

全髋关节置换术治疗晚期非创伤性股骨头缺血性坏死

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摘要 目的 探讨全髋关节置换术治疗晚期非创伤性股骨头缺血性坏死的临床疗效,为临床治疗提供参考依据。方法:将我院进行全髋关节置换术治疗晚期股骨头缺血性坏死患者 25 例(30 髋)按病因分三组 A 组酒精性 17 例 B 组为激素性 6 例 C 组潜水性 2 例,记录各组患者术前、术后的临床症状、患髋功能、X 片等,并进行 Harris 评分,对结果进行评价分析。结果:三组术后 Harris 评分分别为(89.7±2.8)、(81.5±3.1)分、(87.8±2.9)分,经方差分析,差异有统计学意义($P<0.05$);三组术后假体松动脱臼率分别为 4.8%、16.7%、0%,经卡方检验,差异有统计学意义($P<0.05$);三组术后随访 3 年总体髋部优良率分别为 100%、83.3%、100%,经卡方检验,差异有统计学意义($P<0.05$)。结论:全髋关节置换术治疗晚期非创伤性股骨头缺血性坏死疗效较好,对酒精性病因患者疗效最好。

关键词 全髋关节置换术 股骨头缺血性坏死 晚期

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Total hip Arthroplasty in the Treatment of Advanced Non-Traumatic Osteonecrosis of Femoral Head

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ABSTRACT Objective: To analyze clinical efficacy of total hip arthroplasty in treatment of advanced non-traumatic osteonecrosis of the femoral head (ONFH). **Methods:** 25 patients (30 hips) treated by total hip arthroplasty in our department were divided into three groups according to etiology: alcohol group (17 cases), steroid group (6 cases), diving group (2 cases). Preoperative and postoperative clinical data, hip function and X-ray films were analyzed. All the patients were evaluated by Harris score and compared. **Results:** All patients gained follow-up. Postoperative Harris score of three groups was (89.7±2.8) points, (81.5±3.1) points and (87.8±2.9) points, respectively. The difference was statistically significant ($P<0.05$). The loosening rate of prosthesis in three groups was 4.8%, 16.7% and 0%, respectively. The difference was significant by Chi-square test ($P<0.05$). Post-operation general excellent and good ratio of three groups is 100%, 83.3% and 100% after 3 years, respectively. The difference was significant by Chi-square test ($P<0.05$). **Conclusion:** Total hip arthroplasty has better effect in treating advanced non-traumatic ONFH. The clinical efficacy of alcoholic etiology was satisfactory.

Key words: Total hip arthroplasty; Osteonecrosis of the femoral head; Advanced

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股骨头缺血性坏死 (osteonecrosis of the femoral head, ONFH) 是临床骨科髋关节疾患常见病之一,是由于各种不同的病因,破坏了股骨头的血供导致股骨头缺血、坏死、塌陷,多侵犯中年人,常导致严重髋关节功能障碍^[1,2]。ONFH 一般可分为创伤性和非创伤性两大类,创伤性的如股骨颈骨折、髋部外伤等;非创伤性者诱发的因素较多,如过度饮酒、激素异常、药物等均可直接或间接损伤股骨头血运,从而导致股骨头缺血坏死^[3,4]。非创伤性股骨头缺血性坏死占有股骨头坏死的比例在不断增加,所占比例已超过 50%^[5]。2007 年 6 月-2012 年 6 月 5 年间我科采用全髋关节置换术治疗晚期非创伤性股骨头缺血性坏死 25 例(30 髋)取得了良好的临床疗效,现报道如下。

1 资料与方法

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1.1 一般资料

选取 2007 年 6 月-2012 年 6 月 5 年间我科采用全髋关节置换术治疗晚期非创伤性股骨头缺血性坏死 25 例(30 髋)作为研究对象,其中,男 18 例(21 髋),女 7 例(9 髋),年龄 30~62 岁,平均 48.6 岁。按致病因素分三组 A 组酒精性 17 例(21 髋),其中,男 12 例(15 髋),女 4 例(6 髋),年龄(47.5±8.6)岁,单髋 15 例,双髋 3 例,病程为(16.2±3.1)年;B 组为激素性 6 例(6 髋),其中,男 4 例(4 髋),女 2 例(2 髋),年龄(48.7±9.2)岁,单髋 4 例,双髋 1 例,病程为(15.8±3.3)年;C 组潜水性 2 例(3 髋),其中,男 1 例(1 髋),女 1 例(2 髋),年龄(49.7±9.5)岁,单髋 1 例,双髋 1 例,病程为(16.8±2.7)年。排除有髋部外伤史及手术史病例,按国际骨循环研究会(ARCO)标准均为 IV 期,X 线片检查见股骨头塌陷、关节间隙变窄及骨性关节炎改变。患者均保守治疗 1 年以上无明显疗效,且均为首次髋关节置换。无合并严重心血管及其他脏器疾病。

