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肺癌患者术前焦虑的影响因素探讨及对术后生活质量和预后的影响*

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摘要 目的:探讨肺癌患者术前焦虑的影响因素及焦虑对术后生活质量和预后的影响。**方法:**选取我院 2016 年 1 月至 2019 年 12 月收治的 100 例行胸腔镜肺癌根治术患者,术前根据医院焦虑抑郁量表(HADS)分为焦虑组(n=27)和非焦虑组(n=73)。统计患者基础资料,多因素 Logistic 回归分析肺癌患者术前焦虑的影响因素。比较两组患者术后欧洲癌症治疗研究组织生命质量测定量表-核心 30(EORTC QLQ-C30)评分和早期预后。**结果:**男性、家庭收入 ≥ 50000 元/年为肺癌患者术前焦虑独立保护因素,年龄 ≥ 60 岁、吸烟史、合并慢性疾病、术前住院时间 ≥ 5 d 为独立危险因素($P<0.05$)。相比非焦虑组,焦虑组躯体功能、情绪功能、认知功能、社会功能、总体健康分值明显降低,疲劳、失眠、食欲丧失分值和术后视觉模拟量表(VAS)评分、恶心比例、新发心律失常比例、舒芬太尼用量、盐酸托烷司琼用量明显升高,术后住院时间明显延长($P<0.05$)。**结论:**性别、年龄、吸烟史、家庭收入、合并慢性疾病、术前住院时间均可影响肺癌患者术前焦虑,术前焦虑会降低患者术后生活质量并影响预后,应完善术前心理干预,降低焦虑风险。

关键词:肺癌;焦虑;影响因素;生活质量;预后

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Influencing Factors of Preoperative Anxiety in Patients with Lung Cancer and its Impact on Postoperative Quality of Life and Prognosis*

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ABSTRACT Objective: To explore the influencing factors of preoperative anxiety in patients with lung cancer and their influence on postoperative quality of life and prognosis. **Methods:** A total of 100 patients undergoing thoracoscopic radical resection of lung cancer who were admitted to our hospital from January 2016 to December 2019 were selected. According to the preoperative hospital anxiety and depression scale (HADS), they were divided into anxiety group (n=27) and non-anxiety group (n=73). Basic data of patients were counted, multivariate Logistic regression was used to analyze the influencing factors of preoperative anxiety in patients with lung cancer. Postoperative European organization for research in cancer quality of life scale-core 30 (EORTC QLQ-C30) scores and early prognosis were compared between the two groups. **Results:** Male, household income ≥ 50000 yuan/year were an independent protective factor for preoperative anxiety in patients with lung cancer, aged ≥ 60 years, smoking history, combined chronic diseases, preoperative hospital stay ≥ 5 d were independent risk factors($P<0.05$). Compared with the non-anxiety group, the physical function, emotional function, cognitive function, social function and overall health scores of the anxiety group were significantly lower, fatigue, insomnia, loss of appetite scores and postoperative visual analog scale (VAS) score, the proportion of nausea, the proportion of new arrhythmias, the dosage of sufentanil, and the dosage of tropisetron hydrochloride were significantly increased, postoperative hospital stay was significantly prolonged($P<0.05$). **Conclusion:** Gender, age, smoking history, household income, combined chronic diseases, and preoperative hospital stay can affect preoperative anxiety in patients with lung cancer. Preoperative anxiety can reduce the postoperative quality of life of patients and affect the prognosis. Preoperative psychological intervention should be improved to reduce the risk of anxiety.

Key words: Lung cancer; Anxiety; Influencing factors; Quality of life; Prognosis

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前言

肺癌是我国乃至全球范围内发病率和死亡率最高的恶性

肿瘤之一^[1],外科手术是治疗肺癌的重要手段。统计显示,癌症患者常伴有焦虑情绪,发生率为 10~50%,以妇科肿瘤和肺癌发生率最高,我国肺癌患者焦虑发生率高达 45.5%^[2-4]。术前焦

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虑会降低患者对治疗的依从性,进而影响麻醉质量,增加麻醉、镇痛药物用量,并延长气管导管拔管时间,增加不良反应发生率,不利于术后恢复^[56]。因此美国国立综合癌症网络建议定期筛查和监测癌症患者心理压力,并及时给予干预^[7]。目前有关肺癌患者术前焦虑的影响因素报道较少,本研究旨在探讨肺癌患者术前焦虑的影响因素,并进一步分析其对患者术后生活质量和预后的影响。

