

临床研究

钬激光前列腺剜除术和开放前列腺切除术治疗大体积良性前列腺增生的Meta分析

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摘要:目的 比较钬激光前列腺剜除术(HoLEP)和开放前列腺切除术(OP)治疗大体积良性前列腺增生(BPH)的疗效和安全性。方法 检索Medline、Embase中HoLEP和OP治疗大体积BPH的随机对照试验文献。Revman5.0进行Meta分析。结果 纳入文献3篇。术后HoLEP组和OP组患者国际前列腺症状评分(IPSS)、最大尿流率(Qmax)较术前明显改善,但两组间IPSS、Qmax比较无统计学差异($P>0.05$)。两组手术时间、前列腺切除重量、术后停留尿管时间和住院时间、术中输血率比较,差异有统计学意义($P<0.05$)。两组间尿道狭窄、尿失禁及二次手术发生率比较,差异无统计学意义($P>0.05$)。结论 HoLEP和OP对大体积BPH有相同的近期疗效。HoLEP组手术时间长、切除前列腺组织少,但是术中出血量少,术后留置尿管时间、住院时间短。

关键词:钬激光前列腺剜除术;开放前列腺切除术;大体积前列腺;疗效和安全性;Meta分析

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Holmium laser enucleation versus open prostatectomy for large volume benign prostatic hyperplasia: a meta-analysis of the therapeutic effect and safety

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Abstract: Objective To compare holmium laser enucleation (HoLEP) versus open prostatectomy (OP) for large volume benign prostatic hyperplasia. **Methods** The randomized controlled trials (RCTs) pertaining to HoLEP and OP for management of large volume benign prostatic hyperplasia were retrieved from Medline and Embase. Meta-analysis was performed using Review Manager 5.0 software. **Results** Three RCTs were included in the analysis. No significant differences were found in IPSS or Qmax between HoLEP and OP ($P>0.05$). Compared with OP, HoLEP was associated with significantly less blood loss, a shorter catheterization time and a shorter hospital stay, but a longer operating time. HoLEP and OP were similar in terms of urethral stricture, stress incontinence, transfusion requirement and the rate of reintervention. **Conclusion** HoLEP and OP have similar therapeutic effects in the management of large volume benign prostatic hyperplasia. Although with a longer operating time and less resected tissue, HoLEP causes less blood loss and requires a shorter catheterization time and a shorter hospital stay. HoLEP has a comparable safety to OP in terms of the adverse events.

Key words: holmium laser enucleation of the prostate; open prostatectomy; benign prostatic hyperplasia; large volume prostate; meta-analysis

前列腺体积大小是影响良性前列腺增生(BPH)患者手术方式的重要因素之一^[1]。对于大体积BPH患者,欧洲BPH诊疗指南均建议采用开放前列腺切除术(OP)^[2],但是OP手术创伤大,愈合时间长^[3]。AE等^[4]报导,钬激光前列腺剜除术(HoLEP)治疗大体积BPH取得良好临床疗效。但是比较OP和HoLEP治疗大体积BPH疗效和安全性的文献,结论不一致。本研究采用Meta分析

方法,通过系统回顾国内外文献,探讨OP和HoLEP治疗大体积BPH的疗效和安全性,现报导如下。

1 资料与方法

1.1 文献的纳入和排除标准

1.1.1 文献的纳入标准 OP和HoLEP治疗大体积前列腺BPH的的随机对照试验;患者前列腺体积 >70 ml。

1.1.2 文献的排除标准 文献综述、摘要、评论、手术方法类文献。

1.2 检索 Medline、Embase 数据库中比较 OP 和 HoLEP 的任何语种文献

1.3 仔细阅读文献全文提取

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作者、发表时间、患者年龄和人数、前列腺体积;手术时间、切除前列腺组织的质量、留置尿管时间、住院时间、术后尿失禁、尿道狭窄、输血、二次手术人数;国际前列腺症状评分(IPSS)、最大尿流率(Qmax)。

1.4 统计分析

使用Revman5.0统计软件进行Meta分析。二分类变量选择相对危险度合并统计量;连续变量选择加权均数差,并计算95%可信区间。异质性检验 $P>0.05$,选择固定效应模型合并统计量; $P\leq 0.05$ 时,选择随机效应模型。敏感性分析剔除低质量研究后的合并结果与原Meta分析结果是否一致,以判断Meta分析结果的稳定性。

