·临床研究·

住院共病老年人认知衰弱现状及其影响因素

王凌霄[1,2],杨永学[1,2],管丽娟[1,2],沈静[1,2*]
(成都市第五人民医院:[1]老年病科,[2]中法老年疾病研究所,成都 611130)

【摘 要】 **目的** 明确住院共病老年人认知衰弱分布特点,进一步探讨其影响因素。**方法** 回顾性分析2015年11月至2018年1月在成都市第五人民医院老年病科住院的老年共病患者(年龄≥60岁)692例。采用老年综合评估衰弱指数(CGA-FI)量表评估衰弱状态,简易精神状态检查量表(MMSE)评估老年人认知情况;同时存在衰弱和认知障碍(CI)者定义为认知衰弱。采用Charlson合并症指数(CCI)进行共病严重程度评估。根据是否存在衰弱或CI将患者分为认知衰弱组(176例)、单纯衰弱组(176例)、单纯CI组(74例)和非认知衰弱组(266例)。收集并比较4组患者临床资料,分析共病老年患者认知衰弱分布特点。采用SPSS 23.0软件对数据进行统计分析。多因素logistic回归法分析发生认知衰弱的独立影响因素。**结果** 纳入患者总体存在2~12种慢性疾病,CCI指数为5.5±1.9。25.4%(176例)的共病患者存在认知衰弱。趋势性检验显示,认知衰弱患病率随年龄、CCI级别的增高和Barthel日常生活能力的下降呈趋势性增加($P<0.001$)。与其他3组比较,认知衰弱组患者年龄、CCI,以及入院情况(病危/病重)、急性心力衰竭、慢性骨关节炎、老年综合征(营养不良、平衡功能障碍、抑郁情绪、睡眠障碍、跌倒史)比例均显著升高,体质量指数及Barthel日常生活能力(ADL)评分较低,差异有统计学意义($P<0.05$)。多因素logistic回归分析显示,营养不良($OR=5.022$,95%CI 2.484~10.157;$P<0.001$)、营养不良高风险($OR=2.272$,95%CI 1.179~4.377;$P=0.014$)、平衡功能障碍($OR=4.803$,95%CI 2.898~7.960;$P<0.001$)、抑郁($OR=4.227$,95%CI 2.271~7.866;$P<0.001$)、骨关节炎($OR=2.707$,95%CI 1.332~5.501;$P=0.006$)是住院共病老年人发生认知衰弱的独立影响因素。**结论** 住院共病老年人普遍存在认知衰弱,年龄越大、共病程度和ADL障碍越严重,认知衰弱越明显。临床上应注意营养缺失、平衡力差并存在骨关节炎和抑郁的共病老年人群。

【关键词】 老年人;住院患者;共病;认知衰弱
【中图分类号】 R592 【文献标志码】 A 【DOI】 10.11915/j.issn.1671-5403.2019.10.160

Current status of cognitive frailty and its influencing factors in hospitalized elderly with comorbidities

WANG Ling-Xiao[1,2], YANG Yong-Xue[1,2], GUAN Li-Juan[1,2], SHEN Jing[1,2*]
([1]Department of Geriatrics, [2]Institute of China-France Geriatrics, Chengdu Fifth People's Hospital, Chengdu 611130, China)

【Abstract】 **Objective** To identify the distribution characteristics of cognitive frailty among the elderly inpatients with multiple comorbidities and explore its influencing factors. **Methods** Clinical data of 692 elderly patients (over 60 years old) with different comorbidities hospitalized in our department from November 2015 to January 2018 were collected and retrospectively analyzed. Comprehensive geriatric assessment-frailty index (CGA-FI) was used to assess the state of senile frailty, and mini-mental state examination scale (MMSE) was employed to evaluate the cognitive status of these patients. Those with both frailty and cognitive impairment (CI) were defined as cognitive frailty. The severity of comorbidities was assessed by Charlson complication index (CCI). In this way, the patients were divided into cognitive frailty group ($n=176$), simple frailty group ($n=176$), simple CI group ($n=74$) and non-cognitive frailty group ($n=266$). The clinical data were compared among the 4 groups, and the distribution characteristics of cognitive frailty were analyzed. SPSS statistics 23.0 was used to analyze the data. Multivariate logistic regression analysis was employed to analyze the independent factors of cognitive frailty in these patients. **Results** There were totally 2-12 kinds of chronic diseases in the patients, and the CCI index was 5.5±1.9. The incidence rate of cognitive frailty was 25.4% (176 cases) in the cohort, and the rate was increased with older age, elevated CCI level and decreased Barthel index for activities of daily living (ADL) according to the results of trend test ($P<0.001$). Compared with the other 3 groups, the patients of the cognitive frailty group were older and had