1 资料与方法

1.1 一般资料

选取我院 2016 年 1 月至 2019 年 12 月收治的 100 例行胸腔镜肺癌根治术患者,本研究所有患者及家属均知情研究,并经我院伦理委员会批准。其中男 67 例,女 33 例;年龄 48~79 (65.18±5.74)岁;体质指数 19~28(24.94±2.74)kg/m²。纳入标准:(1)符合《中华医学会肺癌临床诊疗指南(2018 版)》^[1]中肺癌诊断标准;(2)耐受胸腔镜肺癌根治术者;(3)临床资料完整者;(4)年龄≥18 岁;(5)初诊且未接受放疗化疗者;(6)TNM 分期 I~IIIa 期^[9];(7)美国麻醉师协会(ASA)分级 I~II 级。排除标准:(1)入组前有肿瘤治疗史者;(2)认知障碍患者;(3)妊娠及哺乳期妇女;(4)长期镇痛药、抗焦虑抑郁药物使用史者;(5)既往慢性疼痛史者;(6)严重心、肝、肾等脏器疾病者;(7)血液系统疾病者;(8)全身感染性疾病者。

1.2 方法

1.2.1 焦虑评估及分组 术前 1 d 使用医院焦虑抑郁量表(HADS)^[9]评估患者焦虑情况,共 14 个条目,其中焦虑评分包括 7 个条目,分值 0~3 分,总分 0~21 分,<8 分表示无焦虑症状。根据 HADS 的焦虑评分将患者分为焦虑组(n=27)和非焦虑组(n=73)。

1.2.2 资料收集 收集患者术前的基线资料,包括 ASA 分级、性别、婚姻状况、体质指数、吸烟史、年龄、病理类型、家庭收入、文化程度、合并慢性疾病、TNM 分期、视觉模拟量表(Visual analogue scale, VAS)评分、术前往院时间。

1.2.3 胸腔镜肺癌根治术 患者入手术室后常规建立静脉通路,监测生命体征。全身麻醉诱导用药为舒芬太尼(宜昌人福药业有限责任公司,国药准字:H20054172,规格:2 mL:100 μg)0.3 μg/kg、丙泊酚(阿斯利康,国药准字:J20130163,规格:20 mL:0.2 g)1.5~2.5 mg/kg,待患者意识消失,静脉注射苯磺顺阿曲库铵(江苏恒瑞医药股份有限公司,国药准字:H20060869,规格:10 mg)0.2 mg/kg,3 min 后行气管插管、机械通气。麻醉维持为七氟烷(上海恒瑞医药有限公司,国药准字:H20070172,规格:120 mL)吸入和瑞芬太尼(宜昌人福药业有限责任公司,国药准字:H20030197,规格:1 mg)泵注,按需追加苯磺顺阿曲库铵。预计手术结束前 30 min 停止七氟烷吸入,术毕自主呼吸恢复后静脉注射新斯的明(上海信谊金朱药业有限责任公司,国药准字:H31021570,规格:1 mL:0.5 mg)1 mg+阿托品(天津金耀药业有限责任公司,国药准字:H12020383,规格:1 mL:1 mg)0.5 mg 拮抗肌松残余效应;患者意识和呼吸恢复满意后拔除气管导管,接静脉镇痛泵(托烷司琼(北京华素制药股份有限公司,国药准字:H20020564,规格:2 mL:5 mg)10 mg+舒芬太尼 2 μg/kg+生理盐水 100mL)镇痛,并进行 VAS 评分。若 VAS≥4

分,则静脉注射舒芬太尼 0.1 μg/kg 镇痛,若存在恶心呕吐,可静脉注射托烷司琼 2 mg

1.3 观察指标

(1)生活质量:术后使用中文版欧洲癌症治疗研究组织生活质量测定量表-核心 30(EORTC QLQ-C30)^[10]评价患者生活质量,包括 3 个症状项目(恶心呕吐、疲劳、疼痛)、5 个功能项目(角色、躯体、认知、情绪、社会)、6 个单一项目(腹泻、失眠、气促、便秘、食欲丧失、经济困难)、1 个总体健康共 15 个项目,除总体健康分值 1~7 分外,其余项目 1~4 分,进一步采用极差化方法进行线性转换,将各项目得分转换为 0~100 分,其中症状和单一项目得分越高说明生命质量越差,功能项目和总体健康得分越高说明功能状况和生命质量越好。(2)早期预后:记录患者术后住院时间、术后 VAS 评分、恶心/呕吐和新发心律失常发生率和镇痛、止吐药用量。

