

DOI:10.3724/SP.J.1008.2012.00497

年龄对风湿性主动脉瓣置换术后患者生活质量影响的前瞻性研究

颜涛[△], 钟铿[△], 韩林, 张冠鑫, 王崇, 李白翎, 徐志云*

第二军医大学长海医院胸心外科, 上海 200433

[摘要] **目的** 研究年龄对风湿性主动脉瓣置换术后患者生活质量的影响。**方法** 采用前瞻性队列研究方法, 将符合入选条件的2010年3月至2010年12月期间在长海医院接受主动脉瓣置换术的风湿性心脏病患者根据年龄分为3组: A组, <45岁; B组, ≥45岁且<65岁; C组, ≥65岁, 每组14例。使用SF-36量表评估患者术前和术后不同时间(3、6、12个月)的生活质量。采用配对非参数Wilcoxon秩和检验分析3组术后与术前生活质量评分的变化; 采用重复测量方法分析年龄对患者术后生活质量评分的影响。**结果** (1)与术前相比, A、C两组术后3个月生理职能(RP)、总体健康(GH)、活力(VT)和精神健康(MH)等4个维度, 以及术后6、12个月SF-36量表8个维度评分差异均有统计学意义($P<0.05$); B组术后3个月RP、GH、VT和社会职能(SF)等4个维度评分差异均有统计学意义($P<0.05$), 术后6个月除MH外, 余7个维度差异均有统计学意义($P<0.05$), 术后12个月, 8个维度评分差异均有统计学意义($P<0.05$)。 (2)各组之间比较, 除A组GH评分趋势显著好于B、C两组($P=0.000$)外, 余7个维度评分差异均无统计学意义。**结论** 风湿性主动脉瓣置换术后患者生活质量有明显改善; 年龄不是影响患者术后生活质量的危险因素, 但对年轻患者及时行手术治疗更有利于其GH的恢复。

[关键词] 风湿性心脏病; 主动脉瓣置换术; 生活质量; 年龄; 前瞻性研究

[中图分类号] R 654.27 **[文献标志码]** A **[文章编号]** 0258-879X(2012)05-0497-04

Influence of age on quality of life of patients with rheumatic aortic valve disease after aortic valve replacement: a prospective study

YAN Tao[△], ZHONG Keng[△], HAN Lin, ZHANG Guan-xin, WANG Chong, LI Bai-ling, XU Zhi-yun*

Department of Cardiothoracic Surgery, Changhai Hospital, Second Military Medical University, Shanghai 200433, China

[Abstract] **Objective** To study the influence of age on quality of life(QOL) of patients with rheumatic valve disease after aortic valve replacement. **Methods** A total of 42 patients with rheumatic aortic valve disease who received aortic valve replacement in Changhai Hospital during March 2010 to Dec 2010 were prospectively studied. The patients were divided into 3 groups according their ages: (1) group A, <45 years, (2) group B, ≥45 years and < 65 years, and (3) group C, ≥65 years. QOL of patients was measured at baseline and at 3 months, 6 months and 12 months after operation using Short Form 36-Item(SF-36) Health Survey. Wilcoxon matched pairs rank test was used to analyze the changes of patients' QOL after surgery, and repeated measurement was used to analyze the influence of age on QOL of rheumatic patients. **Results** (1) Four of the eight domains of the SF-36, including role-physical (RP), general health(GH), vitality (VT), and mental health (MH) were significantly improved in group A and C at 3 months after operation ($P<0.05$), and all the eight domains were significantly improved at 6 and 12 months after operation ($P<0.05$). For group B, four domains, including RP, GH, VT and social function (SF), were significantly improved at 3 months after operation ($P<0.05$); all the domains but MH were significantly improved at 6 months after operation($P<0.05$), and all the 8 domains were significantly improved at 12 months after surgery ($P<0.05$). (2) All the domains but GH had no significant difference between the 3 groups. The GH score in group A were significantly improved than that in group B and C ($P=0.000$). **Conclusion** The QOL of patients with rheumatic heart valve disease is improved after operation. Age is not a risk factor of QOL in patients with rheumatic heart valve disease after aortic valve replacement; younger patients seem to benefit more from the surgery for the GH score.

[Key words] rheumatic heart disease; aortic valve replacement; quality of life; age; prospective cohort study

[Acad J Sec Mil Med Univ, 2012, 33(5): 497-500]

[收稿日期] 2011-11-22 **[接受日期]** 2012-03-13

[基金项目] 国家卫生部专项基金(20082096). Supported by the Special Fund of Ministry of Health of China (20082096).

