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经食道超声心动图评估特发性房颤左心房左心耳的价值

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摘要 目的:研究经食道超声心动图(TEE)评估特发性房颤左心房左心耳的临床价值。**方法:**选择自 2015 年 1 月到 2016 年 8 月在医院接受诊治的特发性房颤患者 100 例纳入本次研究,阵发性房颤 92 例,记为阵发性房颤组;持续性房颤 8 例,记为持续性房颤组。另选同期在医院进行健康体检的心功能正常志愿者 90 例作为对照组。利用 TEE 对受试者进行检查,对比房颤组与对照组的左心房及左心耳参数,是否含有自发性显影(LASEC)的房颤患者的左心房及左心耳参数,利用 TEE 分析对房颤患者的预后情况。**结果:**阵发性房颤组左心房的前后径和左右径,左心耳血流最大的排空速度(Lev)均明显小于对照组,左心耳的面积变化率及最大的充盈速度(Lfv)均明显大于对照组,差异有统计学意义($P<0.05$)。持续性房颤组左心房的前后径和左右径均明显大于对照组,左心耳的面积变化率、Lev 及 Lfv 均明显小于对照组,差异有统计学意义($P<0.05$)。阵发性房颤组左心房的前后径和左右径均明显小于持续性房颤组,左心耳的面积变化率、Lev 及 Lfv 均明显大于持续性房颤组,差异有统计学意义($P<0.05$)。有 LASEC 者左心房的前后径和左右径均明显大于无 LASEC 者,左心耳的面积变化率、Lev 及 Lfv 均明显小于无 LASEC 者,差异有统计学意义($P<0.05$)。100 例房颤患者中发现 34 例 LASEC,占 34.00%,其中有 18 例患者合并有左心耳血栓,占 18.00%。总计有 66 例患者接受导管射频消融疗法,占 66.00%,均未在术中及术后 7d 内出现血栓及栓塞并发症。**结论:**利用 TEE 对特发性房颤的患者左心房及左心耳进行评估,有利于更好的辅助患者的临床治疗,值得重视。

关键词:经食道超声心动图;特发性房颤;左心房;左心耳;临床价值

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The Value of Transesophageal Echocardiography in Evaluation of Left Atrial and Left Atrial Appendage in Patients with Idiopathic Atrial Fibrillation

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ABSTRACT Objective: To study the clinical value of transesophageal echocardiography (TEE) in evaluation of left atrial and left atrial appendage in patients with idiopathic atrial fibrillation. **Methods:** 100 patients with idiopathic atrial fibrillation were enrolled in this study in the hospital from January 2015 to August 2016, among with 92 patients with paroxysmal atrial fibrillation was recorded as paroxysmal atrial fibrillation group, and 8 patients with persistent atrial fibrillation was recorded as persistent atrial fibrillation group. Selected 90 cases of healthy heart function normal volunteers as control group in the hospital in the same period, all subjects were examined by TEE. Compared the left atrium and left atrial appendage parameters in idiopathic atrial fibrillation group and the control group, and compared the left atrial and left atrial appendage parameters in patients with or without left atrial spontaneous echocardiographic contrast (LASEC), and analyzed the prognosis in patients with atrial fibrillation. **Results:** The front-back diameter and left-right diameter, left atrial Lev in paroxysmal atrial fibrillation group were significantly lower than the control group, the area change rate of the left atrial appendage and Lfv were significantly higher than the control group, the difference was statistically significant ($P<0.05$). The front-back diameter and left-right diameter in persistent atrial fibrillation group were significantly larger than those of the control group, the area change rate of the left atrial appendage, Lev and Lfv were significantly lower than the control group, the difference was statistically significant ($P<0.05$). The front-back diameter and left-right diameter in the paroxysmal atrial fibrillation group were significantly less than the persistent atrial fibrillation group, the area change rate of the left atrial appendage, Lev and Lfv were significantly higher than persistent atrial fibrillation group, the difference was statistically significant ($P<0.05$). The front-back diameter and left-right diameter of patients with left atrial spontaneous echocardiographic contrast (LASEC) were significantly larger than without LASEC, while the area change rate of the left atrial appendage, Lev and Lfv were significantly lower than without LASEC, the difference was statistically significant ($P<0.05$). 34 cases of patients with LASEC were found in 100 patients with atrial fibrillation, accounting for 34.00%, of which 18 cases of patients with left atrial thrombus, accounting for 18.00%. A total of 66 patients received catheter ablation therapy, accounting for 66.00%, who did not occur thrombosis and embolism complications in the intraoperative and 7 d after treatment.

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Conclusion: Using TEE to evaluate the left atrial and left atrial appendage of patients with idiopathic atrial fibrillation is helpful to assist the clinical treatment, which is worthy of attention.

