·临床研究·

自体股骨头植骨结合全髋关节置换术治疗陈旧性髋关节中心性脱位 16 例

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【摘要】 目的:观察自体股骨头植骨结合全髋关节置换术治疗陈旧性髋关节中心性脱位的疗效,评价髋臼骨缺损进行自体骨重建的优越性。**方法**:自 2008 年 3 月至 2013 年 12 月采用自体股骨头植骨结合全髋关节置换术治疗陈旧性髋关节中心性脱位 16 例(16 髋),其中男 11 例,女 5 例;年龄 41~72 岁,平均 56.3 岁;病程 3.6~37.2 年;交通事故伤 12 例,坠落伤 4 例。所有患者进行系统跟踪随访,评定术后 1 个月髋关节疼痛指标、Harris 评分及髋关节总活动度变化。**结果**:16 例(16 髋)均获随访,时间 11~78 个月,平均 27.3 个月。16 例(16 髋)术前髋关节总活动度(56.2±23.4)°,VAS 评分 86.3±7.2, Harris 评分 32.6±12.6;术后 1 个月髋关节总活动度(181.8±17.6)°, VAS 评分 11.1±2.6, Harris 评分 86.3±7.2,均较术前改善,术后解决了疼痛和髋关节功能受限,假体位置均完好。**结论**:自体股骨头植骨结合全髋关节置换术治疗陈旧性髋关节中心性脱位,髋臼的初始稳定性及远期稳定性均较好,自体骨植骨避免了异体骨的并发症,骨源合理利用,价格低廉,减轻了患者负担。

【关键词】 关节成形术,置换,髋;　股骨头;　自体骨;　骨移植
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Autogenous femoral head bone grafting combined with total hip arthroplasty for the treatment of old dislocation of hip joint center in 16 cases

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ABSTRACT　Objective: To study effects of autogenous femoral head bone grafting combined with total hip replacement for the treatment of old center dislocation of hip joint, and to evaluate the superiority of acetabular defect reconstruction with autogenous bone. **Methods**: From March 2008 to December 2013, 16 patients (16 hips) with old center dislocation of hip joint were treated with autologous bone graft combined with total hip replacement. There were 11 males and 5 females, ranging in age from 41 to 72 years old, with an average of 56.3 years old. The duration of the disease ranged from 3.6 to 37.2 years. Twelve patients had injuries caused by traffic accidents and 4 patients were caused by falling down. The hip joint pain at the first month after operation, Harris score and hip joint movement of all patients were observed by using electronic case follow-up system. **Results**: All the patients were followed up, and the duration ranged from 11 to 78 months, with an average of 27.3 months. The postoperative hip joint movement of (56.2±23.4)°, VAS 86.3±7.2 and Harris score 32.6±12.6 were all better than preoperative (181.8±17.6) °, 11.1±2.6 and 86.3±7.2. The joint pain was reduced and the function limitation was improved after operation, and the prosthesis position was good. **Conclusion**: When the autologous femoral head bone grafting combined with total hip arthroplasty is used to treat old hip central dislocation, the initial and long-term stability of acetabular bone grafting is good, and the technique can avoid allogeneic bone complications, bone source rationally and reduce the economic burden of patients.

KEYWORDS　Arthroplasty, replacement, hip;　Femoral head;　Autograft;　Bone transplantation
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髋关节中心性脱位是伴随骨折的脱位, 属于高能量损伤,一般治疗效果不佳,采用保守治疗时,创伤性关节炎的发生率为 12%~57%,并形成陈旧性脱位[1]。陈旧性髋关节脱位骨关节炎与脱位同时存在,我院关节科 2008 年 3 月至 2013 年 12 月采用自体股骨头植骨结合全髋关节置换术治疗陈旧性髋关节中心性脱位 16 例(16 髋),现报告如下。

1　资料与方法

1.1　临床资料

本组 16 例(16 髋)中,男 11 例,女 5 例;年龄 41~72 岁,平均 56.3 岁;病程 3.6~37.2 年,平均 8.9 年;交通事故伤 12 例,坠落伤 4 例。术前均进行骨盆正位及蛙位 X 线检查,并行 CT 平扫加三维重建。