1.2 手术方法

在腰硬联合麻醉下取侧卧位,作髋部后外侧切口,依次切开阔筋膜张肌及臀大肌,牵开臀中肌后切断梨状肌及外旋肌肉,显露并切开关节囊,于股骨小转子下方约 1.5 cm 处进行截骨,取头器取出坏死股骨头,充分显露髋臼,剪除股骨头圆韧带后仔细清理髋臼底部及周缘,咬除增生骨赘,使用髋臼锉逐号打磨髋臼,直至软骨下骨质点状渗血。选择合适髋臼假体,按正常外倾角及前倾角方向进行安装。游标卡尺测量股骨头、颈直径,选择相应型号假体。股骨近端开髓后,由小至大依次以髓腔锉扩大髓腔,反复冲洗,于前倾角 15° 位安装股骨假体柄,试模股骨头假体后,选择并安装合适股骨头假体,复位髋关节,被动屈伸检查其稳定性及活动度,确认良好后,逐层缝合切口,术毕伤口置负压引流管。本组采用生物型假体 24 髋,骨水泥型假体 6 髋。

1.3 术后处理

手术切皮前 30 分钟及术后 48 小时内常规抗生素预防感染治疗,术后患肢置于中立位,根据伤口引流量于 48 小时内拔除引流管,术后 24 小时应用抗凝药物治疗 2 周,预防下肢深静脉血栓形成。术后第 2 天开始床上肌力以及关节屈曲锻炼,一周后借助助行器下床活动,3 个月内扶助行器部分负重行走,3

个月后患肢完全负重。

1.4 疗效评定

根据改良 Harris 评分标准^[6],对术前、术后患髋功能在疼痛、功能及活动范围三个方面进行评分,满分为 100 分。优:90~100 分;良:80~89 分;可:70~79 分;差:≤70 分。

1.5 统计学分析

各分组所得计量数据采用均数±标准差($\bar{X} \pm S$)表示,计数资料采用百分率来表示。使用 SPSS16.0 软件处理数据,三组间均数比较用方差分析,组内治疗前后比较采用配对 t 检验,率的比较采用卡方检验,检验水准 $\alpha = 0.05$, $P < 0.05$ 有统计学意义。

2 结果

2.1 三组患者术前、术后 Harris 评分情况

三组患者在接受全髋关节置换术治疗后,Harris 评分明显提升,经配对 t 检验,与治疗前相比,差异均有统计学意义, $P < 0.05$ 。治疗后,A 组患者 Harris 评分最高,与 B 组相比,差异有统计学意义, $P < 0.05$,见表 1。

表 1 三组患者术前、术后 Harris 评分情况
Table 1 Preoperative and postoperative Harris score of three groups

组别 Group	髋数 Number of hip		Harris 评分(分) Harris score (score)	P(与 B 组比) P (Compared with group B)
A 组 Group A	21	治疗前 Preoperative	48.1± 2.5	
		治疗后 Postoperative	89.7± 2.8 ^{ab}	<0.05
B 组 Group B	6	治疗前 Preoperative	47.8± 2.6	
		治疗后 Postoperative	81.5± 3.1a	
C 组 Group C	3	治疗前 Preoperative	48.3± 2.4	
		治疗后 Postoperative	87.8± 2.9 ^{ab}	<0.05

注:经配对 t 检验,与治疗前相比,^a $P < 0.05$,经方差分析,与 B 组相比,^b $P < 0.05$ 。

Note: Compared with the untreated level, there was significant difference by using Student t test ($P < 0.05$); Analysis of variance showed that there was significant difference compared with group B.

2.2 三组患者术后并发症情况

三组患者在接受全髋关节置换术治疗后仅有少量患者出现不良反应或并发症,主要为假肢松动和疼痛,经方差分析,三

组间差异均有统计学意义, $P < 0.05$ 。与 B 组相比,A 组假肢松动较低,差异有统计学意义, $P < 0.05$,见表 2。

表 2 三组患者术后并发症情况
Table 2 Postoperative complications of three groups

组别 group	n	假肢松动 Prosthesis loosening	感染 Infection	下肢深静脉血栓 Deep venous thrombosis of the lower limbs	疼痛 Pain
A 组 Group A	21	1(4.8) ^a	1(4.8)	1(4.8)	1(4.8) ^{ab}
B 组 Group B	6	1(16.7)	0(0)	0(0)	1(16.7)
C 组 Group C	3	0(0) ^a	0(0)	0(0)	1(33.3)

注:经卡方检验,与 B 组相比,^a $P < 0.05$,与 C 组相比,^b $P < 0.05$ 。

Note: There was significant difference compared with group B using analysis of variance ($aP < 0.05$); compared with group C ($bP < 0.05$).