2 结果

2.1 文献检索结果

纳入文献3篇^[5-7](图1)。纳入文献均描述采用随机化的方法,均报道随访情况及描述了失访的原因,结果数据较完整。纳入研究患者一般资料见表1。

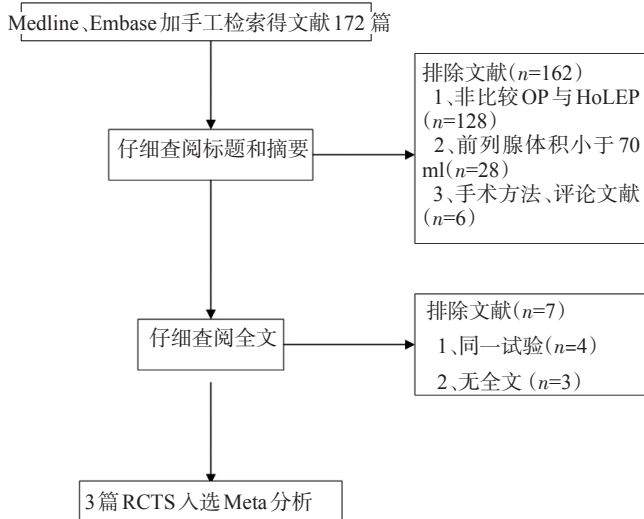


图1 文献检索流程

Fig.1 Study flow diagram.

表1 OP组与HoLEP组患者基线资料

Tab.1 Summary of the baseline data from included studies comparing OP with HoLEP (Mean±SD)

	患者数	年龄(岁)	前列腺体积(cm ³)
Zhang et al ^[5]			
OP	28	75.7±5.1	157.2±35.1
HoLEP	32	72.7±6.3	139.6±26.4
Krutz et al ^[6]			
OP	60	71.2±8.3	113±19.2
HoLEP	60	69.2±8.4	114.6±21.6
Naspro et al ^[7]			
OP	39	67.27±6.72	124.21±38.52
HoLEP	41	66.26±6.55	113.27±35.33

OP=开放前列腺切除术; HoLEP=钬激光前列腺切除术

2.2 Meta分析

OP组与HoLEP组间术前和术后IPSS、Qmax比较,差异均无统计学意义($P>0.05$)(图2~5)。OP组在手术时间、前列腺切除质量优于HoLEP组;而HoLEP组在术后停留尿管时间和住院时间优于OP组(表2)。两组间术中输血比较差异有统计学意义($P<0.05$);两组间尿道狭窄、尿失禁及二次手术比较,差异无统计学意义($P>0.05$,表2)。本研究纳入文献3篇,依据Cochrane协作网系统评价员手册,Meta分析研究数量10个或以上才需做漏斗图,因此未行漏斗图检验。

3 讨论

在本研究中,OP组与HoLEP组患者年龄、前列腺体积基线资料相似(表1)。Meta分析示OP组与HoLEP组术前和术后IPSS、Qmax比较,差异无统计学意义($P>0.05$)。对于大体积BPH, HoLEP也能达到OP的治疗效果。HoLEP组患者手术时间(72.09~138.50 min)明显长于OP组(58.31~99.80 min),两组间手术时间比较差异有统计学意义($P=0.007$)。由于患者前列腺体积较大, HoLEP需要更长的时间将前列腺组织切除并将碎