1.2　治疗方法

1.2.1　手术方法　常规行腰硬联合麻醉,一助手摆

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放患者体位于侧卧位,患侧在上,侧卧平面与地面垂直利于术中定出髋臼前倾角和外展角。术者和助手无菌洗手,常规术区碘伏消毒 3 遍,消毒范围膝关节下 10 cm,髋关节上 20 cm。常规铺无菌巾,贴护皮膜,摆设器械,准备手术。髋关节后外侧切口,依次切开皮肤、皮下脂肪、浅筋膜、深筋膜、阔筋膜张肌进入到外旋肌群。钝性分开臀大肌,在下肢尽力内收内旋位,紧贴股骨大转子切断外旋肌群,进入关节囊。"T"形切开关节囊, 关节脱位明显者注意辨别髋臼、骨盆、大转子,预防坐骨神经损伤。充分暴露髋关节后,先在小转子上方 1.5 cm 处摆锯锯断股骨颈,去除股骨头, 部分患者股骨头去除困难时行摆锯锯开股骨头骨刀凿出,缓慢去除。暴露髋臼完整后,了解髋臼的实际大小及预计植骨量, 把去除的股骨头制作成颗粒骨备用。挫磨髋臼,去除髋臼表面的软骨,暴露软骨下骨。运用大的髋臼向四周进行挫磨髋臼致合适大小,记下该型号,然后运用小的髋臼打磨臼低,颗粒骨分次植入髋臼底部。反方向髋臼挫行逐层压实压紧颗粒骨,安装髋臼及内衬。股骨侧常规处理,冲洗,依次缝合外旋肌群、阔筋膜张肌、皮下及皮肤。

1.2.2　术后处理　术后 24~48 h 拔除引流管,多模式进行镇痛。术后第 2 天给予抗凝药预防下肢深静脉血栓。术后 6 h 患者即可进行股四头肌被动和主动锻炼, 第 2 天可以带引流管和尿管下地活动,5 d 后转入康复科进行康复,10~14 d 拆线出院。

1.3　疗效评定指标

使用视觉模拟量表(VAS)[2]评定置换前和置换后 1 个月髋关节疼痛情况。采用 Harris[3]评分行置换前和置换后 1 个月时各个项目评分及总分评分。采用中立位零度记录法记录术前及术后 1 个月髋关节总活动度[4]。

1.4　统计学处理

采用 SPSS 18.0 统计学软件,运用配对设计定量资料的 t 检验比较术前与术后 1 个月患者关节活动度、VAS 及 Harris 评分。以 $P<0.05$ 为差异有统计学意义。

2　结果

患者均运用我院关节科电子随访病例系统进行跟踪随访并进行功能评定, 术后 1、3、6 个月进行随访,之后 1 年随访 1 次,随访时间 11~ 78 个月,平均 27.3 个月。所有患者术前及术后 1 个月髋关节总活动度、VAS 及 Harris 评分结果见表 1–2,术后 1 个月各项指标均较术前改善, 术后解决了疼痛和髋关节功能受限。所有患者生活质量和假体位置完好。典型病例见图 1。

表 1　陈旧性髋关节中心性脱位 16 例患者术前及术后髋关节总活动度和 VAS 比较($\bar{x}\pm s$)

Tab.1　Comparison of preoperative and postoperative hip joint movement and VAS of 16 patients with hip center dislocation($\bar{x}\pm s$)

时间	髋关节总活动度(°)	VAS(分)
术前	56.2±23.4	86.3±7.2
术后 1 个月	181.8±17.6	11.1±2.6
t 值	17.159	−39.294
P 值	0.000	0.000

3　讨论

髋关节中心性脱位多发于青壮年,均有外伤史,脱位后均伴随不同程度的骨折。脱位后尽早复位恢复髋关节解剖关系是防止创伤性髋关节炎的首要条件[5]。部分患者治疗不当或延迟治疗将会形成陈旧性髋关节脱位。临床上治疗髋关节陈旧性脱位的方法有限,随着全髋关节置换术的成熟,全髋关节置换术是治疗本类疾患的重要术式之一[6]。对于陈旧性髋关节脱位又有本身的特殊性,髋臼暴露存在困难,股骨头内陷,关节囊挛缩,髋关节活动度范围较小或者消失, 部分患者大小转子紧贴髋臼, 暴露时大转子、骨盆、髋臼等骨性组织区分困难,股骨头往往无法脱位,需预防截骨过多或误伤骨盆及髋臼等。众多因素中,软组织松解和髋臼重建是手术的要点,陈旧性髋关节脱位软组织粘连与挛缩同时存在[7]。为了清晰暴露髋臼和保证双下肢长度, 髋周软组织必须进行有效松解, 去除股骨头后进行髋臼暴露时首先切除或者切薄前方、上方及前下方关节囊,几乎所有患者进行髂腰肌附着点的松解, 部分患者根据情况

