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髋关节置换术对股骨头坏死患者髋关节 Harris 评分及运动功能的影响 *

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摘要 目的:分析髋关节置换术对股骨头坏死(osteonecrosis of the femoral head, ONFH)患者的髋关节 Harris 功能评分(Harris hip score, HHS)与简式 Fugl-Meyer 运动功能评分(Fugl-Meyer assessment scale, FMA)的影响。**方法:**回顾性选取于我院受诊的 ONFH 患者 87 例,按照其所用术式的不同,分为两组,传统组采用传统股骨头置换术治疗,共 43 例病例;研究组采用无柄解剖型人工髋关节置换术治疗,共 44 例,比较两组 Harris 评分、Fugl-Meyer 运动功能评分的改变及统计并发症信息。**结果:**研究组 Harris 评分无显著差异($P>0.05$);治疗后,研究组 Harris 评分明显高于传统组($P<0.05$);研究组简式 Fugl-Meyer 运动功能显著优于传统组 ($P<0.05$);研究组并发症的发生率低于传统组($P<0.05$)。**结论:**无柄解剖型人工髋关节置换术治疗 ONFH 的临床疗效显著,能够改善患者髋关节功能及运动功能。

关键词:髋关节置换术;Harris 评分;股骨头坏死;运动功能

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Effects of Hip Replacement on Harris Scores and Motor Functions of Patients with Femoral Head Osteonecrosis*

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ABSTRACT Objective: To analyze the effect of hip replacement on Harris score and simple Fugl-Meyer motor function score (Harris hip score, HHS) of patients with osteonecrosis of the femoral head (ONFH). **Methods:** 87 patients with ONFH were retrospectively studied. According to the different surgical procedures, the patients were divided into the two groups. The traditional group (n=43) was treated with traditional femoral head replacement. The study group (n=44) was treated with sessile anatomy type of total hip arthroplasty. The Harris score, fugl-Meyer motor function scores and complications were compared. **Results:** The Harris score of the study group were without significant differences ($P>0.05$). After treatment, the Harris score in the study group was significantly higher than that in the traditional group ($P<0.05$). The motor function of Fugl-Meyer was significantly better than that of the traditional group ($P<0.05$). The incidence of postoperative complications in the study group was significantly lower than that of the traditional group ($P<0.05$). **Conclusion:** Sutureless anatomical hip arthroplasty has better clinical effect on the treatment of ONFH, which can improve the hip functions and motor functions of patients.

Key words: Hip arthroplasty; Harris score; Femoral head necrosis; Motor function

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前言

股骨头坏死(ONFH)又称缺血性股骨头坏死,是由创伤性或非创伤性损害引发股骨头血供受损或中断,骨强度及张力下降,诱发股骨头结构改变、塌陷、关节功能障碍等症状的临床常见慢性疾病^[1,2]。目前研究尚未明确股骨头坏死的发病机制,但普遍认为激素及酒精摄入过量而诱发脂类代谢紊乱、骨内高压、血管内凝血,造成血液循环障碍,从而引起骨质坏死、死骨吸收和新骨形成、股骨头再塑造等病理过程^[3,4]。该病发病人群中以中青年居多,并且具有较高的致残率,严重影响患者的生存质量^[5]。目前临床主要采用手术的方法治疗股骨头坏死,全髋关

节置换术(Total hip arthroplasty, THA)常用的治疗术式,其具有创伤小、操作方便、术中出血量少等优点,但术后假体脱落、移位等并发症对于髋关节功能的恢复具有一定影响^[6]。因此,我院目前引进了无柄解剖型人工髋关节置换术,并在 ONFH 的治疗中取得了一定进展,现将相关结果总结如下:

1 资料与方法

1.1 一般资料

回顾性选出 87 例于 2012 年 4 月至 2015 年 4 月在我院就诊的 ONFH 患者列为研究样本。纳入标准^[7,8]:① 患者年龄 <80 岁,对手术有耐受性,且无手术禁忌症;② 均经影像学确诊为

