

风湿性心脏病住院患者心房颤动的研究

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摘要

① 目的: 探究引起风湿性心脏病患者心房颤动的危险因素。② 方法: 我们对2018年11月1日至2020年11月1日期间在青岛大学附属医院心外科确诊为风湿性心脏病的患者进行了一项回顾性病例对照研究。在396名患者中, 共筛查出150名被纳入研究, 根据患者的心电图将其分为窦性心律或心房颤动组并进行组间数据分析。③ 结果: 风湿性心脏瓣膜病住院患者心房颤动的患病率为38.4%。风湿性心脏病单纯主动脉瓣膜病变的患者心房颤动的患病率是风湿性心脏病非单纯主动脉的混合瓣膜病变患者的0.072倍(比值比OR = 0.072, OR的95%置信区间: 0.01~0.63), P值为0.018 < 0.05有统计学意义。年龄、性别、合并冠状动脉粥样硬化性心脏病、下肢斑块形成、左心房内径(left atrial diameter, LA)、左心室舒张末期径(left ventricular end-diastolic diameter, LVDd)及左心室收缩射血分数(left ventricular ejection fraction, LVEF)与风湿性心脏病患者获得心房颤动之间没有明显关联。④ 结论: 心房颤动在风湿性心脏病住院患者中的患病率为38.4%, 心房颤动的主要相关因素是非单纯主动脉瓣的联合瓣膜病变。

关键词

风湿性心脏病, 心房颤动, 房颤

Study on Atrial Frbrillation in Hospitalized Patients with Rheumatic Heart Disease

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Abstract

Objective: To explore the risk factors of atrial fibrillation in patients with rheumatic heart disease. **Methods:** A retrospective case-control study was conducted on patients diagnosed with rheumatic heart disease in the Department of Cardiology, Affiliated Hospital of Qingdao University from November 1, 2018 to November 1, 2020. Of the 396 patients screened, 150 were enrolled and assigned to sinus rhythm or atrial fibrillation based on their electrocardiogram and intergroup data were analyzed. **Results:** The prevalence of atrial fibrillation in hospitalized patients with rheumatic valvular heart disease was 38.4%. The prevalence of atrial fibrillation in patients with rheumatic heart disease with simple aortic valvular disease was 0.072 times higher than that in patients with rheumatic heart disease without simple aortic mixed valvular disease (ODDS ratio OR = 0.072, 95% confidence interval of OR: 0.01~0.63), and a P value of 0.018 < 0.05 was statistically significant. Age, sex, coronary heart disease, lower limb plaque formation, left atrial diameter (LA), left ventricular end-diastolic diameter (LVDd), and left ventricular systolic ejection fraction (LVEF) were not significantly associated with atrial fibrillation in patients with rheumatic heart disease. **Conclusion:** The prevalence of atrial fibrillation in hospitalized patients with rheumatic heart disease was 38.4%, and the main factors related to atrial fibrillation were combined valvular disease with non-simple aortic valve.

Keywords

Rheumatic Heart Disease, Atrial Fibrillation

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1. 前言

风湿性心脏病是一种以急性风湿热为前体, 由遗传易感宿主 a 群链球菌感染引起的免疫反应异常, 可影响不同的器官、瓣膜以及导致疾病的不可逆损伤和心力衰竭[1]。严重的瓣膜损伤可导致死亡、心室重构、心脏血流动力学改变、继发心衰, 肺动脉高压、房颤(AF)、血栓栓塞和感染性心内膜炎并导致过早死亡[1]。尽管这种与贫穷有关的疾病在富裕国家几乎已被根除, 但对发展中国家来说, 它的负担仍然是一个挑战。

据估计, 全世界有超过 3000 万人患有心房颤动[2]。心房颤动(AF)的发病率和流行率在过去 20 年稳步上升, 并将对公共卫生构成越来越大的挑战。心房颤动是风湿性心脏病的主要并发症之一, 是风湿性心脏病进展和失代偿性心力衰竭的一个因素, 也与卒中相关的心源性栓塞和全身栓塞有关[3] [4] [5]。本文重点对风湿性心脏病住院患者心房颤动相关因素进行回顾性研究。

2. 资料与方法

我们对 2018 年 11 月 1 日至 2020 年 11 月 1 日期间在青岛大学附属医院心外科确诊为风湿性心脏病的患者进行了一项回顾性病例对照研究。该研究获得青岛大学附属医院机构审查委员会的批准。在医渡云获得的数据经仔细处理以保持完整的患者隐私。在接受筛查的 396 名患者中, 152 名患者诊断为心房颤动。诊断为心内膜炎、先天性心脏病、既往心脏手术、其它心律失常及使用起搏器的患者被排除在外,

最终 150 名被纳入研究根据患者的心电图将其分为窦性心律或心房颤动。心房颤动定义为入院后多次记录到 12 导联心电图无任何 P 波以及纤颤 f 波和不规则心率。记录人口学、共病情况、超声心动图及下肢超声的数据。研究的人口统计学数据包括年龄和性别。风湿性心脏病共病情况主要研究合并冠状动脉粥样硬化性心脏病。超声心动图主要记录术前左心房内径(left atrial diameter, LA)、左心室舒张末期内径(left ventricular end-diastolic diameter, LVDd)以及左心室收缩射血分数(left ventricular ejection fraction, LVEF)数据。下肢超声记录下肢动静脉是否有狭窄及斑块形成。收集到的所有数据记录在 Microsoft Excel 工作簿中, 导出到 SPSS version 26.0 (SPSS, Inc., Chicago, IL, USA) 进行数据分析。心房颤动是主要结果的二元变量, 根据变量的种类, 主要运用两独立变量 T 检验及二元 logistic 回归模型。分类变量以数字和百分比表示, 连续变量以平均值表示与标准差表示。回归分析后给出这些因素的置信区间和比值比(OR); P 值小于 0.05 认为有统计学意义。