Key words: Transesophageal echocardiography; Idiopathic atrial fibrillation; Left atrial; Left atrial appendage; Clinical value

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前言

房颤属于最常见的一类持续性心律失常,其在我国临床具有较高的发病率。此病常与高血压和冠心病,以及心力衰竭等因素有关。对于房颤的临床治疗,不仅需考虑疗效情况,还应尽可能地避免并发症的产生。因此,如何准确地评价患者的疗效及预后,有利于科学合理地选用治疗方案^[1]。以往有报道指出,房颤患者可能会出现左心房或者左心耳的血栓性并发症,若不加以重视而轻率治疗,则可能产生严重的不良预后事件^[2,3]。经食道超声心动图(transesophageal echocardiography, TEE)主要是使超声探头放置在患者食管中,自其心脏后方往前进行深部构造的近距离检查,此举可有效防止胸壁和肺气的干扰,因此可获得更为清晰的图像^[4]。本文通过分析 TEE 对特发性房颤患者的左心房及左心室的评价作用,旨在更好地辅助临床治疗,现报道如下。

1 资料和方法

1.1 临床资料

选择自 2015 年 1 月到 2016 年 8 月在医院接受诊治的特发性房颤患者 100 例纳入本次研究。男 62 例,女 38 例;年龄 35~79 岁,平均(61.73±2.74)岁。入选标准:(1)所有患者均满足特发性房颤的相关诊断标准^[5,6];(2)经 24 h 动态心电图及 TEE 确诊;(3)年龄≥35 岁;(4)影像学检查结果数据齐全。排除标准:(1)严重心律失常者;(2)存在心力衰竭者;(3)有食管静脉曲张者;(4)恶性肿瘤或血液类疾病。100 例患者中,阵发性房颤 92 例,记为阵发性房颤组;持续性房颤 8 例,记为持续性房颤组。另选同期在医院进行健康体检的心功能正常志愿者 90 例作为对照组,男 60 例,女 30 例;年龄 37~80 岁,平均(62.01±2.33)岁。两组在性别与年龄方面相比,差异均无统计学意义(均 P<0.05),存在较好的可比性。本次研究已获得患者的签字同意,并已经由医院的伦理委员会审批。

1.2 研究方法

选择飞利浦 iE33,探头型号为 X7-2t 的超声诊断仪对各组受试者进行检查,在检查前需禁食 5 h 左右,使其血压维持于正常范围。在检查过程中为患者的口咽部通过达克罗宁胶浆实施局麻,再取患者的左卧位,防止牙齿损伤仪器探头,利用耦合剂对探头进行润滑,而后将探头插进距离门齿大约 30 至 35 cm 位置,通过调节探头管体对受试者的左心房及左心耳进行清晰显示,测量左心房的前后径及左右径。TEE 检查时顺着左心耳的内膜勾画出轮廓并计算面积,通过舒张期的最大面积与收缩期的最小面积计算出左心耳面积的变化率。再将取样容积放置在左心耳的入口处,检测血流最大的排空速度(Lev)以及最大的充盈速度(Lfv)。仔细观察左心房的自发性显影(LASEC)及左心房血栓情况。

1.3 观察指标

对比房颤组与对照组的左心房及左心耳参数,是否含有 LASEC 的房颤患者的左心房及左心耳参数,利用 TEE 分析对房颤患者的预后情况。

1.4 统计学方法

通过 SPSS20.0 统计软件分析,计量数据资料利用($\bar{x} \pm s$)表示,其比较采用 t 检验,多组间资料的比较采用方差分析,计数资料用例表示,比较采用卡方检验,P<0.05 为差异有统计学意义。

2 结果

2.1 房颤组与对照组的左心房及左心耳参数对比

阵发性房颤组左心房的前后径和左右径,左心耳 Lev 均明显小于对照组,左心耳的面积变化率及 Lfv 均明显大于对照组,差异有统计学意义(P<0.05)。持续性房颤组左心房的前后径和左右径均明显大于对照组,左心耳的面积变化率、Lev 及 Lfv 均明显小于对照组,差异有统计学意义(P<0.05)。阵发性房颤组左心房的前后径和左右径均明显小于持续性房颤组,左心耳的面积变化率、Lev 及 Lfv 均明显大于持续性房颤组,差异有统计学意义(P<0.05)。见下表 1:

表 1 房颤组与对照组的左心房及左心耳参数对比

Table 1 Comparison of the left atrial and left atrial appendage parameters in idiopathic atrial fibrillation group and control group

Groups	N	Left atrial		Left atrial appendage		
		Front-back diameter(mm)	Left -right diameter(mm)	Area rate of change(%)	Lev(cm/s)	Lfv(cm/s)
Paroxysmal atrial fibrillation group	92	31.24±1.32 ^a	34.12±1.21 ^a	52.31±2.84 ^a	59.12±3.84 ^a	59.17±3.76 ^a
Persistent atrial fibrillation group	8	35.76±1.27 [*]	43.26±1.72 [*]	33.41±4.06 [*]	17.03±2.97 [*]	20.58±4.12 [*]
Control group	90	32.06±1.84	36.47±3.38	50.11±3.28	66.25±3.65	54.26±2.99
F	-	5.247	5.149	4.978	7.241	6.072
P	-	0.000	0.000	0.000	0.000	0.000

Note: compared with the control group, ^aP<0.05; compared with persistent atrial fibrillation group, ^{*}P<0.05.