1.4 统计学处理

选用 SPSS26.0 统计学软件,计数资料以例(%)表示,采用 χ^2 检验;正态分布计量资料以($\bar{x} \pm s$)表示,两组间比较采用 t 检验;偏态分布计量资料以 M(QL, QU)表示,两组间采用秩检验;多因素 Logistic 回归分析肺癌患者术前焦虑影响因素; $P<0.05$ 为差异有统计学意义。

2 结果

2.1 肺癌患者术前焦虑影响因素的单因素分析

焦虑组男性、家庭收入≥50000 元/年比例明显低于非焦虑组,年龄≥60 岁、吸烟史、合并慢性疾病、术前往院时间≥5 d 比例明显高于非焦虑组($P<0.05$);两组患者病理类型、ASA 分级、体质指数、文化程度、婚姻史、TNM 分期、VAS 评分比较无差异($P>0.05$)。见表 1。

2.2 肺癌患者术前焦虑影响因素的多因素 Logistic 回归分析

以性别(男=1,女=0)、年龄(≥60 岁=1,<60 岁=0)、吸烟史(有=1,无=0)、家庭收入(≥50000 元/年=1,<50000 元/年=0)、合并慢性疾病(是=1,否=0)、术前往院时间(≥5 d=1,<5 d=0)为自变量,是否焦虑(是=1,否=0)为因变量,多因素 Logistic 回归分析显示,男性、家庭收入≥50000 元/年为肺癌患者术前焦虑独立保护因素,年龄≥60 岁、吸烟史、合并慢性疾病、术前往院时间≥5 d 为独立危险因素($P<0.05$)。见表 2。

2.3 两组患者术后 EORTC QLQ-C30 评分比较

焦虑组躯体功能、情绪功能、认知功能、社会功能、总体健康分值明显低于非焦虑组,疲劳、失眠、食欲丧失分值明显高于非焦虑组($P<0.05$)。见表 3

2.4 两组患者术后早期预后比较

焦虑组术后住院时间明显长于非焦虑组,术后 VAS 评分、恶心比例、新发心律失常比例、舒芬太尼用量、盐酸托烷司琼用量明显高于非焦虑组($P<0.05$)。见表 4。

3 讨论

焦虑是癌症患者常见心理问题,随着现代医学的发展,癌症患者癌痛、恶心、呕吐等大部分躯体症状得以有效控制,但担忧、恐惧、抑郁等心理问题却日趋严重,长期心理压力将影响个体应对方式、生命质量、生存时间^[11,12]。胸腔镜肺癌根治术为肺

表 1 肺癌患者术前焦虑影响因素的单因素分析[例(%)]

Table 1 Single factor analysis of influencing factors of preoperative anxiety in patients with lung cancer [n(%)]

	Factors	n	Anxiety group (n=27)	Non-anxiety group (n=73)	χ^2	P
Gender	Male	67	12(17.91)	55(82.09)	8.511	0.004
	Female	33	15(45.45)	18(54.55)		
Age	≥ 60 years	63	22(34.92)	41(65.08)	5.420	0.020
	<60 years	37	5(13.51)	32(86.49)		
Body mass index	≥ 24 kg/m ²	66	19(28.79)	47(71.21)	0.315	0.575
	<24 kg/m ²	34	8(23.53)	26(76.47)		
Pathological type	Small cell carcinoma	47	17(36.17)	30(63.83)	3.784	0.052
	Non small cell lung cancer	53	10(18.87)	43(81.13)		
ASA classification	Grade I	69	18(26.09)	51(73.91)	0.094	0.759
	Grade II	31	9(29.03)	22(70.97)		
Education degree	Junior college or above	61	15(24.59)	46(75.41)	0.461	0.497
	Senior high school and below	39	12(30.77)	27(69.23)		
Marriage history	Married	72	18(25.00)	54(75.00)	0.945	0.580
	Divorced or widowed	10	4(40.00)	6(60.00)		
Smoking history	Unmarried	18	5(27.78)	13(72.22)		
	Yes	50	19(38.00)	31(62.00)	6.139	0.013
Household income	No	50	8(16.00)	42(84.00)		
	≥ 50000 yuan/year	59	11(18.64)	48(81.36)	5.098	0.024
Combined chronic diseases	<50000 yuan/year	41	16(39.02)	25(60.98)		
	Yes	47	21(44.68)	26(55.32)	14.065	<0.001
TNM staging	No	53	6(11.32)	47(88.68)		
	I ~ II stage	60	12(20.00)	48(80.00)	3.729	0.053
VAS score	IIIa stage	40	15(37.50)	25(62.50)		
	≥ 4 scores	35	12(34.29)	23(65.71)	1.450	0.229
Preoperative hospital stay	<4 scores	65	15(23.08)	50(76.92)		
	≥ 5 d	47	18(38.30)	29(61.70)	5.743	0.017
	<5 d	53	9(16.98)	44(83.02)		

