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人工关节置换与加压螺钉内固定治疗高龄骨质疏松性股骨颈骨折的疗效观察

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摘要 目的：探讨人工关节置换与加压螺钉内固定治疗高龄骨质疏松性股骨颈骨折的疗效。**方法**：选取 2010 年 8 月至 2013 年 3 月我院收治的 120 例高龄骨质疏松性股骨颈骨折患者，将所有患者随机分为人工置换组和内固定组两组，每组各 60 例，内固定组采用加压螺钉内固定术治疗，人工置换组采取人工关节置换术治疗，评定两组患者的手术时间、术中出血量、下地时间、术后并发症发生率及末次随访时 Harris 评分优良率。**结果**：人工置换组手术时间及术中出血量分别为（124.8± 16.7）min、（369.2± 99.7）ml，明显高于内固定组的（73.5± 15.1）min、（78.4± 25.6）ml；但人工置换组术后下地时间为（15.3± 4.8）d，明显低于内固定组的（40.2± 7.5）d；人工置换组与内固定组患者术后并发症的发生率分别为 20%、66.7%，人工置换组明显低于内固定组，其中，泌尿系褥疮的组间差异最为显著；末次随访时 Harris 评分优良率，相比于内固定组的 61.67%，人工置换组为 78.33%，明显偏高。差异有统计学意义（P<0.05）。**结论**：加压螺钉内固定术和人工关节置换术在治疗高龄骨质疏松性股骨颈骨折方面各有优劣，对于能够耐受人工关节置手术且经济条件好的的老年患者而言，采用人工关节置换术治疗，疗效更佳。

关键词：人工关节置换术；加压螺钉内固定术；高龄骨质疏松性股骨颈骨折

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Arthroplasty with Compression Screw Fixation Elderly Osteoporotic Femoral Neck Fracture Efficacy

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ABSTRACT Objective: To investigate arthroplasty with compression screw fixation elderly osteoporotic femoral neck fractures. **Methods:** August 2010 to March 2013 in our hospital 120 elderly patients with osteoporotic femoral neck fracture were selected, all patients were randomly divided into artificial replacement group and internal fixation group two groups, each 60 cases, compression screw fixation group with internal fixation, artificial replacement arthroplasty group taking the treatment, patients were assessed operative time, blood loss, ambulation time, postoperative complications and final follow-up Harris score excellent rate. **Results:** in artificial replacement group operation time and blood loss were 124.8 ± 16.7 (min), 369.2± 99.7 (ml), significantly higher than the internal fixation group 73.5± 15.1 (min), 78.4± 25.6 (ml); it artificial replacement postoperative ambulation time was 15.3± 4.8 (d), significantly lower than the internal fixation group 40.2 ± 7.5 (d); artificial replacement group and internal fixation group of patients the incidence of postoperative complications was 20%, 66.7 %, artificial replacement group was significantly lower than internal fixation group, in which urinary bedsores most significant difference between the groups; final follow-up Harris score excellent rate, compared to 61.6% of the fixation group, artificial replacement group was 76.7%, significantly high. Difference was statistically significant (P<0.05). **Conclusion:** compression screw fixation and arthroplasty in the treatment of elderly osteoporotic femoral neck fractures have their own advantages and disadvantages, set for artificial joints can withstand surgery and good economic conditions in elderly patients, the use of artificial arthroplasty for better efficacy.

Key words: Arthroplasty; Compression screw fixation; Elderly osteoporotic femoral neck fracture

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前言

目前，对于高龄股骨颈骨折患者而言，内固定治疗或者人工关节置换等手术治疗方法作为首选治疗方法，已经广泛应用于临床。相对于非手术治疗并发症多、恢复差的弊端，手术治疗有助于促进关节恢复，提高患者治疗后的生活质量[1-3]。但股骨颈局部解剖、血供及生物力学的特点，加之老年骨质疏松患者多合并有高血压、糖尿病慢性支气管炎等内科基础性疾病，使得治疗时稍稍处理不当，即可出现骨折不愈合、缺血性坏死等并发症[4-7]，加重临床治疗难度。选择合适的治疗方案十分重要。我院就人工关节置换与加压螺钉内固定治疗高龄骨质疏松性

