 26 和 10 个患者分别接受 1, 2 次或 2 次以上碎石 (SWL) (共 176 次手术)。结石最大直径 10.68 ± 5.12 mm。碎石前预先留置内支架 17 例 (13.6%) (28 次碎石)。A 组治疗 89 次, B 组治疗 87 次, 两组相似。需要静脉麻醉镇静 A 组和 B 组分别是 2 (2.5%) 例和 4 (4.6%) 例。5-分视觉类比评分(VAS)两组之间没有区别 (规划 0.063)。与碎石前留置内支架相比, 没有留置内支架的 VAS 评分较高, 有统计意义 ($P=0.012$)。性别和体重指数对 VAS 评分没有影响。

结论: 体外 SWL 术中, 单独局部皮下浸润麻醉可以达到镇痛的目的。麻药用量与性别, 年龄和体重无关。

Robotic Palpation-Based Mechanical Property Mapping for Diagnosis of Prostate Cancer

Abstract

Purpose: The aim of this study was to estimate the mechanical properties (elasticity) of normal and cancer prostate tissues and to develop a tissue elasticity map for the diagnosis and localization of prostate cancer.

Materials and Methods: A total of 735 sites from 35 radical prostatectomy specimens were used in the experiments using a robotic palpation system, and the elasticities of the specimens were estimated by a tissue characterization algorithm. The estimated elasticities from 21 regions were separated into normal and cancer tissues using the pathological information, and a tissue elasticity map was developed using numerical functions and a nonlinear surface-fitting method.

Results: The mean elastic moduli of the normal and cancer tissues were 15.25_5.88 and 28.80_11.20 kPa, respectively. The base region had the highest elasticity, followed by the medial and apex regions. These results demonstrated the ability to separate the cancer tissue from the normal tissue based on its elastic modulus. The tissue elasticity mapping was carried out using the estimated elasticity and nonlinear surface fitting. The proposed map showed the elasticity and was used to estimate the elastic modulus of the prostate at any given region.

Conclusion: Tissue elasticity may be an important indicator of prostate cancer because the pathologic changes alter the tissue properties, including cell integrity and intercellular matrix. This work provides quantitative and objective information for the diagnosis of prostate cancer. In addition, these results may have implications for the localization of prostate cancers.

机器人触摸机械（组织）特性图诊断前列腺癌

摘要

目的： 本研究的目的是评估正常前列腺组织和肿瘤组织机械特性（组织弹性）并绘制用于前列腺癌诊断和定位的组织弹性图。

材料与方法：**** 本研究共有 35 例前列腺癌根治术后 735 个组织标本，分别用机器人触诊系统触摸，根据组织特性运算法则评估标本的弹性。根据组织弹性，从 21 个部区分出正常和癌组织的病理信息；利用数值函数和非线性拟合方法绘制组织弹性图。

结果： 正常和癌组织结节的弹性系数平均分别是 15.25 ± 5.88 和 $28.80 \pm 11.20\text{kPa}$ 。基底部的组织弹性最高，其次是中叶和尖部。结果表明根据弹性系数可以将癌组织从正常组织中区分开来。组织弹性图是利用数值函数和非线性拟合方法绘制的。该地图显示弹性可用来估计任一位置前列腺的弹性模量。

结论： 组织弹性可能是前列腺癌的一个重要指标，因为病理变化，组织性质也改变性质，包括细胞完整性和细胞间基质的变化。本研究工作为前列腺癌的诊断提供了定量和客观信息。此外，这些结果可能提示前列腺癌的部位。

Efficiency Analysis of Bipolar and Multipolar Radiofrequency Ablation in an In Vivo Porcine Kidney Model Using

Three-Dimensional Reconstruction of Histologic Section Series

Abstract

Background and Purpose: Radiofrequency ablation (RFA) was established for minimally invasive treatment of small kidney tumors in multimorbid patients. Bipolar and multipolar RFA may allow the treatment of larger tumors. Safe tumor coagulation depends on total energy supplied and proper electrode placing. To investigate the influence of energy on ablation size and shape in intact kidneys, we used cooled bipolar and multipolar RFA in an in vivo pig model.

