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全膝关节置换术与单髁置换术治疗老年膝关节骨关节炎的疗效比较*

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摘要 目的:探讨全膝关节置换术与单髁置换术对老年膝骨关节炎患者的临床疗效及术后恢复情况。**方法:**收集我院就诊的 94 例膝骨关节炎患者,随机分为 UKA 组和 TKA 组,每组各 47 例。UKA 组采用单髁置换术治疗,TKA 组采用全膝关节置换术治疗。观察并比较两组患者治疗前后膝关节功能评分(KSS)、疼痛视觉模拟评分(VAS)以及手术时间、术中出血量及术后并发症的发生情况等。**结果:**与治疗前相比,治疗后两组患者 KSS 评分均升高,VAS 评分均下降,差异具有统计学意义($P<0.05$);与 TKA 组相比,UKA 组 VAS 评分水平较低,KSS 评分水平较高,差异具有统计学意义($P<0.05$);与 TKA 组相比,UKA 组手术时间短,术中出血量少,差异具有统计学意义($P<0.05$);两组患者治疗后的并发症发生率差异无统计学意义($P>0.05$)。**结论:**在掌握适应证的前提下,与全膝关节置换术相比,单髁置换术创伤小、出血量少,关节功能恢复较好。

关键词:膝骨关节炎;单髁置换术;全膝关节置换术

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Comparison of Clinical Efficacy of Total Knee Arthroplasty and Single Condyle Replacement in Treatment of Knee Osteoarthritis for Elderly Patients*

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ABSTRACT Objective: To investigate the clinical effect of total knee arthroplasty and unicompartmental knee arthroplasty on the treatment of knee osteoarthritis for elderly patients. **Methods:** 94 cases with knee osteoarthritis who were treated in our hospital were selected and randomly divided into the UKA group and the TKA group, with 47 cases in each group. The patients in the UKA group were treated with unicompartmental knee arthroplasty, while the patients in the TKA group were treated with total knee arthroplasty. Then the knee score (KSS), visual analogue scale (VAS), the operation time, blood loss and the incidence of postoperative complications of patients in the two groups were observed and compared before and after the treatment. **Results:** Compared with before treatment, the KSS scores in the two groups increased, while the VAS scores decreased after the treatment, and the differences were statistically significant ($P<0.05$); Compared with TKA group after treatment, the VAS score in the UKA group was lower, and the KSS score was higher, and the differences were statistically significant ($P<0.05$); Compared with TKA group, the time used for operation in the UKA group was shorter, and the quantity of bleeding was lower, and the differences were statistically significant ($P<0.05$); There was no statistically significant difference about the incidence of postoperative complications between the two groups ($P>0.05$). **Conclusion:** Compared with total knee arthroplasty, the unicompartmental knee arthroplasty had less invasive and bleeding and better recovery of joint function on the condition that the mastering indications of patients were clearly.

Key words: Knee osteoarthritis; Unicompartmental knee arthroplasty; Total knee arthroplasty

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前言

膝关节骨关节炎以关节面软骨的退化与骨质增生等为特征,与患者长期的活动造成膝关节过度磨损有关,属于慢性关节病变,在中老年及日常工作负重较多的人群中发病率较高^[1]。膝关节骨关节炎早期病变仅局限在膝关节的单一间室,后期可

累及膝关节任一间室^[2]。膝骨关节炎在膝骨关节边缘形成骨赘,进而引起膝关节的退行病变,临床表现为膝关节的疼痛,肿胀以及跛行^[3]。对于膝关节骨关节炎的治疗在临床存在争议,对于年轻以及症状较轻的患者,膝关节炎的早期可通过物理以及药物的手段进行治疗,减轻患者的临床症状^[4],而对于较为严重的膝关节骨关节炎且经药物与物理治疗等非手术治疗无法获得

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确切疗效的患者,应考虑进行手术治疗恢复膝关节的正常功能。随着膝关节置换术的技术以及材料的不断进步,膝关节置换术的应用的范围也不断扩大。目前临床认为全膝关节置换术(TKA)与单髁置换术(UKA)是最主要的膝关节置换术^[9]。全膝置换术是目前临床成熟的术式,是临床公认的治疗膝关节炎的最佳术式,且临床疗效也较好,但对于单侧间室膝关节炎患者,是否应该应用全膝关节置换术,临床上仍存在争议。有研究表明^[9],与全膝关节置换术相比,单髁置换术患者在手术中出血少、住院时间短、患者功能恢复好。