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股骨颈骨折的疗效进行研究，现将结果报告如下。

1 资料与方法

1.1 临床资料

选取 2010 年 8 月至 2013 年 3 月我院收治的 120 例高龄骨质疏松性股骨颈骨折患者，男型 56 例，女性 64 例。年龄最小为 57 岁，最大为 79 岁，平均为(67.85± 5.49)岁，头下型骨折 46 例，经颈型骨折 44 例，基底型骨折 30 例。所有患者均不同程度地合并有高血压、糖尿病或者慢性支气管炎等内科基础性疾病，其中，合并高血压 36 例，合并糖尿病 28 例，合并慢性支气管炎 24 例。通过心肺功能检查排除对手术不能耐受者。将所有患者随机分为人工置换组和内固定组两组，每组各 60 例，两组患者的年龄、性别、骨折类型、病情严重程度及合并内科基础性疾病等一般资料均无统计学差异(P＞0.05)。

1.2 方法

两组患者入院后均予以止痛、降血压及降血糖治疗，使血压保持 <150 / 95mmHg 的水平，使血糖保持在 <10mmol/L 的水平，并控制肺部感染。内固定组采用加压螺钉内固定术治疗：嘱患者取仰卧位，且患肢外展 30℃、内旋 15℃，采取全麻或联合硬膜外麻醉后，在 C 臂机透视下进行牵引骨折复位，加压空心螺钉的进针点选取在股骨粗隆下 1 cm 的部位，并运用定位器选定其他两个进针点。切口 1 cm 分离浅、深筋膜及肌层并止血，将克氏针前倾 15℃置入股骨颈，并将另两枚克氏针分别沿股骨颈皮质、股骨距置入。通过 C 臂机透视确定位置后采用扩孔器扩大针孔并将克氏针退出，将空心螺钉拧入固定，冲洗切口、止血后进行缝合。人工置换组采取人工关节置换术治疗：采用上述方式进行麻醉后，嘱患者取健侧卧位，取患髋后外侧切口使关节囊暴露后呈“T”形切开，股骨颈骨折暴露并取出患侧股骨头。髋关节取屈曲、内旋内收位以暴露股骨颈残端，在小转子上约 1.5cm 处切除残端。采用髓腔锉进行扩髓，安装并以螺钉固定所选取的人工股骨头或者髋臼，以骨水泥固定股骨柄，使股骨颈保持前倾 15℃角。冲洗切口并止血后对髋关节进行复位，对股骨头、髋臼的稳定性以及关节活动度进行检查，负压引流后缝合切口。

1.3 疗效判定指标

共包括三个方面：1.评定两组患者的手术时间、术中出血量及下地时间。2.评定术后并发症的发生率。3.根据末次随访时 Harris 评分优良率评定患肢功能恢复情况：90~100 评优，80~89 评良，70~79 分评一般，＜70 评差。

1.4 统计学处理

将所得数据导入 SPSS15.0 软件进行分析，计数资料比较采用 x^2 检验；计量资料用均数± 标准差($\bar{x}$± s)表示，组间比较采用 t 检验 。以 P＜0.05 作为有统计学差异的标准。

2 结果

经分析知，人工置换组手术时间及术中出血量分别为(124.8 ± 16.7)min、(369.2 ± 99.7)ml，明显高于内固定组的(73.5± 15.1)min、(78.4± 25.6)ml；但人工置换组术后下地时间为(15.3± 4.8)d，明显低于内固定组的(40.2± 7.5)d。P＜0.05，有统计学差异。详见表 1。

表 1 两组患者手术时间、出血量及下地时间对比（$\bar{x}$± s）

Table 1 Comparison of operative time, blood loss and landing time between two groups($\bar{x}$± s)

组别 Groups	例数 Cases	手术时间(min) Operative time(min)	术中出血量(ml) Blood loss(ml)	术后下地时间(d) Landing time(d)
人工置换组 Artificial replacement group	60	124.8± 16.7	369.2± 99.7	15.3± 4.8
内固定组 Fixation group	60	73.5± 15.1	78.4± 25.6	40.2± 7.5
t	-	17.650	21.883	21.660
P	-	0.000	0.000	0.000

