·临床研究·

全膝人工关节置换术治疗重度膝骨性关节炎

Total knee arthroplasty applied in the treatment of severe osteoarthritis of knee joint

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重度膝骨性关节炎(Osteoarthritis, OA)不但膝关节疼痛较为严重,而且膝关节增粗肥大、内外翻畸形或屈曲挛缩畸形,严重影响患者的工作和生活质量。近年来,随着全膝人工关节(Total knee arthoplasty, TKA)置换手术的开展,采用TKA治疗重度膝关节OA引起了人们的重视。现报道22例(38膝)。

1 临床资料

1.1 一般资料 1998年2月-2002年11月,根据放射学诊断标准[1],对22例(38膝)诊断为重度膝关节OA的患者进行TKA手术。其中男2例,女20例;年龄50~79岁,平均65.4岁。身高156~178 cm,平均162 cm;体重51.5~95.5 kg,平均72.6 kg。双膝TKA 16例,单纯左膝3例,单纯右膝3例。

1.2 临床与X线表现 均有膝关节肿胀、疼痛,有"胶涩感"者32膝(84.2%);浮髌和髌骨研磨试验均为阳性,抽屉试验阳性者13例(34.2%);麦氏征阳性19膝(50.0%);屈曲挛缩畸形21膝(5°~40°);膝关节活动范围45°~90°。X线表现:Ⅲ级2例(2膝),Ⅳ级20例(36膝)。膝内翻畸形36膝,内翻角度5°~15°;膝外翻畸形1例(2膝),外翻角度20°和25°。HSS评分[2]16~73分。

2 治疗方法

2.1 手术要点 手术由同一组医生实施,假体均为美国强生PFC后稳定型假体,双膝置换均在同一麻醉下完成。取膝前正中切口髌旁内侧入路,屈膝位切开与缝合。术中注意要点:①股骨远端髁截骨均采用外翻6°标准;②胫骨平台截骨以关节面破坏最低头为准;③彻底清除胫骨平台周围尤其内外侧骨赘;④内外侧副韧带的松解与平衡,内侧向下可达鹅足,外侧向上,均行骨膜下钝性剥离;⑤胫骨平台修正,包括二次截骨与植骨;⑥后房室游离体的彻底摘除和软组织的松解,软组织的松解包括切除后关节囊内纤维脂肪组织和PCL、松解后关节囊和腘肌腱等;⑦髌骨厚度≥22 mm置换,<22 mm修整,并电刀杀灭髌周神经;⑧安装试模后最后松解;⑨根据"Thumb Test"适当松解髌外侧支持带。

2.2 术后处理要点 术后常规留置硬膜外镇痛泵,第3天鼓励患者开始主动膝关节伸屈锻炼,尽量不用CPM,并采用冰袋冷敷和口服活血化瘀、消肿止痛中药,方药以桃红四物汤加减,2周切口拆线愈合后可用同类中药外敷。1周后屈膝达90°,并扶拐下床练习行走,2~3周后弃拐行走。对于伸展滞缺(膝关节残留屈曲度数)者,术后第3天开始踝套牵引,每日2次,每次0.5~1 h。此外,常规应用抗生素和低分子肝素钠。

3 治疗结果

3.1 随访 分别于术后1、3、6、12个月,1年后每6个月进行随访。每次记录膝关节活动角度和HSS评分,拍摄负重位X线片,并测量股胫角。

3.2 结果 本组病例全部得到随访,平均3个月(1.5~57个月),HSS评分为72~100分。1例(2膝)有伸展滞缺,均为5°;膝关节活动范围为95°~125°。正常股胫角为外翻6°[3],本组为5°~7°。并发右股深静脉血栓(DVT)1例,发生率为2.6%(1/38),为彩超证实,静点丹参,口服阿司匹林和活血化瘀中药,3个月后治愈。无感染、腓总神经损伤、骨化性肌炎、骨折、假体松动或肺脑栓塞等并发症。

4 讨论

重度膝关节OA常常需要手术治疗,TKA不但根除了膝关节OA的病变,同时矫正了膝内外翻畸形,还保证了膝关节的伸屈功能。本组资料显示,TKA术后使膝关节活动范围达到95°~125°(108.5±17.5)°,HSS评分达72~100分(83.8±9.7)分,股胫角矫正为外翻为5°~7°(5.8±1.3)°,均较术前明显改善。

重度膝关节OA主要是内翻畸形,因此矫正膝内翻畸形是TKA手术成功的关键。周殿阁等[4]将膝内翻角度分为骨结构性内翻和软组织失衡性内翻两部分,而且以后者为主。彻底清除胫骨平台周围尤其内外侧骨赘,即可完成内外侧副韧带的松解与平衡,否则,再行内侧副韧带向下的松解,可达鹅足;胫骨平台截骨以内侧关节面破坏最低点为准,配合胫骨平台修正,包括二次截骨与植骨,可以完全矫正内翻畸形。致于外翻畸形,胫骨平台截骨则以外侧关节面破坏最低点为准,注重松解外侧副韧带,同时切除后外侧腘横韧带,亦可完全矫正外翻畸形。

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屈曲挛缩畸形亦是重度膝关节 OA 的常见畸形，本组 21 膝，发生率为 55.3%。术中注重后房室游离体的彻底摘除和软组织的松解，软组织的松解包括切除后关节囊内纤维脂肪组织和 PCL、松解后关节囊和腘肌腱等，对于 20°内的屈曲挛缩，可以基本矫正。对于较严重的屈曲挛缩，术中不能完全矫正或为了避免腓总神经的过度牵拉损伤，术后行牵引治疗及伸膝锻炼，亦可以达到矫正目的。本组 2 例(4 膝)肥胖患者屈曲挛缩畸形达 30°～40°，术中未能完全矫正，通过术后牵引治疗及伸膝锻炼，随访时发现 1 例(2 膝)有伸展滞缺，均为 5°，另 1 例则完全矫正。

术后鼓励患者进行主动膝关节伸屈锻炼，不用 CPM，更有利于肌肉力量的恢复，以达到主动而真实的活动范围。对于体质差或痛域低的患者，可适当应用 CPM。术后 1 周采用膝部冷敷的方法，可以减轻膝关节充血肿胀；同时服用活血化瘀、消肿止痛中药，切口拆线愈合后可用中药外洗；并常规应用低分子肝素钠，基本可以避免患肢的肿胀。本组仅 1 例糖尿病患者发生右股深静脉血栓，3 个月后治愈，DVT 发生率仅为 2.6%，明显低于文献报道的 45%～84%[5]。

总之，TKA 手术是治疗重度膝关节 OA 的有效方法，但是，由于本组病例随访时间短，还有待于长期观察。

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