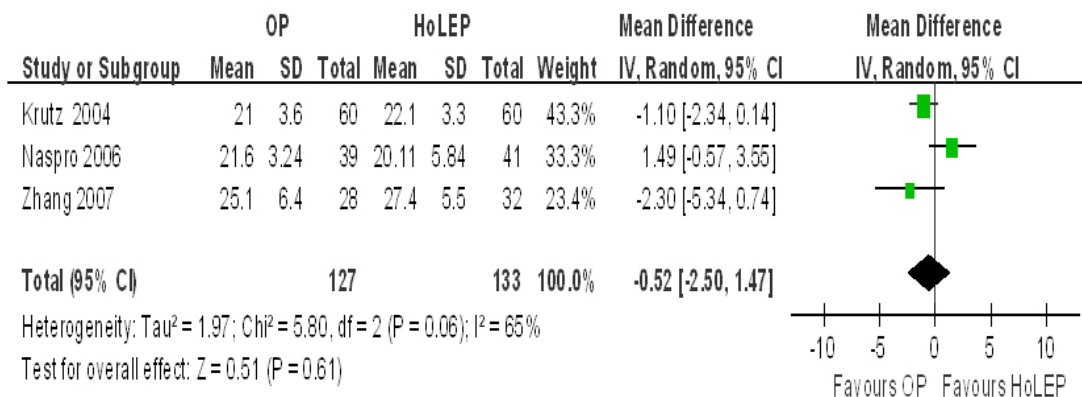


图2 OP组和HoLEP组患者术前IPSS比较的森林图

Fig.2 Forest plot of the comparison: the baseline IPSS between OP and HoLEP.

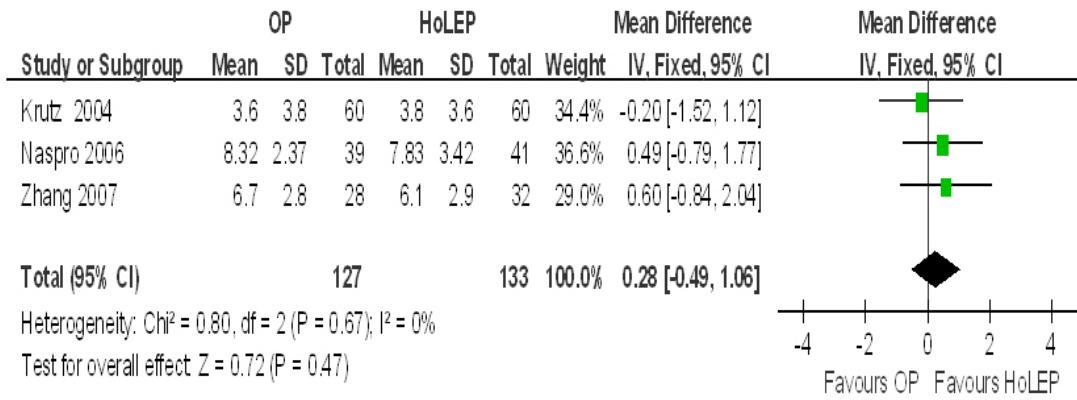


图3 OP组和HoLEP组患者术前Qmax比较的森林图
 Fig.3 Forest plot of the comparison: baseline Qmax between OP and HoLEP.

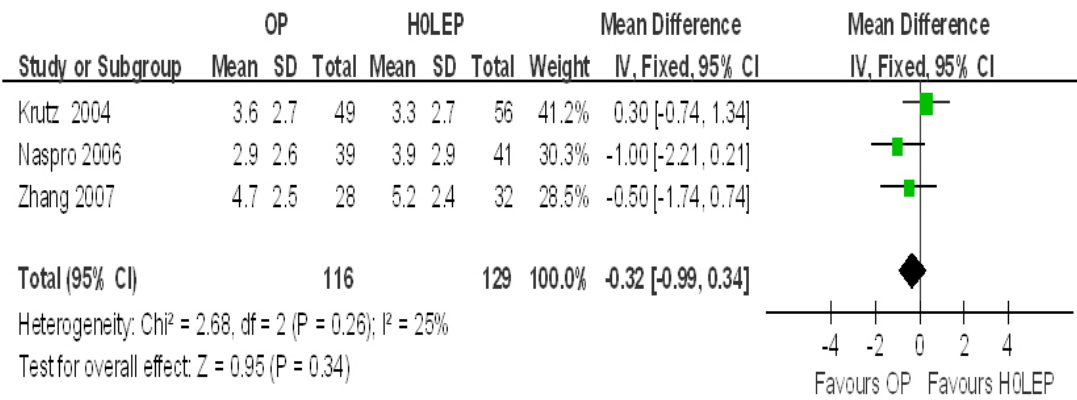


图4 OP组和HoLEP组患者术后IPSS比较的森林图
 Fig.4 Forest plot of the comparison: outcome data of IPSS between OP and HoLEP.