表 2　陈旧性髋关节中心性脱位 16 例患者术前及术后 Harris 评分比较($\bar{x}\pm s$,分)

Tab.2　Comparison of preoperative and postoperative Harris scores of 16 patients with hip center dislocation ($\bar{x}\pm s$, score)

时间	疼痛	功能	肢体畸形	关节活动度	总分
术前	18.3±3.6	16.2±2.9	1.3±0.2	1.1±0.3	32.6±12.6
术后 1 个月	42.1±2.1	40.3±1.2	3.7±0.3	4.3±0.6	86.3±7.2
t 值	20.594	30.716	19.081	26.626	14.802
P 值	0.000	0.000	0.000	0.000	0.000

图 1　患者，女，42 岁，髋关节陈旧性中心性脱位 7.6 年　**1a，1b.** 术前正位及蛙位 X 线片　**1c，1d.** 术前髋臼 CT 平扫　**1e，1f.** 术后 7 d 正位及蛙位 X 线片

Fig.1　Female, 42 - year - old, old center dislocation of the hip joint for 7.6 years　**1a, 1b.** Preoperative X-ray　**1c, 1d.** Preoperative acetabular CT scan　**1e, 1f.** X-ray at seven days after operation

进行臀大肌股骨粗隆附着点的部分或者全部松解。松解时要注意保护坐骨神经，并建立在恢复髋关节的旋转中心和恢复下肢长度的基础上。髋臼重建的原则同样是为了恢复髋关节的旋转中心，恢复下肢长度，保证合适的偏心距，减轻疼痛和恢复功能[8]。髋关节中心性脱位一般不损伤髋臼环或者髋臼环骨性愈合，髋臼环的存在是髋臼重建的标志，先用合适的髋臼挫[9]。挫磨髋臼环周壁，暴露软骨下骨呈现均匀渗血，并记下该髋臼搓的型号，该型号即最终安装髋臼杯的型号。然后运用小的髋臼搓对臼底进行挫磨，去除臼底荚膜和部分硬化骨。最后进行自体股骨头植骨，反向髋臼搓逐层压实，恢复髋关节的旋转中心。

髋关节中心性脱位伴随的骨缺损能否正确处理直接影响预后，Sadri 等[10]研究表明髋臼结构的完整性是维持假体稳定的重要前提，也是影响术后功能恢复的重要因素之一。临床上髋臼骨缺损的处理方式有 3 种：自体骨植骨、异体骨植骨、混合植骨。异体骨植骨是一种并发症较多的骨重建方法，异体骨运用于人工关节置换，关节稳定性差，不能早期负重[11]；而且异体骨不能完全替代，强度低于正常骨，对于异体骨的保护是终生的[12]；异体骨存在感染、排异反应、骨质吸收及不愈合和延迟愈合等并发症，价格高昂，自体骨能解决的尽量不采用异体骨植骨。自体骨植骨是一种较好的选择，自体骨植骨具有愈合迅速、无免疫排斥反应及并发症低等优点。Sam 等[13]报道，自体骨取材及愈合具有明显优势。在髋臼固定方面，多数学者主张运用非骨水泥型髋臼杯重建髋臼[14-17]。非水泥型髋臼进行固定时骨长入是长期稳定性的保证，自体骨植骨利于骨长入和骨长上。有学者通过羊的动物模型证明颗粒骨有很好的骨渗入能力[18]。因此，自体骨植骨对髋臼的稳定性方面较牢靠。按美国矫形外科医师学会(AAOS)髋关节委员会制定的髋臼骨缺损的临床应用分类系统[19]，髋关节中心性脱位的髋臼缺损多为腔内型缺损。对于腔内型骨缺损，当骨缺损小于 25 mm 时，植入自体骨颗粒即可[20-21]；当腔内型缺损大于 25 mm 时有主张结构植骨结合颗粒植骨治疗。临床实际颗粒植骨在髋臼腔内型缺损的运用中较多，并要求分次植入，逐层运用反锉压实。组织学和生物力学研究表明，打压植骨对髋臼骨结构末造成机械性损伤，可获得快速、完全骨融合和骨塑形[22-25]。髋关节陈旧性脱位行全髋关节置换，髋臼存在骨缺损时，运用自体股骨头进行植骨克服了异体骨带来的风险，同时供体部位正是全髋关节需要去掉的部分，一般可以解决植骨骨量，合理利用减轻了患者的费用和负担，关节置换后髋臼的初始稳定性和长期稳定型均较理想。

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