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ONFH;① 患者对手术信息知情,均签署知情同意书,研究期间密切配合诊疗。剔除标准^[8,9]:① 合并其他重大病变,如免疫系统障碍、凝血功能障碍等;② 患者于发病前具有运动功能障碍者;③ 妊娠期或哺乳期妇女;④ 合并其他骨关节疾病或3个月内行过髋关节相关手术者。将上述病例按照所用术式不同,分为两组,传统组行传统股骨头置换术,有43例患者,男女比26:17,年龄跨度27~69岁,均(51.36±3.77)岁,其中2例有髋部骨折病史;研究组行无柄解剖型人工髋关节置换术,有44例患者,男女比28:16,年龄跨度32~71岁,均(52.47±4.16)岁,其中3例有既往髋部骨折病史。两组基线数据不具有统计学意义,符合研究要求($P>0.05$)。

1.2 治疗方法

两组均参照盆骨、髋位及股骨X线片确定病灶部位的位置、形态及大小。术前严格控制患者心肺、肝肾功能,并将患者血糖、血压调节到稳定水平。入选者均行气管插管全麻,取健侧侧卧位。传统组采取传统股骨头置换术治疗,术者在患者髋关节后外侧行T字型切口,将股骨颈底部关节囊及附近的股骨颈和基底区域充分暴露于术野范围内,以患者小转子下方10 mm为着力点,保留患者臀中肌附着点,以截骨法切除股骨头。以踝关节线为基线,找到植入假体的前倾角位置,将股骨头植入进去,保证大转子顶端和股骨头中心处于平行状态,并以骨水泥固定。之后施行负压引流,再进行收线逐层缝合。研究组采取无柄解剖型人工髋关节置换术,入选者均行硬膜外全麻,取健侧卧位,固定骨盆,采用微创切口,切开髋关节后外侧80 mm,充分暴露阔筋膜和股外侧肌,切除病灶部位的关节囊,牵开股骨头,以中心定位器将股骨头颈固定,显露髋关节外旋肌群,取股

骨头中心点,以中心定位导针钻入股骨头远端,下肢内旋、股骨头朝上,以塑骨器对股骨头进行塑形,测量股骨颈高度,用削骨器清除多余股骨头,锯掉股骨头外围骨质,安装合适罩杯,找到最佳支撑点,与颈肩平台相吻合。用克氏针套入,稳定罩杯,植入颗粒骨,调整到适当位置,以生物固定法嵌紧,进行止血、冲洗、负压引流处理,用7号线逐层缝合。

1.3 观察指标

于术前1 d及术后3个月,以Harris评分^[10]评价患者髋关节情况,总分100分。① 差:低于70分;② 尚可:70~79分;③ 较好:80~89分;④ 优良:90分及以上。以简式Fugl-Meyer评分^[11]评价患者运动功能情况,总分100分。① 严重障碍:低于50分;② 明显障碍:50~84分;③ 中度障碍:85~95分;④ 轻度障碍:96~99分;⑤ 无障碍:100分。比较两组术后并发症率,股骨头坏死行两种术式的常见并发症有神经血管损伤、关节周围水肿、假体下沉、关节脱位、假体松动、关节僵硬等。

1.4 统计学分析

使用统计软件SPSS18.0分析股骨头坏死患者数据,计量数据用($\bar{x} \pm s$)表达,t检验;等级数据行方差分析;计数数据用率(%)表达, χ^2 检验,以 $P<0.05$ 为判断有统计学差异的标准。

2 结果

2.1 两组患者治疗前后髋关节 Harris 评分比较

治疗前,两组Harris评分无显著差异($P>0.05$);治疗后,研究组Harris评分(81.56±13.58)显著高于传统组(73.49±13.72)($P<0.05$)。见表1。

表1 两组患者治疗前后髋关节 Harris 评分比较($\bar{x} \pm s$)

Table 1 Comparison of the Harris scores between the two groups before and after treatment($\bar{x} \pm s$)

Groups	Before treatment	After treatment	t	P
Study group (n=44)	61.28±12.41	81.56±13.58	13.469	<0.05
Traditional group (n=43)	62.07±13.17	73.49±13.72	14.982	<0.05
t	2.056	15.319		
P	>0.05	<0.05		

2.2 两组患者治疗前后简式 Fugl-Meyer 运动功能评分比较

治疗前,两组简式Fugl-Meyer运动功能无显著差异($P>$

0.05);治疗后,研究组简式Fugl-Meyer运动功能评分(86.23±13.26)明显优于传统组(76.56±12.26)($P<0.05$)。见表2。

表2 两组患者治疗前后 Fugl-Meyer 运动功能评分比较($\bar{x} \pm s$)

Table 2 Comparison of Fugl-Meyer scores between two groups before and after the operation