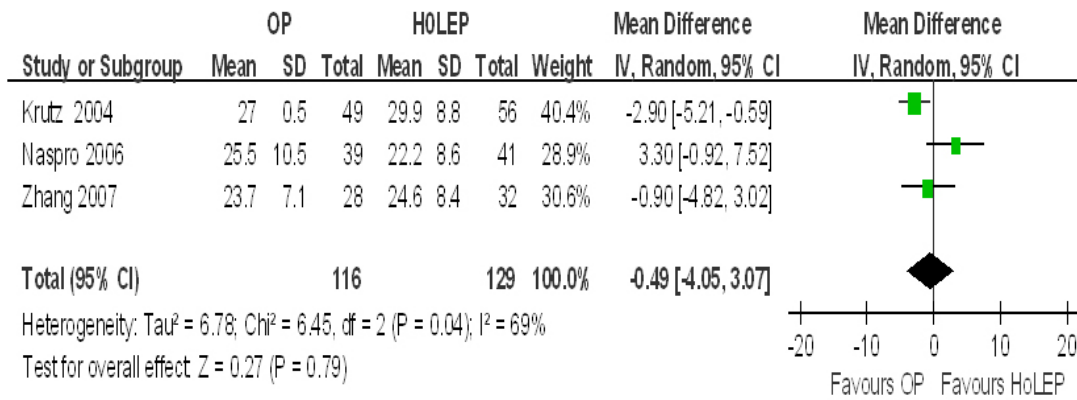


图5 OP组和HoLEP组患者术后Qmax比较的森林图
 Fig.5 Forest plot of the comparison: outcome data of Qmax between OP and HoLEP.

片通过电切镜鞘排出。HoLEP组与OP组间前列腺组织切除量比较,差异也有统计学意义($P=0.002$)。OP更能彻底切除增生的前列腺组织。

HoLEP和OP两组间输血发生率比较,差异有统计学意义($P=0.0006$),森林图提示HoLEP优于OP。钦激光定位准确,能精确切割增生前列腺组织,在剜除前列腺

的同时出血点得到充分凝固,从而减少手术出血^[8-13]。HoLEP组手术出血较少,膀胱冲洗时间短,术后停留尿管时间、住院时间也明显短于OP组。HoLEP与OP间术后尿道狭窄、尿失禁、二次手术比较无统计学差异($P>0.05$)。这提示两组间术后近期安全性相近。但是学习曲线较长仍是HoLEP的缺点。Hwang和Seki等^[14-15]报

表2 Meta分析手术安全指标

Tab.2 Meta-analysis of safety outcome comparing OP with HoLEP

手术安全指标	患者数		Pooled difference estimate	P	I ² (%)	森林图支持
	OP	HoELP				
围手术期数据						
手术时间	127	133	-32.15(-55.42,-8.87)	0.007	93	OP
切除前列腺质量	127	133	11.81(4.32,19.29)	0.002	70	OP
停留尿管时间	127	133	5.11(4.89,5.33)	<0.0001	99	HoELP
住院时间	127	133	4.71(4.35,5.07)	<0.0002	99	HoELP
手术不良事件						
输血	127	133	8.72(2.51,30.30)	0.0006	0	HoELP
尿道狭窄	127	133	1.13(0.22,5.82)	0.89	0	None
尿失禁	127	133	0.56(0.17,1.85)	0.34	0	None
二次手术	127	133	1.10(0.36,3.36)	0.87	0	None

OP=开放前列腺切除术; HoELP=钬激光前列腺剜除术; Pooled difference estimate=数据合并统计量; I²=异质性

道,泌尿外科医师必须有30~40例HoLEP手术(前列腺体积30~50 ml),才能独立完成手术。本研究部由于不同地区、医院的泌尿外科医师手术技术水平有差异,造成部分指标异质性显著(I²>70)。因此,结论仍需多中心、大样本量随机对照试验的检验。

本Meta显示, HoLEP和OP对大体积BPH有相同的近期疗效,与OP组相比, HoLEP组的手术时间长,切除前列腺组织少,但是术中出血量少,在术后停留尿管时间、住院时间短。

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