Materials and Methods: Twenty-five male pigs were treated with percutaneous bipolar (one electrode) or multipolar (two electrodes) RFA with various energy transfer under laparoscopic visual control. The animals were sacrificed 4 to 5 hours after RFA. Volume and shape of the coagulation zone was analyzed by threedimensional reconstruction of hematoxylin and eosin and diaminobenzidine stained

paraffin serial sections. Heat-induced cellular activation was addressed by immunohistologic detection of apoptosis marker proteins heat shock protein 70 (Hsp70) and caspase-3 (Casp3).

Results: Multipolar RFA led to significant larger tissue ablation than bipolar RFA. Increasing energy, however, did not result in significant enlargement of the coagulation volume. Shape control was better in bipolar RFA. Hsp70 and activated Casp3 immunoreactivity were increased close to the central coagulation zone and occasionally in the caliceal system.

Conclusions: RFA causes minimal tissue damage beyond the primary coagulation zone, indicating that RFA is a safe, minimally invasive method for treatment of renal tumors. The ablation of larger volumes necessitates further improvement of multipolar RFA. These findings may be of general interest, because treatment failure correlates with mass size in monopolar RFA and cryoablative techniques as well.

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在猪肾模型中行双极和多极射频消融术，采用组织学连续切片三维重建分析其有效性

摘要

背景及目的: 射频消融 (RFA) 微创治疗多种疾病患者的肾脏小肿瘤的方法已经建立。双极和多极射频消融可治疗大肿瘤。安全凝固肿瘤取决于总能量供应和适当的电极放置。本文研究能量对在肾脏中消融范围和形状的影响,我们用冷却双极和多极射频消融的方式对猪体内的肾脏进行消融。

材料与方法: 腹腔镜直视下,经皮双极(一支射频消融针)或多极(两支射频消融针)使用不同的能量对 25 头雄性猪进行消融。消融完后 4 至 5 小时处死动物。凝固区的体积和形状用苏木精-伊红和二氨基联苯胺染色的连续石蜡切片进行三维重建来分析。用免疫组织化学检测细胞凋亡标记物热休克蛋白 70 (HSP 70) 和 caspase - 3 (CASP 3) 来评估热诱导细胞的活化。

结果: 多极射频消融消融灶比双极大,两者有统计学意义。然而,增加能量,消融的范围(体积)并没有显著增大。双极射频消融容易控制消融的形状(部位)。消融中心附近热休克蛋白 70 和激活 CASP 3 免疫反应增加,肾盂系统偶尔增加。

结论: 在消融中心区外,射频消融造成最小的组织损伤,表明射频消融是一种安全,微创治疗肾肿瘤的方法。较大的肿瘤,需研制多极射频消融针。该研究结果可能是很多学者所关注的,单极针射频消融和冷冻技术治疗失败的原因与肿瘤体积较大有关。

Impact of Cold and Warm Ischemia on Postoperative Recovery of Affected Renal Function After Partial Nephrectomy

Abstract

Purpose: To determine the influence of warm or cold ischemia on postoperative renal function, we conducted preoperative and postoperative analysis by renal scintigraphy of patients who were undergoing open partial nephrectomy (OPN) and laparoscopic partial nephrectomy (LPN).

Patients and Methods: From May 2005 to February 2010, the preoperative and postoperative renal function was evaluated by ^{99m}Tc -mercaptoacetyltriglycine (MAG3) clearance in 37 patients who were treated with OPN ($n = 13$) and LPN ($n = 24$). LPN were achieved via retroperitoneal (RPLPN; $n = 12$) or transperitoneal (TPLPN; $n = 12$) routes. Renal cooling was performed after renal hilar clamping in OPN and RPLPN, but not TPLPN. Renal function was evaluated according to the ratio of affected to contralateral renal MAG3 clearance.

Results: Mean ischemic time was 29.5 minutes in OPN, 25.5 minutes in TPLPN, and 50 minutes in RPLPN ($P < 0.01$); median blood loss was 230mL in OPN ($P < 0.05$), 110mL in TPLPN, and 53mL in RPLPN. There was no significant difference in postoperative total renal function between the groups. Although ischemic time in RPLPN was longer than in TPLPN, the postoperative recovery of affected renal function from 1 week to 3 months for RPLPN and OPN (cold ischemia) was significantly better than for TPLPN ($P < 0.01$).