收稿日期:2019-05-22;**接受日期**:2019-07-05
基金项目:四川省卫生与计划生育委员会科研课题(150021)
通信作者:沈静,E-mail:drshenjing@163.com

significantly larger proportions of CCI, critical/severe conditions at admission, acute heart failure, chronic osteoarthritis, and geriatric syndrome (malnutrition, balance dysfunction, depression, sleep disorder and fall history), and obviously lower body mass index (BMI) and Barthel index ($P<0.05$). Multivariate logistic regression analysis showed that malnutrition ($OR=5.022$, 95% CI 2.484-10.157; $P<0.001$), at high risk of malnutrition ($OR=2.272$, 95% CI 1.179-4.377; $P=0.014$), balance dysfunction ($OR=4.803$, 95% CI 2.898-7.960; $P<0.001$), depression ($OR=4.227$, 95% CI 2.271-7.866; $P<0.001$), and osteoarthritis ($OR=2.707$, 95% CI 1.332-5.501; $P=0.006$) were the independent factors of cognitive frailty in hospitalized elderly patients with different comorbidities. **Conclusion** Cognitive frailty is quite common in elderly inpatients with comorbidities. The older, the severer of comorbidities and the more disable of ADL are, the more obvious the cognitive impairment is. In clinical practice, attention should be paid to the elderly patients with comorbidities, such as nutrition deficiency, poor balance, osteoarthritis and depression.

【Key words】 aged; inpatients; comorbidity; cognitive frailty

This work was supported by the Project of Scientific Research of Sichuan Health and Family Planning Commission (150021).

Corresponding author: *SHEN Jing*, *E-mail*: *drshenjing@163.com*

认知衰弱是指与年龄相关的认知衰退与躯体衰弱同时出现在老年个体中(除外痴呆)的现象,目前已被认为是衰弱的亚型[1]。研究报道,认知衰弱在社区老年人中患病率为0.9%~12.0%,在临床老年人群中为10.7%~40.0%[2]。在人体老化过程中,生理衰弱和认知障碍(cognitive impairment,CI)相互作用,享有共同的危险因素和发病机制,与单纯的衰弱或认知损害相比,二者的共同存在增加了老年人发生残疾、住院、死亡等不良事件的风险[3-5]。但已有研究发现,认知衰弱是神经退行性过程的前兆,有可能被逆转[6]。纵观我国目前在认知和衰弱领域的研究,因起步较晚,尚有许多待研究之处,其中关于住院老年人认知衰弱的相关数据相对缺少,因此,本研究拟对老年住院共病患者进行调查研究,系统分析认知衰弱的患病特点和相关影响因素。

1 对象与方法

1.1 研究对象

纳入2015年11月至2018年1月在成都市第五人民医院老年病科住院治疗的老年共病患者692例,年龄(76.5±7.9)岁,其中男性408例,女性284例。根据患者是否存在衰弱和CI分为认知衰弱组(176例)、单纯衰弱组(176例)、单纯CI组(74例)和非认知衰弱组(266例)。纳入标准:(1)年龄≥60岁;(2)同时存在≥2种需长期治疗的慢性疾病;(3)能够清楚理解并回答问题。排除标准:(1)因存在严重心肺疾病或重要器官功能衰竭导致不能维持正常生命体征,或疾病终末期状态(预期寿命<6个月);(2)长期卧床或完全生活不能自理;(3)明确诊断为阿尔茨海默病、痴呆、帕金森氏病;(4)患者与家属拒绝参加本研究。纳入患者或家属均签署知情同意书。

1.2 方法

(1)认知衰弱评估。采用老年综合评估衰弱指数(comprehensive geriatric assessment-frailty index,CGA-FI)量表评估衰弱状态,CGA-FI包括人口特征、生活行为、慢性疾病、躯体功能(Barthel指数)和老年综合征5个项目,由50个参数构成。CGA-FI≥0.25则为躯体衰弱[5,7]。采用简易精神状态检查量表(mini-mental state examination,MMSE)评估老年人认知情况:MMSE总计30分,根据文化程度校正得分,小学≤17分、初中≤20分、高中≤22分或大学及以上≤24分认为是认知功能障碍。同时存在衰弱和CI者定义为认知衰弱。(2)共病严重程度。采用校正年龄的Charlson合并症指数(Charlson comorbidity index, CCI)进行共病严重程度评估,分为低(2~3分)、中(4~5分)、高(≥6分)3个级别。(3)老年综合征评估。包括营养状况、多重用药(同时服用≥5种药物)、抑郁情绪、尿失禁、功能性步行能力、平衡步态测试、疼痛、家庭支持功能、过去3年内跌倒史。上述指标的评估是在患者入院48 h内且生命体征稳定情况下,由经过培训的老年病科评估员以面对面现场问卷调查、体格检查及简单设备测试的方式予以进行。