[作者简介] 颜涛, 博士生. E-mail: yt190@163.com; 钟铿, 住院医师. E-mail: zkeng2001@163.com

[△]共同第一作者(Co-first authors).

* 通信作者(Corresponding author). Tel: 021-81873436, E-mail: zhiyunx@hotmail.com

以往人们多采用病死率、并发症等指标评价手术疗效及患者预后。近年来,生活质量评估(即从患者角度评价其一般状况)逐渐成为评价手术治疗效果的一项重要指标^[1]。高龄是风湿性主动脉瓣置换手术的一项独立危险因素^[2],但有关年龄对风湿性主动脉瓣置换患者术后生活质量的影响,国内外研究甚少。我们采用前瞻性队列研究方法,探讨年龄对风湿性主动脉瓣置换术后患者生活质量的影响。

1 资料和方法

1.1 研究对象 本研究经长海医院医学伦理委员会审核并获得通过。采用前瞻性队列研究方法,将2010年3月至2010年12月期间在长海医院胸心外

科接受主动脉瓣置换术的年龄>18岁的患者纳入本研究,并按年龄分为3组:A组,<45岁;B组,≥45岁且<65岁;C组,≥65岁。为排除性别、左室射血分数(LVEF)、纽约心脏协会(NYHA)心功能分级和手术方式等的影响,根据C组入选患者的性别、LVEF、NYHA心功能分级和手术方式进行配对。排除标准:(1)同期接受其他非瓣膜心脏手术、非心脏手术者,如冠状动脉旁路移植术(CABG)、先天性心脏病矫治术、大血管手术等;(2)术前排伴有影响生活质量的疾病者,如脑卒中、慢性肾功能衰竭、糖尿病、慢性肝功能衰竭等^[3]。入选病例45例,A组1例因发生术后低心排而死亡,去除配对B、C两组各1例,共42例(每组14例)。3组临床资料见表1。

表1 患者临床资料
Tab 1 The clinical data of the patients

Variables	Group A (Age<45 years)	Group B (45 years≤Age<65 years)	Group C (Age≥65 years)	P value
Age (year, $\bar{x}\pm s$)	36.43±5.958	52.57±6.642	68.57±3.155	0.000
Gender (female : male) n	4 : 10	4 : 10	4 : 10	1.000
BMI (kg · m ⁻²)	22.87±4.17	21.84±2.67	22.41±3.65	0.745
COPD n(%)	1(7.1)	0	0	1.000
Hypertension n(%)	2(14.1)	1(7.1)	6(42.9)	0.102
NYHA (III-IV) n(%)	9(64.3)	11(78.6)	12(85.7)	0.544
AF n (%)	7(50.0)	7(50.0)	8(57.1)	1.000
LVEF (% , $\bar{x}\pm s$)	58.57±9.73	57.93±9.47	58.07±10.71	0.984
ACCT t/min, $\bar{x}\pm s$	74.29±21.08	70.86±23.92	70.93±20.64	0.895
Surgery n				
AVR (+TVP)	6	6	6	1.000
AVR+MVR (+TVP)	8	8	8	1.000

BMI: Body mass index; COPD: Chronic obstructive pulmonary disease; NYHA: New York Heart Association; AF: Atrial fibrillation; LVEF: Left ventricular ejection fraction; ACCT: Aortic cross-clamp time; AVR: Aortic valve replacement; TVP: Tricuspid valve repair; MVR: Mitral valve replacement

1.2 临床资料采集 术前1周内采集患者详细的一般情况及临床资料,使用胸外科协会的定义和术语。患者一般资料包括年龄、性别、身高、体质量等,合并症包括高血压、慢性阻塞性肺病等。心脏相关性资料包括充血性心力衰竭病史、冠心病病史、心律、既往心肌梗死病史、瓣膜病变类型、既往心脏手术史、NYHA心功能分级、LVEF等。手术相关因素包括手术方式(主动脉瓣手术、主动脉瓣+左房室瓣手术)和植入瓣膜类型(机械瓣、生物瓣)。术后随访(窗口期为4周),分别于术后3、6、12个月采集患者一般状况及临床资料。随访采用门诊、电话、邮件、网络、直接上门随访等多种方式。