1 资料与方法

1.1 临床资料

收集 2015 年 1 月~2016 年 6 月于我院就诊的 94 例膝骨关节炎患者,随机分为两组,分别为 UKA 组和 TKA 组,各 47 例。UKA 组患者平均年龄(67.43 ± 0.77)岁,男性 21 例,女性 26 例;TKA 组患者平均年龄(66.14 ± 0.85)岁,男性 22 例,女性 25 例。所有患者均符合膝骨关节炎的诊断标准,并经 X 线等影像学检查证实。两组患者一般资料相比差异无统计学意义($P>0.05$)。所有患者均为膝骨关节炎,符合临床诊断标准以及手术指征,患者均为单间室的膝骨关节炎,膝关节明显肿胀,有压痛,经影像学检查确诊。所有患者年龄在 60~75 岁之间,性别不限,患者体重均在 80 公斤以下,所有患者膝关节韧带结构完整。

1.2 方法

UKA 组患者行单髁置换术,取仰卧位,大腿根部放止血带,加压止血。下肢置于支架上,使髌关节屈曲,行硬膜外麻醉。在髌旁内侧做纵行切口,打开关节囊,屈膝,切开冠状韧带,暴露内侧间室。掀起腔骨前内侧面的骨膜及软组织,把髌骨拉向外侧。充分暴露关节,清除骨赘,矫正畸形。保留前交叉韧带,按负重站立位行腔骨髓外定位截骨,定位,安装假体试模,伸膝,测试稳定性,安装膝关节单髁假体后,进行仔细止血。常规放置引流管,屈膝缝合。TKA 组采用全膝关节置换术,患者取仰卧位,屈膝状态下行膝关节前正中切口。采用髓外定位方法,剥离前内侧关节囊和内侧副韧带深部到膝后内侧角,将髌骨翻向外侧。等量截骨,清除骨赘。测量适用假体大小,假体各组件采用

骨水泥固定。

1.3 观察指标及检测方法

1.3.1 临床指标 观察并比较两组患者的手术时间、术中出血量以及术后骨折、感染、下肢深静脉血栓、假体松动、骨关节炎进展等并发症的发生情况。

1.3.2 膝关节评分(KSS) KSS 评分包含了功能评分及临床评分两部分,功能评分对患者的疼痛程度,稳定性,膝关节活动范围进行评估;临床评分对患者的行走以及上楼梯能力进行评估。临床患者分数越高,膝关节功能越好。

1.3.3 疼痛视觉模拟评分(VAS) 所有患者治疗前后疼痛程度采用视觉模拟评分(VAS)进行检测,采用 10 cm 的标尺,从 0 分到 10 分,无痛为 0 分,剧痛为 10 分为剧痛;嘱患者标出疼痛的程度位置,对患者的疼痛程度进行检测。

1.4 统计学分析

采用 SPSS 19.0 统计软件。计量数据采用 t 检验,以均数 $\pm$ 标准差($\bar{x} \pm s$)表示;计数资料采用卡方检验,用%表示。以 $P<0.05$ 认为差异有统计学意义。

2 结果

2.1 两组患者手术时间及术中出血量比较

与 TKA 组相比,UKA 组患者的手术时间较短,术中出血量较少($P<0.05$),见表 1。

表 1 患者手术时间以及术中出血量比较($\bar{x} \pm s$)

Table 1 Comparison of the operation time and blood loss between the two groups(day, $\bar{x} \pm s$)

Groups	Operation time(min)	Blood loss(mL)
UKA group	57.27 $\pm$ 11.28*	144.28 $\pm$ 25.39*
TKA group	89.38 $\pm$ 10.37	329.37 $\pm$ 29.04

Note: compared with the TKA group, * $P<0.05$.