1.3 统计学处理

采用SPSS 23.0软件进行统计分析。计量资料以均数±标准差($\bar{x}\pm s$)表示,组间比较采用独立样本t检验。计数资料以例数(百分率)表示,组间比较采用卡方检验。采用Mantel-Haenszel χ^2检验分析认知衰弱的分布趋势。多因素logistic回归法分析发生认知衰弱的独立影响因素。$P<0.05$为差异有统计学意义。

2 结 果

2.1 纳入患者一般情况

纳入患者总体存在2~12种慢性疾病,CCI指数为5.5±1.9。25.4%(176/692)的患者存在认知衰

弱。趋势性卡方检验显示,随年龄增加(60~69 岁、70~79 岁及≥80 岁),认知衰弱患病率显著增加[12.7%(18/142)和 19.1%(55/288)和 39.7%(104/262),χ^2 = 46.200,P < 0.01]。随 CCI 级别(低、中、高)升高,认知衰弱患病率显著增加[11.1%(8/72)和 23.3%(75/322)和 31.5%(94/298),χ^2 = 14.372,P<0.01]。随 Barthel 日常生活能力(无障碍、轻度障碍、中度障碍、重度障碍)的下降,认知衰弱患病率显著增加[5.7%(16/280)和 35.6%(119/334)和 42.4%(25/59)和 94.7%(18/19),χ^2 = 131.204,P<0.01]。

2.2 4 组患者临床资料比较

与其他 3 组比较,认知衰弱组患者年龄、CCI、入院情况危重(病危/病重)、急性心力衰竭、慢性骨关节炎、老年综合征(营养不良、平衡功能障碍、抑郁情绪、睡眠障碍、跌倒史)比例显著升高,体质量指数及 Barthel 日常生活能力评分较低,差异有统计学意义(P<0.05)。其他指标间比较详见表 1。

2.3 影响共病老年人发生认知衰弱的多因素 logistic 回归分析

以认知衰弱为因变量,上述差异有统计学意义的因素为自变量,校正年龄、性别、CCI 评分后,多因素分析显示,营养不良、营养不良高风险、平衡功能障碍、抑郁情绪、骨关节炎是认知衰弱的独立影响因素(P<0.05;表 2)。

3 讨 论

本研究结果表明,住院共病老年患者认知衰弱患病率为 25.4%,且随着年龄增长、共病严重程度(CCI 指数)增加和日常生活能力(Barthel 指数)下降呈上升趋势。但由于研究人群、评估方法和对认知衰弱定义的差异,不同研究报道中认知衰弱的患病率不一(0.9%~40.0%)。在国内,Ma 等[7]发现社区非痴呆老年人的认知衰弱标准患病率为 2.7%,并随年龄的增长呈上升趋势,且与老年人的共病、失能密切相关。郑伟等[3]采用 FRAIL 衰弱量表筛检出住院老年 CI 患者中有 35.4%合并衰弱,且衰弱是认知功能障碍的危险因素(OR = 5.263,95%CI 2.465~9.621)。国外一项纵向老龄化研究发现躯体衰弱(Fried 衰弱表型)与 CI 并存的估计患病率为 1.8%,且与失能、住院率、生活质量差及死亡率相关[8]。既往几项大型的前瞻性研究表明,衰弱与认知功能障碍之间呈正相关,形成恶性循环。首先,衰弱加快了认知功能下降的速度[9],更有学者提出躯体衰弱是一个比年龄更能反映老年人认知能力的指标[10]。其次,认知损害也使衰弱的发病率显著增加。Raji 等[11]研究结果显示,与正常老年人相比,MMSE<21 分的老年人衰弱患病风险显著增加,猜测低 MMSE 得分可能是躯体衰弱的早期标志物。更加可以说明问题的是,阿尔茨海默症(Alzheimer disease,AD)患者常存在躯体衰弱,并与疾病的异质性和临床表现密切相关[12]。