1.3 生活质量评估 采用SF-36 (Short Form-36)量表^[1,4]评估生活质量。该量表由36个问题组成,主要测量患者日常生活的变化,可归纳为8个维度

的问题:生理功能(physical functioning, PF)、生理职能(role-physical, RP)、身体疼痛(bodily pain, BP)、总体健康(general health, GH)、活力(vitality, VT)、社会功能(social function, SF)、情感职能(role-emotional, RE)和精神健康(mental health, MH)。每个项目评分区间为0~100,分值愈高,表示患者该维度的状况越好,反之亦然^[5]。分别于术前1周,术后3、6、12周采集患者一般情况和临床资料,完成生活质量评估。

1.4 统计学处理 首先,对患者研究因素进行描述性统计分析。以3组术前生活质量分值为基线,采用非参数配对样本的Wilcoxon秩和检验对比术后3、6、12个月生活质量评分变化情况及其变化趋势,分析手术的疗效;然后采用重复测量的方差分析分别在术前及术后3、6、12个月对比3组之间生活质

量评分的差异,分析年龄对生活质量的影响。计量资料采用 $\bar{x} \pm s$ 表示,计数资料采用百分比表示。分析软件为 SPSS 18.0,检验水平(α)为 0.05。

2 结果

2.1 手术对3组患者术后生活质量的影响 42例患者均恢复良好,术后未发生脑梗死、肾功能衰竭等影响生活质量的相关并发症。A组术后3个月SF-36量表仅RP、GH、VT和MH这4个维度评分与术前相比明显改善,差异均有统计学意义($P <$

0.05);术后6、12个月与术前相比,8个维度评分均改善明显,差异有统计学意义($P < 0.05$)。B组术后3个月生活质量与术前相比,RP、GH、VT和SF等4个维度评分均有明显改善($P < 0.05$);术后6个月与术前相比除MH外,余7个维度评分均有明显改善($P < 0.05$);术后12个月与术前相比,8个维度评分均改善明显($P < 0.05$)。C组术后3个月生活质量与术前相比,RP、GH、VT和MH等4个维度评分明显改善($P < 0.05$);术后6、12个月与术前相比,8个维度评分均有明显改善($P < 0.05$)。结果见表2。

表2 3组患者生活质量评分
Tab 2 The QOL scores of the three groups

$n=14, \bar{x} \pm s$

Domain	Group A (Age < 45 years)			
	Preoperatively	3 months postoperatively	6 months postoperatively	12 months postoperatively
PF	75.00 ± 23.53	81.79 ± 9.12	88.57 ± 8.86*	91.07 ± 7.89*
RP	30.36 ± 42.94	53.57 ± 25.68*	69.64 ± 22.32*	78.57 ± 21.65*
BP	77.00 ± 22.29	79.79 ± 15.51	86.57 ± 15.16*	91.86 ± 14.11*
GH	29.93 ± 20.29	57.29 ± 14.36*	66.43 ± 13.82*	77.07 ± 11.21*
VT	56.43 ± 24.76	69.29 ± 16.62*	79.64 ± 14.87*	87.50 ± 11.39*
SF	71.43 ± 29.59	76.79 ± 20.13	84.82 ± 17.80*	89.29 ± 15.39*
RE	40.48 ± 45.62	54.76 ± 24.83	73.81 ± 19.30*	83.33 ± 21.68*
MH	70.86 ± 20.72	81.71 ± 13.10*	84.43 ± 13.36*	88.43 ± 10.88*
Domain	Group B (45 years ≤ Age < 65 years)			
	Preoperatively	3 months postoperatively	6 months postoperatively	12 months postoperatively
PF	68.93 ± 22.20	74.29 ± 12.54	81.43 ± 9.08*	87.14 ± 7.52*
RP	23.21 ± 38.56	51.79 ± 20.72*	67.86 ± 20.64*	73.21 ± 18.25*
BP	78.07 ± 18.82	82.29 ± 12.28	87.57 ± 10.79*	93.43 ± 6.95*
GH	46.57 ± 19.41	65.00 ± 25.08*	69.64 ± 18.96*	76.29 ± 16.88*
VT	66.79 ± 19.18	78.93 ± 15.83*	76.47 ± 19.75*	84.29 ± 12.84*
SF	72.32 ± 18.46	83.04 ± 11.61*	88.39 ± 12.47*	93.75 ± 8.13*
RE	49.59 ± 27.68	61.90 ± 25.68	78.57 ± 21.11*	83.33 ± 21.68*
MH	78.86 ± 14.75	80.29 ± 11.03	84.57 ± 8.99	88.00 ± 8.15*
Domain	Group C (Age ≥ 65 years)			
	Preoperatively	3 months postoperatively	6 months postoperatively	12 months postoperatively
PF	69.29 ± 19.60	75.71 ± 9.58	82.86 ± 9.55*	87.50 ± 8.49*
RP	28.57 ± 43.70	53.57 ± 19.26*	69.64 ± 20.05*	76.79 ± 18.25*
BP	76.00 ± 21.64	79.43 ± 12.88	89.00 ± 9.85*	93.71 ± 6.88*
GH	48.29 ± 17.67	55.93 ± 13.58*	64.86 ± 12.08*	74.71 ± 11.13*
VT	64.29 ± 23.93	75.71 ± 15.30*	81.79 ± 13.39*	86.07 ± 12.59*
SF	72.32 ± 24.11	76.79 ± 21.29	86.61 ± 17.31*	90.18 ± 16.39*
RE	40.48 ± 43.71	54.76 ± 21.11	76.19 ± 20.38*	85.71 ± 17.12*
MH	75.43 ± 16.29	81.14 ± 11.99*	87.71 ± 9.82*	92.00 ± 9.28*