表 2 肺癌患者术前焦虑影响因素的多因素 Logistic 回归分析

Table 2 Multivariate Logistic regression analysis of influencing factors of preoperative anxiety in patients with lung cancer

Factors	Regression coefficient	Standard error	Wald χ^2	P	OR (95%CI)
Male	-1.443	0.625	5.321	0.021	0.236(0.169~0.505)
Age≥ 60 years	0.128	0.048	7.233	0.007	1.137(1.035~1.248)
Smoking history	0.271	0.053	8.432	0.004	1.274(1.169~1.590)
Household income ≥ 50000 yuan/year	-1.323	0.647	4.186	0.041	0.266(0.175~0.546)
Combined chronic diseases	0.649	0.305	9.850	0.002	2.203(1.332~3.320)
Preoperative hospital stay≥ 5 d	0.536	0.294	4.905	0.027	2.048(1.193~3.103)

癌根治性切除的主要手术方法,接受手术治疗的肺癌患者,可因术前多种因素产生围术期焦虑,不利于围麻醉期和预后。研

究表明,存在焦虑/抑郁的肺癌患者治疗依从性较差,生活质量明显降低,其中晚期肺癌平均存活率仅 6.8 个月^[6,13],现代医

学模式已从生物医学模式转变为生物 - 心理 - 社会模式, 消除 义重大。
心理障碍是癌症患者重要问题, 因此分析术前焦虑影响因素意

表 3 两组患者术后 EORTC QLQ-C30 评分比较(分)

Table 3 Comparison of EORTC QLQ-C30 score between the two groups(scores)

Items	Anxiety group(n=27)	Non-anxiety group(n=73)	t/H	P
Physical function	70.33± 7.32	74.37± 6.63	-2.011	0.047
Role function	74.04± 6.63	72.60± 8.85	0.765	0.446
Emotional function	73.00(69.00,79.00)	79.00(75.00,84.00)	-3.415	0.001
Cognitive function	73.00(66.00,82.00)	80.00(77.00,84.50)	-3.215	0.001
Social function	70.00(62.00,81.00)	77.00(72.50,81.00)	-2.282	0.023
Fatigue	35.56± 12.10	30.48± 9.09	2.258	0.026
Nausea and vomiting	11.00(7.00,16.00)	11.00(9.00,13.50)	-0.191	0.848
Pain	32.89± 12.30	32.51± 13.93	0.125	0.900
Anhelation	32.30± 14.76	31.99± 15.00	0.092	0.927
Insomnia	29.00(21.00,38.00)	20.00(12.50,30.50)	-2.595	0.009
Loss of appetite	23.00(12.00,42.00)	16.00(11.00,23.50)	-2.102	0.036
Constipation	26.00(10.00,44.00)	22.00(12.00,33.00)	-0.948	0.343
Diarrhea	22.00(11.00,37.00)	20.00(10.50,28.00)	-0.633	0.527
Economic difficulties	41.11± 13.29	43.23± 15.83	-0.620	0.537
Overall health	49.00(29.00,61.00)	72.00(55.00,86.00)	-3.522	<0.001

表 4 两组患者术后早期预后比较

Table 4 Comparison of early postoperative prognosis between the two groups

Items	Anxiety group(n=27)	Non-anxiety group(n=73)	χ^2/t	P
Postoperative hospital stay(d)	5.11± 1.97	4.07± 1.28	2.559	0.015
Postoperative VAS score (scores)	4.41± 1.50	3.00± 1.32	4.554	<0.001
Postoperative nausea[n(%)]	11(40.74)	12(16.44)	6.573	0.010
Postoperative vomiting[n(%)]	4(14.81)	6(8.22)	0.361	0.548
Postoperative new arrhythmias[n(%)]	10(37.04)	12(16.44)	4.874	0.027
Postoperative dosage of sufentanil (μg)	73.17± 9.95	68.68± 8.98	2.154	0.034
Postoperative dosage of tropisetron hydrochloride (mg)	2.18± 0.65	1.81± 0.78	2.219	0.029