我们的研究进一步分析发现,营养不良、营养不良高风险、平衡功能障碍、抑郁情绪及骨关节炎是住院共病老年人发生认知衰弱的独立影响因素。营养不良是导致躯体虚弱的主要危险因素,而躯体虚弱或认知受损老年人的营养状态更有可能因躯体机能的下降和自我照顾的忽视而恶化[13-15]。此外,饮食模式也对衰弱和认知功能产生影响。来自于社区老年人群的研究发现,严格遵循地中海饮食的老年人发生衰弱的发病比例更低,且认知功能下降的速度及从轻度认知障碍(mild cognitive impairment,MCI)进展为 AD 的速度更慢[16]。除此之外,良好的平衡能力是 MCI 的保护因素[17]。平衡能力下降是衰弱老年人面临的主要功能问题之一,而合并骨关节炎会进一步影响平衡功能,二者共同增加跌倒的风险降低了老年人日常生活活动的独立性。抑郁是认知功能障碍的危险因素,且加重认知功能障碍的进展,因此抑郁症可能是衰弱和认知功能之间潜在的联系机制[18]。需要说明的是,由于对认知衰弱的识别缺乏特定指标,且不同研究对 MMSE 的界值划分存在较大的差异,缺乏统一的定论和标准[20],因此 MMSE 仅能作为 CI 的初筛工具,对 MMSE 阳性的患者要进一步给予专业的神经心理学评估。本研究的不足之处在于,尽管我们报道了住院共病老年人认知衰弱的患病率和相关危险因素,延展了目前相关领域的研究证据,但无法确定课题研究结果中的影响因素与认知衰弱的因果关系,这需要在未来的前瞻性研究中明确;此外,研究纳入的人群为住院共病患者,为衰弱的高危人群,存在选择性偏倚,这也可能对研究结果造成影响。

综上,本研究表明认知衰弱在住院共病患者中的患病率高,患病率随年龄、共病严重程度的增加和日常生活能力的下降呈增加趋势,初步证实了认知衰弱作为一个新兴概念在评估预测 CI 老年人健康易损性和负性结局事件中的应用价值。此外,我们发现营养不良、营养不良风险、平衡功能障碍、骨关节炎和抑郁与认知衰弱的存在密切相关,这为在未来临床工作中早期预防衰弱老年人发生 CI 提供新的视角。