QOL: Quality of life; PF: Physical functioning; RP: Role-physical; BP: Bodily pain; GH: General health; VT: Vitality; SF: Social function; RE: Role-emotional; MH: Mental health. * $P < 0.05$ vs preoperation

2.2 年龄对生活质量评分的影响 采用重复测量方差分析方法比较3组术前及术后3、6和12个月SF-36量表8个维度的评分,发现各组除GH外的7个维度变化差异均无统计学意义(P 均 > 0.05),即各组间的变化趋势没有差别,提示年龄并不影响患者生活质量的恢复趋势。GH评分的变化趋势在3组间有差异($P = 0.000$),A组GH评分恢复较B、C组更好(图1),提示年龄轻者改善明显。

3 讨论

风湿性主动脉瓣疾病是我国及大多数发展中国家主动脉瓣疾病最重要的病因,传统上采用病死率、并发症、存活率等评估手术效果及患者预后。但随着人们对疾病认识及治疗手段的提高,患者术后生活质量的改善越来越受到关注。年龄对于主动脉瓣置换患者术后生活质量的影响,国内外研究结论有

一定分歧^[6-10]。Goldsmith等^[3]在对62例主动脉瓣手术患者进行一项前瞻性研究时发现,年龄小于70岁患者的手术受益大于70岁以上患者。Sedrakyan等^[11]将入选的148例主动脉瓣、72例左房室瓣手术患者分为≤64岁组、65~74岁组和≥75岁组,发现3组生活质量评分相对于术前在多个方面有显著性提高,但3组之间的改变无明显差异,且与同龄正常人相比也无明显差异,提示年龄并不影响患者术后生活质量的恢复。但上述两项研究仅将术后3个月或18个月作为唯一时间点与术前进行对比,无术后连续性随访,对患者术后生活质量改善的趋势未予关注。

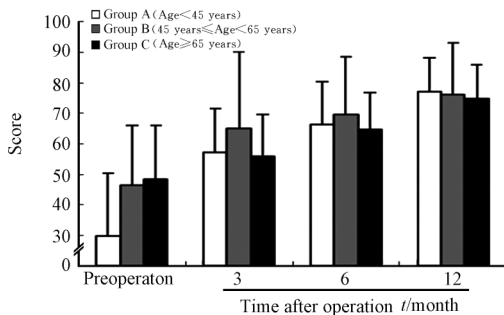


图1 3组GH变化趋势图

Fig 1 Changes of general health (GH) in the three groups

The repeated measure analysis of variance of GH changes in the three groups ($P=0.000$); Improvement in group A was much stronger than those in group B and C. $n=14, \bar{x} \pm s$

