

读书报告

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■ Feature Article



Perioperative Morbidity and Mortality of 2-team Simultaneous Bilateral Total Knee Arthroplasty

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Introduction

The total rate of bilateral TKA has doubled over the past 2 decades, and the rate in women has tripled over that same time period.

- 1、 simultaneous bilateral TKA;
- 2、 sequential TKA;
- 3、 staged TKA; TKA is performed on one side of the knee joint, and the contralateral TKA stage is performed during the same hospitalization period, or several months later.

- 1、 shorter overall recovery time ;
- 2、 less time off work ;
- 3、 anesthetic administration ;
- 4、 decreased total cost ;
- 5、 Significant deformities, if present bilaterally, can be corrected simultaneously so that an uncorrected deformity does not compromise the recovery and result of the corrected knee.

increased morbidity and mortality with simultaneous bilateral TKA, particularly in older patients and those with significant medical comorbidities

作者假设与本机构的单侧TKA相比，2组同时双侧TKA的发病率和死亡率并没有显著差异。

本研究的目的是检查2组同时双侧TKA的围手术期发病率和死亡率。

Methods

1、由2位资深作者收集了1997年10月至2003年1月期间行全膝关节置换术的患者资料，包括同时接受双侧或单侧TKA的患者的初步清单进行了回顾性研究. 排除了单间室全膝关节置换术和翻修的TKA.

2、最终227名连续同时进行双侧TKA的患者和216名连续单侧TKA患者符合标准，其中，同时双侧TKA组包括4名类风湿性关节炎患者，其余患者患有骨关节炎。单侧TKA组包括7名患有类风湿性关节炎的患者，其余患者患有骨关节炎。

3、两组患者均使用抗生素及进行深静脉血栓预防，术后随访确保至少1年。

4、将围手术期并发症分为主要和次要。主要并发症包括1年内出现深部感染，肺栓塞，脑血管意外，心肌梗塞，死亡，去除或翻修假体；所有其他并发症为次要并发症，包括假体感染，深静脉血栓、尿路感染等

Results

	Bilateral TKA Group (n= 227)^a	Unilateral TKA Group (n= 216)^b	P
Mean±SD age, y	65.7±4.1	66.0±4.1	.238
Sex, M:F (M%)	83:144 (36.6)	71:145 (32.9)	
Mean±SD BMI, kg/m ² (range)	34.0±7.1 (19.2-61.4)	33.7±7.5 (19.8-67.8)	.646
ASA class			
ASA 4, n (%)	14 (6.2)	18 (8.3)	
ASA 3, n (%)	126 (55.5)	131 (60.6)	
ASA 2, n (%)	68 (30.0)	59 (27.3)	
ASA 1, n (%)	3 (1.3)	3 (1.4)	
Mean±SD tourniquet time, min	114.4±18.0	109.4±17.6	.004
Mean±SD estimated blood loss, mL	161.7±214.2	105.0±154.1	.002
Patients transfused, n (%)	148 (65.0)	31 (14.4)	
Mean±SD units transfused	1.4±1.3	0.3±0.8	<.001
Mean±SD length of hospital stay, d	3.71±1.3	3.38±0.98	.002
Discharged to extended care facility, n (%)	168 (76)	60 (27)	<.001

Complication	No. (%)	
	Bilateral TKA Group (n=227)	Unilateral TKA Group (n=216)
Major	7 (3.5)	2 (0.9)
Death	0 (0)	0 (0)
Pulmonary embolism	5 (2.2)	0 (0)
Myocardial infarction	1 (0.4)	1 (0.5)
Deep infection	0 (0)	0 (0)
Cerebrovascular accident	1 (0.4)	0 (0)
Revision of implant	0 (0)	1 (0.5)
Minor	45 (19.8)	35 (16.2)
Superficial infection	3 (1.3)	3 (1.4)
Distal deep venous thrombosis	6 (2.6)	2 (0.9)
Urinary tract infection	2 (0.8)	1 (0.5)
Urinary retention	6 (2.6)	6 (2.8)
Confusion	5 (2.2)	0 (0)
Ileus	2 (0.8)	2 (0.9)
Surgical hematoma	0 (0)	1 (0.5)
Need for knee manipulation	10 (4.4)	13 (6.0%)
Pneumonia	1 (0.4)	1 (0.5)
<i>Clostridium difficile</i> colitis	0 (0)	2 (0.9)
New onset arrhythmia	1 (0.4)	3 (1.4)
Transient acute renal failure	4 (1.7)	0 (0)
Extensor mechanism disruption	2 (0.8)	0 (0)
Heterotopic ossification	1 (0.4)	0 (0)
Medial collateral ligament laceration	1 (0.4)	0 (0)
Patellar component dislocation	1 (0.4)	1 (0.5)

Discussion

- 1、 In our study, the total number of major complications did not reach statistical significance between the 2 groups, but more major complications occurred in the bilateral TKA group.
- 2、 The difference in the number of minor complications between the 2 groups did not reach statistical significance.
- 3、 Compared to unilateral TKA, bilateral TKA avoids the potential complications in the second TKA.
- 4、 The literature on bilateral TKAs has little uniformity in terms of temporal designations, which makes drawing meaningful conclusions challenging.

5、 Hardaker WT Jr, Ogden WS, Musgrave RE, Goldner JL. Simultaneous and staged bilateral total knee arthroplasty. J Bone Joint Surg Am. 1978; 60(2):247-250.

6、 Morrey BF, Adams RA, Ilstrup DM, Bryan RS. Complications and mortality associated with bilateral or unilateral total knee arthroplasty. J Bone Joint Surg Am. 1987; 69(4):484-488.

7、 Mc Laughlin TP, Fisher RL. Bilateral total knee arthroplasties. Comparison of simultaneous (two-team), sequential, and staged knee replacements. Clin Orthop Relat Res. 1985; (199):220-225.

我们的数据显示，在我们的机构进行的2组同时双侧TKA与单侧TKA具有相似的并发症发生率，对于经过适当选择的，有动力的患者来说仍然是一个安全的选择。同时双侧TKA提供了潜在的优势，减少整体恢复时间，降低总体成本，减少麻醉剂使用次数，减少工作时间。它还允许同时矫正显着畸形，对于单侧TKA，如果解决1侧膝关节畸形并且对侧仍然存在，可能会损害康复。

Thank

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