表1 4组患者临床资料比较

表1 Comparison of clinical data among 4 groups

Item	Non-cognitive frailty group (n=266)	Simple frailty group (n=176)	Simple CI group (n=74)	Cognitive frailty group (n=176)
Age(years, $\bar{x}\pm s$)	73.5±7.2	76.7±7.3	77.2±7.6	80.6±7.7*#△
Gender[male/female, n]	162/104	113/63	41/33	92/84
Widowhood[n(%)]	34(12.8)	30(17.0)	17(23.0)	41(23.3)
Education below high school[n(%)]	39(14.7)	16(9.1)	13(17.6)	20(11.4)
Smoking history[n(%)]	102(38.3)	76(43.2)	31(41.9)	66(37.5)
Alcohol drinking history[n(%)]	64(24.1)	66(37.5)	29(39.2)	44(25.0)
Living alone[n(%)]	14(5.3)	15(8.5)	6(8.1)	8(4.5)
BMI(kg/m^2, $\bar{x}\pm s$)	22.3±3.7	22.2±3.6	22.7±4.2	21.2±3.6*#△
Barthel index($\bar{x}\pm s$)	93.7±12.5	85.7±15.4	90.4±14.6	73.9±21.2*#△
CCI($\bar{x}\pm s$)	5.2±1.7	5.5±1.9	5.3±1.6	6.0±1.9*#△
Chronic diseases[n(%)]				
Chronic heart failure	64(24.1)	54(30.7)	26(35.1)	74(42.0)*#
Coronary heart disease	35(13.2)	33(18.8)	9(12.2)	39(22.2)*△
Hypertension	151(56.8)	112(63.6)	48(64.9)	117(66.5)*
Hyperlipidemia	51(19.2)	28(15.9)	11(14.9)	16(9.1)*
Atherosclerosis	119(44.7)	62(35.2)	32(43.2)	71(40.3)
Peripheral vascular disease	43(16.2)	35(19.9)	13(17.6)	22(12.5)
COPD	126(47.4)	93(52.8)	39(52.7)	109(61.9)*
Pulmonary heart disease	55(20.7)	48(27.3)	18(24.3)	60(34.1)*
Digestive system disease	49(18.4)	30(17.0)	11(14.9)	44(25.0)
CKD	18(6.8)	24(13.6)	6(8.1)	24(13.6)*
T2DM	88(33.1)	64(36.4)	27(36.5)	59(33.5)
Osteoporosis	39(14.7)	55(31.3)	5(6.8)	49(27.8)*△
Osteoarthritis	13(4.9)	19(10.8)	6(8.1)	32(18.2)*#△
Anemia	28(10.5)	34(19.3)	13(17.6)	32(18.2)*
Cerebrovascular disease	28(10.5)	26(14.8)	10(13.5)	35(19.9)*
Acute diseases[n(%)]				
Admission condition (seriously/critically ill)	159(59.8)	113(64.2)	47(63.5)	143(81.3)*#△
Sepsis	8(3.0)	7(4.0)	1(1.4)	10(5.7)
Infection(respiratory/urinary tract infection)	143(53.8)	96(54.5)	51(68.9)	109(61.9)
Acute kidney injury	13(4.9)	18(10.2)	7(9.5)	19(10.8)*
Acute heart failure	39(14.7)	33(18.8)	11(14.9)	63(35.8)*#△
Respiratory failure	45(16.9)	34(19.3)	11(14.9)	48(27.3)*△
Cerebral arterial thrombosis	15(5.6)	3(1.7)	2(2.7)	16(9.1)#
Diabetes mellitus with acute complications	50(18.8)	33(18.8)	12(16.2)	21(11.9)
Hypertensive emergency/hypertensive encephalopathy	54(20.3)	33(18.8)	21(28.4)	24(13.6)△
Severe osteoporosis with fracture	8(3.0)	12(6.8)	2(2.7)	7(4.0)
Acute coronary syndrome	16(6.0)	14(8.0)	4(5.4)	10(5.7)
Ileus	6(2.3)	5(2.8)	2(2.7)	9(5.1)
Alimentary tract hemorrhage	8(3.0)	4(2.3)	0(0.0)	9(5.1)△
Geriatric syndromes[n(%)]				
High risk for malnutrition	144(54.1)	103(58.5)	35(47.3)	85(48.3)
Malnutrition	47(17.7)	42(23.9)	15(20.3)	73(41.5)*#△
Mobility problems	80(40.2)	86(72.9)	15(28.8)	112(74.7)*△
Balance function disorder	6(3.0)	40(33.9)	0(0.0)	80(53.3)*△#
Depression	10(3.8)	25(14.3)	7(9.6)	44(25.3)*#△
Polypharmacy	120(45.1)	111(63.1)	36(48.6)	88(50.0)#
Sleep disorders	38(14.3)	23(13.1)	3(4.1)	38(21.6)*#△
Dysphagia	71(35.7)	62(53.0)	13(25.0)	76(51.4)*△
Urinary incontinence	60(22.6)	66(37.5)	20(27.0)	74(42.0)*△
Constipation	19(7.1)	22(12.5)	2(2.7)	34(19.3)*△
History of falls	68(25.6)	61(34.7)	26(35.1)	80(45.5)*#
Pain	78(39.2)	71(60.7)	20(38.5)	80(54.1)*
Family dysfunction	29(11.0)	36(20.6)	8(10.8)	48(27.3)*△

BMI: body mass index; CCI: Charlson comorbidity index; CI: cognitive impairment; COPD: chronic obstructive pulmonary disease; CKD: chronic kidney disease; T2DM: type 2 diabetes mellitus. Compared with non-cognitive frailty group, $^{*}P<0.05$; compared with frailty group, $^{\#}P<0.05$; compared with CI group, $^{\triangle}P<0.05$.

表2 影响共病老年人发生认知衰弱的多因素logistic回归分析

Table 2 Multivariate logistic regression analysis of cognitive frailty in elderly patients with comorbidity

Factor	*B*	*SE*	*Wald*	*OR*(95%*CI*)	*P* value
High risk for malnutrition	0.821	0.335	6.016	2.272(1.179-4.377)	0.014
Malnutrition	1.614	0.359	20.182	5.022(2.484-10.157)	<0.001
Depression	1.441	0.317	20.687	4.227(2.271-7.866)	<0.001
Balance function disorder	1.569	0.258	37.058	4.803(2.898-7.960)	<0.001
Osteoarthritis	0.996	0.362	7.576	2.707(1.332-5.501)	0.006

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(编辑: 张美)