另外,欧美国家心脏瓣膜疾病,特别是主动脉瓣病变,多为钙化性或老年退行性变,其病理特点与风湿性心脏病不完全相同。因此,我们采用前瞻性队列研究,在患者术后3、6和12个月这3个时间点进行随访,观察各组病例生活质量恢复的趋势,发现3组患者术后3个月生理职能(RP)、总体健康(GH)和活力(VT)等3个维度评分上均有改善;术后6个月除B组精神健康(MH)改善不明显外,其余两组8个维度、B组7个维度评分均有明显改善;术后12个月3组8个维度均有明显改善。术后3个月A、C两组生理功能(PF)、身体疼痛(BP)、社会功能(SF)、情感职能(RE)恢复欠佳,与国外报道有所不同^[3],可能与病因、生活习惯、文化差异有关。本研究中,SF-36量表测量生理健康(PF、RP、BP、GH)与心理健康(VT、SF、RE、MH)的各项恢复大致相同,术后3个月各有1~2个维度恢复欠佳,术后6个月除B组MH维度外,3组生理健康与心理健康均恢复满意,提示手术效果满意。Georgiadou等^[12]等研究经皮介入主动脉瓣置换术后患者生活质量也得出了类似的结论。

3个年龄组间对比,SF-36在除GH外的7个维度恢复上无明显差别,术后各随访时间点生活质量

恢复趋势相同,提示年龄对患者术后生活质量恢复趋势影响较小。但GH维度上,A组GH恢复趋势明显好于B、C两组,说明年龄对GH恢复有一定影响,对年轻患者及时行手术治疗,其因GH评分改善的获益更多。

本研究的局限性:(1)为前瞻性配对研究,老年风湿性主动脉瓣病变患者较少,配对样本较少,故本研究样本量较小,且为单中心研究,结论可能有一定的局限性,需多中心大样本研究证实结论。(2)目前我国没有普通人群SF-36各项目的参照评分,本研究各年龄组病例各项评分无法与普通人群进行对照,无法了解与普通人群相比,主动脉瓣置换术后患者生活质量的变化情况及趋势。

4 利益冲突

所有作者声明本文不涉及任何利益冲突。

【参考文献】

- [1] Ware J E Jr S K, Kosinski M. SF-36 health survey manual and interpretation guide[M]. Boston: New England Medical Center the Health Institute, 1993: 1-2.
- [2] Brown J M, O'Brien S M, Wu C, Sikora J A, Griffith B P, Gammie J S. Isolated aortic valve replacement in North America comprising 108,687 patients in 10 years: changes in risks, valve types, and outcomes in the Society of Thoracic Surgeons National Database[J]. J Thorac Cardiovasc Surg, 2009, 137: 82-90.
- [3] Goldsmith I R, Lip G Y, Patel R L. A prospective study of changes in patients' quality of life after aortic valve replacement[J]. J Heart Valve Dis, 2001, 10: 346-353.
- [4] 李俊, 刘朝杰, 李宁秀, 何廷尉, 李秉瑜. 生命质量评价量表sf-36中国量化标准研究[J]. 华西医科大学学报, 2001, 32: 36-38, 47.
- [5] Ware J E Jr, Sherbourne C D. The MOS 36-item short-form health survey (SF-36). I. Conceptual framework and item selection[J]. Med Car, 1992, 30: 473-483.
- [6] Akhyari P, Bara C, Kofidis T, Khaladj N, Haverich A, Klima U. Aortic root and ascending aortic replacement[J]. Int Heart J, 2009, 50: 47-57.
- [7] Rimington H, Weinman J, Chambers J B. Predicting outcome after valve replacement[J]. Heart, 2010, 96: 118-123.
- [8] Sundt T M, Bailey M S, Moon M R, Mendeloff E N, Huddleston C B, Pasque M K, et al. Quality of life after aortic valve replacement at the age of > 80 years [J]. Circulation, 2000, 102 (19 Suppl 3): III 70-III 74.
- [9] Spaziano M, Carrier M, Pellerin M, Choiniere M. Quality of life following heart valve replacement in the elderly [J]. J Heart Valve Dis, 2010, 19: 524-532.
- [10] Urso S, Sadaba R, Vives M, Beltrame S, Trujillo J, Aldamiz-Echevarria G. [Quality of life an elderly patients undergoing aortic valve replacement; a comparative study with the general Spanish population][J]. Med Clin (Barc), 2009, 133: 422-424.
- [11] Sedrakyan A, Vaccarino V, Paltiel A D, Elefteriades J A, Mat-tera J A, Roumanis S A, et al. Age does not limit quality of life improvement in cardiac valve surgery[J]. J Am Coll Cardiol, 2003, 42: 1208-1214.
- [12] Georgiadou P, Kontodima P, Sbarouni E, Karavolias G K, Smirli A, Xanthos T, et al. Long-term quality of life improvement after transcatheter aortic valve implantation[J]. Am Heart J, 2011, 162: 232-237.