HADS 是筛查躯体疾病患者焦虑和抑郁的最常用工具之一, 包含焦虑(HADS-A)和抑郁(HADS-B)两个亚量表, 分别针对焦虑与抑郁问题进行评估, HADS-A 得分 8 分及以上则提示患者存在不安、难以放松、恐慌、恐惧、担忧、紧张等焦虑情绪^[9]。本研究结果显示, 男性为肺癌患者术前焦虑保护因素, 提示女性肺癌患者更易出现焦虑症状, 分析与女性情感更加脆弱有关, 在多种因素影响的刺激下, 女性患者更易产生不良情绪, 在面对负性事件时更希望得到社会支持, 而男性性格更加坚强, 因此不良情绪产生较少^[14]。本研究结果显示, 年龄≥ 60 岁为肺癌患者术前焦虑危险因素, 可能与老年患者心理适应能力较差有关, 难以灵活应对心理变化和自我调节, 导致负性情绪出现^[15,16]。但也有研究报道, 年龄越大的肺癌患者焦虑发生率越低, 而年轻患者正处于生命蓬勃阶段, 害怕疾病, 因此心理应激

反应较大^[17], 同时中年群体大多为家庭的经济和精神支柱, 其承受的压力较老年人群更大, 因此更容易产生焦虑。本研究结果不同原因可能与病例选择不同有关, 患者以老年人群为主, 可能影响最终结果。研究表明, 吸烟与多种恶性肿瘤发生密切相关, 特别是肺癌, 吸烟量越大、持续时间越长, 肺癌发生危险度越高^[18]。此外, 吸烟史为肺癌患者术前焦虑危险因素, 考虑与吸烟为肺癌重要发生因素有关, 患者在发病后产生自责、后悔等负性心理。本研究结果显示, 家庭收入≥ 50000 元/年是肺癌患者术前焦虑独立保护因素, 分析与肺癌手术治疗费用高昂有关, 家庭年收入低的患者心理负担沉重, 心理负担更大。本研究结果显示, 合并慢性疾病为肺癌患者术前焦虑危险因素, 分析与慢性疾病难治愈有关, 不仅会给患者身心造成巨大影响, 也会给患者家庭造成巨大负担, 在癌症基础上负性情绪更多, 这

可能也是本研究中合并慢性疾病为最显著影响因素的原因。本研究结果还显示,术前住院时间 ≥ 5 d为肺癌患者术前焦虑危险因素,可能与患者入院后生活方式和环境的改变使其更易产生焦虑有关^[19]。研究表明,肺癌患者其相比其他恶性肿瘤患者承受更大的心理压力,可能与肺癌是致死率极高的癌症有关^[2]。肺癌患者在这种心理压力下,部分患者入院后还缺少亲人家属的陪伴,随着住院时间延长,负性情绪更容易产生。但也有研究报道,术前行院时间对肺癌患者焦虑无影响,认为肺癌患者虽然入院时会产生一定的负性情绪,但随着住院时间的延长,会对医院环境和生活表现出良好的适应性^[20]。

生活质量是指个体对于目标、愿望、标准及所关心事物的生存状况的体验,EORTC QLQ-C30是EORTC研制的癌症病人核心量表,能全面评价癌症病人生活质量^[10]。本研究结果显示,焦虑组术后生活质量明显降低,且焦虑组术后住院时间明显长于非焦虑组,这可能与焦虑患者治疗依从性差,导致治疗时间延长有关。研究报道指出,在腰椎手术、外科手术中,焦虑也是延长患者住院时间的危险因素^[21,22]。另有研究报道显示,术前服用抗焦虑药物能显著缩短患者术后住院时间^[23,24]。此外,焦虑组术后VAS评分明显高于非焦虑组,考虑与焦虑情绪对疼痛更加敏感有关,本研究中焦虑组术后舒芬太尼用量也显著高于非焦虑组。一项涉及胸腔切除术、树突切除术、胆囊切除术、乳腺癌手术等9种手术方式研究显示,术前焦虑患者术后疼痛和镇痛药物用量更大^[25]。本研究结果提示焦虑情绪还会增加术后恶心发生率,进而影响托烷司琼用量。研究显示,术前焦虑与术后早期(24 h内)恶心呕吐出现密切相关,甚至可能作为术后恶心呕吐的预测指标^[26]。心律失常为肺部手术常见并发症,与术后低氧和肺部切除后右心房容量负荷增高有关^[27]。本研究中焦虑患者更易出现心律失常,既往研究也表明,焦虑与心房颤动密切相关,且病情严重程度和死亡率随着焦虑加重而升高^[28-30]。

综上所述,性别、年龄、吸烟史、合并慢性疾病、术前行院时间均可影响肺癌患者术前焦虑,术前焦虑会降低患者术后生活质量并影响预后,应完善术前心理干预,降低焦虑风险。但本研究仅分析了肺癌患者的焦虑情绪,未分析抑郁情绪,还需进一步研究。

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