Conclusions: Cold ischemia has an advantage of postoperative recovery of affected renal function. If a patient has a risk of renal dysfunction, cold ischemia during renal hilar clamping is recommended to avoiding deterioration.

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冷和热缺血对肾部分切除术后肾功能恢复的影响

摘要

目的: 本研究评估冷或热缺血对术后肾功能恢复的影响, 我们用肾闪烁扫描法分析开放肾部分切除术(OPN)和腹腔镜肾部分切除术(LP_N)术前和术后的肾功能。

病人与方法: 2005年5月至2010年2月, 37例患者纳入本研究, OPN 13例, LPN 24例, 用^{99m}Tc-mercaptoacetyltriglycine(MAG 3)清除率评估术前和术后肾功能。LPN经腹膜(RPLPN)后12例, 经腹腔(TPLPN)12例。OPN和RPLPN术阻断肾蒂后开始肾脏低温冷却, TPLPN不做低温处理。与对侧肾MAG 3清除率相比较, 评估肾功能影响的比率。

结果: 平均缺血时间OPN组为29.5min, TPLPN组25.5min, RPLPN组50min (P<0.01); 平均失血量OPN组为230ml (P<0.05), TPLPN组110ml, RPLPN53ml。组间术后肾功能无显著差异。尽管缺血时间RPLPN组长于TPLPN组, 术后1周至3个月, 受累肾功能的恢复, RPLPN和OPN组(冷缺血)明显优于TPLPN组 (P<0.01)。

结论: 术后肾功能的恢复, 冷缺血有优势。如果患者有肾功能不全的风险, 建议术中阻断肾蒂冷缺血避免肾功能进一步恶化。

Cadmium Exposure and Kidney Stone Formation in the General Population—An Analysis of the National Health and Nutrition Examination Survey III Data

Abstract

Background and Purpose: Cadmium exposure has been associated with a greater risk of kidney stone formation in occupational exposure studies, but data on such an association in the general population are scarce.

Subjects and Methods: We assessed the National Health and Nutrition Examination Survey data from 1988 to 1994 in terms of the risk of stone formation. Persons reporting a history of kidney stones were defined as stone formers (n = 749), and the association between a positive history of kidney stones and high environmental cadmium exposure levels (defined as urinary cadmium > 1 lg/g) was analyzed by logistic regression analysis, stratifying by sex and adjusting for age, race/ethnicity, body mass index, smoking habits, region of residence, and daily intake of calcium and sodium.

Results: The odds ratio of lithiasis associated with urinary cadmium > 1 lg/g was 1.40 (95% confidence interval 1.06, 1.86) in females (P = 0.019). The association between urinary cadmium and kidney stones was not significant in males.

Conclusions: These findings suggest that moderately high levels of urinary cadmium are associated with a greater propensity for kidney stone formation in females in the general population.

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国家健康和营养调查 III 数据的分析：普通人群镉暴露与肾结石的形成

摘要

背景及目的：在职业暴露研究中，镉暴露与肾结石形成有很大的风险因素，但在普通人群中，是否有这样的相关性，数据稀少。

材料和方法：本研究分析 1988 至 1994 年国家健康和营养调查关于结石形成风险的数据资料。个人报告的肾结石病史被定义为结石形成 (N=749)，用对数回归分析 (logistic regression analysis) 研究肾结石患者和高环境镉暴露水平 (定义为尿镉>1 lg/g) 之间的关系，根据性别和校正的年龄，种族/族裔，身体质量指数，吸烟习惯，居住地区，和每日摄入的钙和钠量进行分层。

结果：结石患者与尿镉>1 lg/g 的比值比，女性为 1.40 (95%可信区间 1.06, 1.86; P=0.019)。在男性，两者之间没有统计意义。

结论：本研究表明，在一般女性人群中，中等程度高尿镉患者有更大程度的肾结石形成倾向。