Groups	Before treatment	After treatment	t	P
Study group (n=44)	56.43±10.56	86.23±13.26	12.168	>0.05
Traditional group (n=43)	55.92±11.34	76.56±12.26	13.597	<0.05
t	1.258	16.268		
P	>0.05	<0.05		

2.3 两组患者术后并发症的发生率比较

研究组并发症发生率为13.64%,传统组并发症发生率为27.91%;研究组患者术后并发症的发生率明显低于传统组,差异具有统计学意义($P<0.05$)。见表3。

3 讨论

股骨头坏死是由多种因素引起的股骨头血液循环受损或中断,并由此导致骨细胞、脂肪细胞、骨髓造血细胞等凋亡,引起股骨头塌陷、畸形,最终进展为严重的骨关节炎,表现为疼痛及功能障碍等。人工全髋关节置换术(THA)是种以人工股骨头与人工髋臼置换对应病变组织的髋关节疾病术式,能够改善患

表 3 两组患者术后并发症的发生率比较

Table 3 Comparison of incidence of postoperative complications between two groups

Groups	n	Neurovascular injury		Edema surrounding joint		Prosthesis subsidence		Dearticulation		Prosthetic loosening		Ankylosis		并发症率 Occurrence rate of complications (%)
		n	%	n	%	n	%	n	%	n	%	n	%	
Study group	44	1	2.27%	1	2.27%	2	4.55%	-	-	1	2.27%	1	2.27%	13.64%
Traditional group	43	1	2.33%	2	4.66%	-	-	3	6.98%	4	9.30%	2	4.66%	27.91%
χ^2														23.267
P														<0.05

者的机体疼痛,改善髋关节功能,纠正髋部畸形,松解病损处,稳定股骨头外部环境,恢复髋关节周围血供,增强机体防御力,促进受损组织修复与伤口愈合。但术后出现的假体不愈合、脱落等并发症严重影响了患者的预后。因此,假体的设计与研发不仅需要考虑坚固性,还要考虑使用的持久性以及人体应用的舒适度。随着人体生物力学和人体工程学的研究进步,假体的设计更加合理,应用于临床手术的案例越来越多,其中髋关节置换术和股骨头置换术都是假体应用的常用术式^[11-13]。本研究发现,研究组 Harris 评分、简式 Fugl-Meyer 运动功能评分均显著优于传统组(P 均<0.05),两组并发症比较,研究组并发症率(13.64%)明显高于传统组(27.91%),可能与股骨头置换手术难度较大,对手术医师操作水平有较高要求有关,如手术操作不当,易引起患者假体松动(本研究有 4 例术后假体松动,占 9.30%)、关节脱位(本研究中有 3 例术后关节脱位,占 6.98%)、关节周围水肿(本研究有 2 例关节周围水肿,占 4.66%)与关节僵硬(本研究有 2 例关节僵硬,占 4.66%)等多种并发症,容易造成患者坐姿不当、术后两条腿不一样长,这些因素都严重影响了患者个人形象及术后的髋关节活动能力和患者运动功能,对患者生活带来重大不便。除此,人工股骨头假体还具有使用年限较低的缺点(一般为 10~15 年),达到最高使用年限时,患者还需进行二次股骨头置换术,使患者受到二次伤害,且每位患者一生最多只可以进行两次该手术^[14-16]。而无柄解剖型人工髋关节假体具有较为接近人体生理特征的优点,股骨头前倾角为 14°,柄颈干角设计为 117° 与 126°,这与人体生理角度相契合,易于装配,且纵向沟槽搭配专业的髓腔锉,能够较好的保护人体股骨近端髓腔松质骨组织,让柄与骨质有效贴合,使骨质能够长入假体表面微孔,对假体稳定发挥了重要作用,是一种操作简便的股骨头坏死的治疗措施,其安全性相对较高。据文献报道^[17],无柄解剖型人工髋关节假体的使用年限为 30 年以上,可在一定程度上解除患者假体使用年限的顾虑^[18-20]。

综上所述,无柄解剖型人工髋关节假体装置植入于股骨头坏死的患者体内,对降低患者髋关节的疼痛,提高患者髋关节的活动能力及整体生活能力均有较好的治疗意义,是一种并发症较少,操作相对简便,使用寿命较为长久的优质治疗措施。

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(下转第 2109 页)

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(上接第 2118 页)

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