2.3 三组患者术后随访 3 年总体优良率情况

三组患者在接受全髋关节置换术治疗后进行 18 个月的随访观察,进行 Harris 评分,并进行优良率计算,经方差分析,三

组间差异均有统计学意义 $P<0.05$,与 B、C 组相比, A 组优良率最高,经方差分析,差异有统计学意义 $P<0.05$,见表 3。

表 3 三组患者术后随访 3 年总体优良率情况

Table 3 Post-operation general excellent and good ratio with postoperative follow-up of 3 years

组别	髋数	优(%)	良(%)	可(%)	差(%)	优良率(%)
Group	Number of hip	Optimal	Good	Medium	Below average	Rate of optimal and good
A 组	21	16(76.2)	4(23.8)	0(0)	0(0)	21(100) ^a
Group A						
B 组	6	4(66.7)	1(16.7)	1(16.7)	0(0)	5(83.3)
Group B						
C 组	3	3(100)	0(0)	0(0)	0(0)	3(100)
Group C						

注 经卡方检验,与 B 组相比, $^aP<0.05$ 。

Note: There was significant difference compared with group B using analysis of variance ($^aP<0.05$).

3 讨论

股骨头缺血性坏死多发于 50 岁以下中青年,对于该病仍然缺乏行之有效的早期治疗方法,及至患者就诊时,往往已属晚期,包括减轻体重、服用消炎镇痛药物、扶拐保护性负重等保守治疗方法难以改善症状^[7,8]。目前认为股骨头缺血性坏死的手术适应症为髋关节骨性关节炎合并明显髋臼和股骨头关节面破坏;股骨头坏死范围大、股骨头塌陷且髋关节疼痛较重^[9,10]。由于此类患者具有较长的生存预期,有学者选用股骨头表面置换、全髋关节表面置换术等过渡关节成形术,试图推迟全髋置换术的时间或为日后行翻修术时保留更多的骨质^[11,12,13]。Bose VC^[14]等采用髋关节表面置换术治疗 71 名股骨头缺血性坏死患者(96 髋),平均随访 5.4 年,功能恢复满意,仅 3 髋假体失效,假体累积生存比率达 95.4%。但其存在股骨颈骨折、金属离子蓄积致癌、过敏等风险,因此,美国食品及药物管理局(FDA)^[15]及部分学者^[16]并不推荐股骨头缺血性坏死患者首选全髋关节表面置换术。

目前,全髋关节置换术已成为临床治疗晚期股骨头缺血性坏死的标准手术之一^[17],能达到恢复关节功能和缓解疼痛的效果。手术选择全髋置换主要考虑能否改善患髋功能、提高生活质量,而非年龄本身。假体选择方面,须根据患者的具体情况进行选择。随着材料学、手术技术的发展及进步,目前非骨水泥型或混合型假体的中、长期疗效要优于骨水泥型假体。因此,我们认为,对年龄在 65 岁以下、骨质及身体状况相对较好的患者可采用非骨水泥假体,而年龄在 65 岁以上、合并骨质疏松及体质相对较差的患者则应首选骨水泥假体。非创伤性股骨头缺血性坏死具有其特殊性,包括病程长、合并内科基础病、骨质疏松、双侧坏死等,治疗上较创伤性股骨头缺血性坏死更为困难。同时,股骨头坏死的关节置换有别于其他疾病的关节置换术,要注意一些围手术期相关问题的处理,包括:术中注意切除关节囊和髋周挛缩组织并予以松解,如发现内收肌过紧,可行内收肌切断术。尽可能重建髋部外旋肌肉,恢复关节的后方稳定性,避免术后并发髋关节脱位。遇明显骨质疏松病例,可取切除股

骨头内的松质骨制成骨泥植入髋臼填充缺损,并有利于骨-假体间的融合及骨组织长入假体微孔^[18]。术前预先做好测量与设计,术中注意髋臼假体与股骨假体柄的精确放置,避免出现术后髋关节撞击与脱位。

总之,我们认为全髋关节置换术治疗晚期非创伤性股骨头缺血性坏死,可以达到恢复髋关节功能和缓解疼痛的临床效果,近期疗效满意。但本研究的病例数有限及随访时间较短,尚待进一步扩大样本量及长期随访观察。

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