2.2 房颤患者 LASEC 与左心房及左心耳参数的关系

根据检测结果,发现 LASEC 患者 34 例,无 LASEC 患者 66 例,有 LASEC 者左心房的前后径和左右径均明显大于无

LASEC 者,左心耳的面积变化率、Lev 及 Lfv 均明显小于无 LASEC 者,差异有统计学意义($P<0.05$),见下表 2:

表 2 是否含有 LASEC 的房颤患者的左心房及左心耳参数对比

Table 2 Comparison of the left atrial and left atrial appendage parameters between patients with without LASEC

Groups	N	Left atrial		Left atrial appendage		
		Front-back diameter(mm)	Left-right diameter(mm)	Area rate of change(%)	Lev(cm/s)	Lfv(cm/s)
With LASEC	34	35.02± 2.49	39.44± 3.23	41.92± 9.73	34.17± 9.35	28.53± 8.71
Without LASEC	66	29.17± 2.33	32.57± 2.18	53.74± 3.59	60.53± 6.04	60.28± 6.07
t	-	11.619	12.606	8.806	17.050	21.274
P	-	0.000	0.000	0.000	0.000	0.000

2.3 TEE 对房颤患者的诊断情况以及预后分析

100 例房颤患者中发现 34 例 LASEC,占 34.00%,其中有 18 例患者合并有左心耳血栓,占 18.00%。总计有 66 例患者接受导管射频消融疗法,占 66.00%,均未在术中及术后 7 d 内出现血栓及栓塞并发症。

3 讨论

在心内科临床上,房颤属于一种较为常见的心律失常性疾病,其在我国居民中的发病率大约是 0.77%,且具有上升趋势^[1]。据调查发现,在发生房颤时,患者的心房激动频率高达 300~600 次/min,且心跳频率呈现出快而不规则的表现,甚至可达到 100~160 次/min 的频率,较正常人体的心跳更快,并且跳动规律并不整齐^[7]。由于房颤能够引起多类并发症,使左心耳(房)出现血栓,并在血栓脱落之后诱发脑栓塞或肢体栓塞等较为严重的症状,对患者生命安全具有较大威胁^[8]。因此,对于特发性的房颤患者而言,利用 TEE 等影像学手段及时而准确地评价其左心房及左心耳的变化情况,有利于更好地辅助临床治疗。

本文通过研究后发现,与对照组相比,阵发性房颤组左心房的前后径和左右径,左心耳 Lev 更小,左心耳的面积变化率及 Lfv 更大,且持续性房颤组左心房的前后径和左右径更大,左心耳的面积变化率、Lev 及 Lfv 更小,这符合国外 Andersson 等人^[9,10]的报道结果,提示房颤患者的左心房及左心耳相关参数均具有明显的异常。原因可能是存在房颤的患者其在症状发生时,位于左房中的血液流动较为缓慢,而左心耳中的充盈速度又超过排空速度,致使血液瘀滞在患者的心耳中,出现旋涡状的云雾型回声及稍高回声,并因此而影响 TEE 检查的数据结果。同时,本文发现,阵发性房颤组左心房的前后径和左右径均明显小于持续性房颤组,左心耳的面积变化率、Lev 及 Lfv 均明显大于持续性房颤组,这满足 Domé nech 等人^[11,12]的报道结果。提示了房颤类型不同的患者往往也具有不同的超声心动图表现。笔者认为原因是因为伴随房颤的持续时间变长,血液在患者左心耳中的最大排空和充盈性血流速度均明显变慢,此时产生 LASEC 的几率越大,也更易诱使左心耳中的附壁血栓产生,最终影响了 TEE 检查结果^[13,14]。此外,本文结果显示,有 LASEC 者左心房的前后径和左右径均明显大于无 LASEC 者,

左心耳的面积变化率、Lev 及 Lfv 均明显小于无 LASEC 者,这也再次证实了存在 LASEC 的房颤患者往往具有更加严重的超声症状表现。Watanabe 等人^[15-17]也报道证实,若房颤患者的左心房容积相对较大,且左心耳面积的变化率和 Lev 及 Lfv 均较低,可能预示着房颤已转变成持续性的症状,不仅更易出现 LASEC,而且也可能加速左心耳中附壁血栓形成。在利用 TEE 对房颤患者的预后评价方面,100 例患者中有 66 例接受导管射频消融疗法,且取得了相对较好的预后。但需指出,若治疗前通过 TEE 检查显示患者存在 LASEC 现象及左心房血栓,可先实施抗凝溶栓处理,若未经 TEE 评价就贸然治疗,则可能诱发血栓脱落和栓塞的风险^[18-20]。

综上所述,利用 TEE 对特发性房颤的患者左心房及左心耳进行评估,有利于更好的辅助患者的临床治疗,值得重视。

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