由分析知，人工置换组与内固定组患者术后并发症的发生率分别为 20%、66.7%，人工置换组明显低于内固定组，差异有统计学意义(P<0.05)。泌尿系褥疮的组间差异也有统计学意义(P<0.05)。详见表 2。

表 2 两组患者术后并发症发生率的对比 [n(%)]

Table 2 Comparison of the incidence of complications after surgery between two groups[n(%)]

并发症 Complication	人工置换组(n=60) Artificialreplacement group (n=60)	内固定组(n=60) Fixation group(n=60)	x^2	P
下肢深静脉血栓形成 Deep vein thrombosis	3(5)	5(8.3)	0.536	0.464
肺部感染 Lung infection	3(5)	9(15)	3.333	0.068
泌尿系褥疮 Urinary bedsores	3(5)	13(21.7)	7.212	0.007
固定物松动 Implant loosening	2(3.3)	5(8.3)	1.365	0.243
股骨头坏死 Necrosis of femoral head	1(1.7)	5(8.3)	2.807	0.094
骨折不愈合 Fracture nonunion	0(0)	3(5)	3.077	0.079
总计 Total	12(20)	40(66.7)	26.606	0.000

经分析可知,末次随访时 Harris 评分优良率,相比于内固定组的 61.67%,人工置换组为 78.33%,明显偏高,差异有统计学意义(c2=3.968,P=0.046)。详见表 3。

表 3 两组患者末次随访时 Harris 评分优良率评定对比 [n(%)]

Table 3 Comparison of good rate of harris score between two groups in last follow-up

组别 Groups	90~100 分 90~100 points	80~89 分 80~89 points	70~79 分 70~79 points	70 分以下 70 points or less	优良率(%) Excellent rate(%)
人工置换组(n=60) Artificial replacement group(n=60)	28(46.7)	19(31.7)	8(13.3)	5(8.3)	78.33
内固定组(n=60) Fixation group(n=60)	23(38.3)	14(23.3)	11(18.3)	12(20)	61.67

3 讨论

加压螺钉内固定术治疗高龄骨质疏松性股骨颈骨折疗效确切,通过拧入空心加压螺钉固定股骨颈,出血量较少,对局部骨质、血液循环的伤害较小,有助于促进术后康复;三枚螺钉的固定呈“品”字形,加之螺纹固定可靠,使其抗压力及抗张力作用较强,固定更加牢固可靠[8-11]。并且手术操作简单,切口较小,手术时间短,对于老年患者而言,更加易于耐受。对此,本研究的结果亦可证实。但术后下肢深静脉血栓形成、肺部感染、泌尿系褥疮等内科相关并发症及固定物松动、股骨头坏死、骨折不愈合等手术相关并发症的发生亦给患者带来巨大痛苦。患者下地时间长增加了泌尿系褥疮发生的可能。因此,内固定组与人工置换组并发症发生率的评定中,以泌尿系褥疮的发生率组间差异最为明显。

人工关节置换术目前在多数发达国家已经作为治疗老年人股骨颈骨折的主要方式广泛应用。但是,手术本身手术时间长,术中出血量多,对患者的伤害较大,对老年患者而言,不容易耐受[12-15],加之高昂的手术费用给患者带来沉重的负担,使其在我国临床尚未广泛使用。不少学者认为,股骨颈骨折的老年患者多合并有高血压、糖尿病及慢性支气管肺炎等内科基础性疾病[16-17],尤其是骨质疏松的老年患者,未必都适合应用[18-20]。在本研究中,通过严格控制血压、血糖,并通过监测心肺功能排除不能耐受的患者, 对人工置换组进行人工关节置换术发现,术后卧床时间较内固定组明显较短,且术后各种并发症的发生率明显低于内固定组,患者术后末次随访时 Harris 评分优良率明显高于内固定组,考虑人工置换组卧床时间短,有助于降低术后并发症的发生率,尤其是泌尿系褥疮的发生率,有助于患者术后的功能恢复。证明,对于能够耐受该手术且经济条件好的的老年患者而言,采用人工关节置换术治疗,相比于加压螺钉内固定术治疗,疗效更佳。

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