3. 结果

396 名患者中, 152 名患者诊断为心房颤动, 房颤的患病率为 38.4%。150 例筛选的风湿性心脏病患者中, 107 例为房颤。风湿性心脏病非单纯主动脉瓣膜病变患者比单纯主动脉瓣膜病变患者更易获得房颤(表 1)。年龄、性别与风湿性心脏病患者获得房颤之间没有关联(表 1)。风湿性心脏病患者合并冠状动脉粥样硬化性心脏病或有下肢动脉斑块形成与房颤的发生也没有明显关联(表 1)。

Table 1. Demographic characteristics and comorbidity of 150 patients with rheumatic heart disease

表 1. 150 例风湿性心脏病患者人口学特征及共病情况

变量	房颤组(n = 107)	窦率组(n = 43)	P 值	比值比(OR)
年龄(岁)	62.8 ± 8.0	62.6 ± 8.0	0.870	/
性别(女/男)	82/28	25/15	0.089	0.51 [0.23~1.11]
冠心病	14 (13.1%)	7 (16.3%)	0.611	0.77 [0.29~2.07]
下肢斑块形成	92 (86.0%)	34 (79.1%)	0.299	1.624 [0.65~4.05]
单纯主动脉瓣膜病变	1 (0.9%)	5 (11.6%)	0.018 < 0.05	0.072 [0.01~0.63]

注: 年龄采用两独立样本 T 检验, 故无比值比(OR)。

我们进行的二元 logistic 回归分析, 结果如表 1 所示。风湿性心脏病单纯主动脉病变的患者房颤的患病率是风湿性心脏病非单纯主动脉病变患者的 0.072 倍(比值比 OR = 0.072, OR 的 95%置信区间: 0.01~0.63), P 值为 0.018 < 0.05 有统计学意义。

排除二次手术, 心脏超声结果记录不全以及 3 天内超声结果不同的患者, 我们在非单纯主动脉瓣膜病变的患者中进一步筛选出了 33 例患者分析超声心动参数, 发现左心房内径(LA)、左心室舒张末期内径(LVDd)及为左心室收缩射血分数(LVEF)与风湿性心脏病患者的房颤发生均无关联(表 2)。

Table 2. Preoperative echocardiographic results of 33 patients with non-simple aortic valve mixed rheumatic heart disease

表 2. 33 例非单纯主动脉瓣膜风湿性心脏病患者术前心脏超声心动图结果

参数	房颤组(n = 27)	窦率组(n = 6)	P 值
LA (cm)	4.5 ± 1.2	4.9 ± 0.6	0.405
LVDd (cm)	4.7 ± 0.6	4.8 ± 0.8	0.784
LVEF (%)	56.3 ± 6.5	59.7 ± 5.6	0.246

注: LA 为左心房内径, LVDd 为左心室舒张末期内径, LVEF 为左心室收缩射血分数; 两独立样本 T 检验结果为 P 值。

4. 讨论

本研究发现心房颤动在风湿性心脏病住院患者中的患病率为 38.4%，考虑到大多数患者使用单一 12 导联心电图记录，对阵发性房颤的估计可能偏低，实际患病率可能更高。

房颤是风湿性心脏病患者的主要并发症[6]，也是卒中、心力衰竭、死亡等严重后果的预测因子[7]。本研究发现风湿性心脏病患者的房颤主要与非单纯主动脉瓣的联合瓣膜病变有关，与国际上相关的研究结果一致[8]。本研究结果针对单纯风湿性心脏病患者合并阵发性房颤提供手术指导。我们考虑到单纯与非单纯主动脉瓣膜病变可能影响到心脏的结构及血液动力学变化，进而影响心电的异常，本研究样本量较少，获取的资料质量有限，故没有进行下一步的研究。

本研究没有发现年龄、性别、合并冠心病、LA、LVDd、LVEF 与风湿性心脏病患者房颤的关系。年龄是风湿性心脏病患者房颤的独立危险因素[9] [10] [11]、但这些报告受到了一些研究者的质疑[12]。在一项房颤的流行病学研究中指出女性房颤的患病率明显高于男性[13]，本研究在风湿性心脏病住院患者中女性的房颤患病率总体大于男性，但没有统计学意义。考虑到男女性别差异，相关的差异指标值得进一步研究。LA 是风湿性心脏病患者房颤的预测因素[14] [15] [16]，LVEF 与风湿性心脏病患者房颤之间没有关联。本研究纳入合并冠心病、下肢斑块形成是考虑将冠状动脉的通畅状况以及全身的血管通畅状况进行研究，但没有发现风湿性心脏病住院患者的房颤与它的联系[12] [17]。

本研究有一定的局限性，由于原始资料限制所获得的心动超声参数资料较少、且研究样本以医院为基础，研究样本量有限，具有高度特异性。众所周知风湿性心脏病是由慢性炎症导致的，许多研究也证实了某些炎症标志物(例如 cTnT 等)是风湿性心脏病的预测因子[17]-[23]，但本研究受资料质量所限没有进一步研究相应的炎症标志物。

综上所述，心房颤动在风湿性心脏病住院患者中的患病率为 38.4%，其房颤的主要相关因素是非单纯主动脉瓣的联合瓣膜病变。

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