2.2 两组患者治疗前后膝关节评分(KSS)比较

治疗后,两组患者的 KSS 评分与治疗前相比均升高($P<0.05$),与 TKA 组相比,UKA 组患者治疗后 KSS 评分较高($P<0.05$),见表 2。

表 2 患者治疗前后 KSS 评分比较($\bar{x} \pm s$)

Table 2 Comparison of the KSS scores between two groups before and after treatment($\bar{x} \pm s$)

		Before treatment	After treatment
UKA group	KSS function score	51.39 $\pm$ 3.29	85.29 $\pm$ 3.71**
	KSS clinical score	52.15 $\pm$ 3.17	74.22 $\pm$ 3.65**
TKA group	KSS function score	50.16 $\pm$ 3.43	84.38 $\pm$ 3.28*
	KSS clinical score	51.12 $\pm$ 4.01	72.11 $\pm$ 3.62*

Note: compared with before treatment, * $P<0.05$; compared with the TKA group after treatment, ** $P<0.05$.

2.3 两组患者治疗前后疼痛视觉模拟评分(VAS)比较

治疗后,两组患者疼痛评分与治疗前相比均下降($P<0.05$),与 TKA 组相比,UKA 组患者治疗后 VAS 评分较低($P<0.05$),见表 3。

2.4 两组患者并发症发生情况比较

两组患者骨折、感染、下肢深静脉血栓、假体松动以及骨关

节炎进展等并发症的发生率比较,差异无统计学意义($P>0.05$)。

3 讨论

老年骨关节炎患者疼痛较为明显,且保守治疗的效果不佳。膝关节是人体最大的关节,承受人体大部分重量,是人体使用频率较高的关节^[7]。膝骨关节炎病变可以发生在膝关节的任

何间室,一般由膝关节的内侧疼痛开始,逐渐发展为全膝的疼痛,如失于治疗可出现膝关节的内翻或外翻畸形^[8]。中老年患者随着年龄增长,膝关节退变加速,膝关节软骨变性、剥脱等造成骨质暴露,周围骨赘生成^[9]。当增生的骨质对周围的神经以及血管等造成压迫时,则会造成炎症反应。早期的保守治疗包括理疗、控制体质量、使用止痛药以及关节腔注射透明质酸等以增加润滑,减轻疼痛^[10]。如患者的临床症状不能缓解,则需要行手术治疗,临床常用关节镜手术、截骨术以及膝关节表面置换术等手术方法。

表 3 患者治疗前后 VAS 评分水平比较($\bar{x} \pm s$)

Table 3 Comparison of the VAS scores between the two groups before and after the treatment($\bar{x} \pm s$)

Groups	Before treatment	After treatment
UKA group	7.32 $\pm$ 0.83	2.44 $\pm$ 0.44 [*]
TKA group	7.63 $\pm$ 0.72	4.98 $\pm$ 0.32 [*]

Note: compared with before treatment, ^{*}P<0.05; compared with the TKA group after treatment, [#]P<0.05.

膝关节置换术需要注意的是患者膝关节功能以及日常活动水平的恢复、所置入假体的寿命以及限制膝关节炎的进展^[11]。全膝关节置换术是临床治疗各种膝关节炎的首选术式,分为非限制性、部分限制性和限制性假体,根据患者关节畸形程度进行选择^[12,13]。全膝关节置换术的临床疗效良好,且经长时间的临床实践,医生的临床经验丰富,患者治疗的有效率较高。随着单髁置换术技术的不断发展,假体不断完善,行单髁置换术的患者比例不断增加。单髁关节置换术始于上世纪中叶,单髁置换术术式更加精细,对于临床操作的要求也更高:要求临床医生在手术时选择最佳的入路、最小的切口,在手术中确保不会引起膝关节间室软骨的磨损^[14]。随着其技术不断发展改进,近年来应用于膝关节炎的治疗,具备微创手术的优点,手术的成功率较高。有研究证实^[15,16],与全膝关节置换术比较,单髁关节置换术后早期就进行功能锻炼,减少下肢深静脉血栓等的发生率,提高患肢肌力^[17]。本实验结果表明,UKA 组患者的手术时间以及术中出血量水平均较低。此外,术后两组患者的 KSS 评分水平均升高,其中 UKA 组患者的 KSS 评分水平较高,提示患者治疗后的膝关节功能恢复较好^[18]。疼痛和假体松动是较为常见的并发症,对患者的疗效会产生影响^[19,20]。我们的实验结果表明,两组患者均未发生严重并发症,提示两种术式的安全性均较高。

综上,在掌握适应证的前提下,与全膝关节置换术相比,单髁置换术治疗单间室膝骨关节炎疗效较好。在下一步我们将对本实验得出的结论进行更加深入的探讨和论证。

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