

GLIM标准在诊断不同疾病营养不良中的现状

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收稿日期: 2024年1月5日; 录用日期: 2024年2月2日; 发布日期: 2024年2月9日

摘要

营养不良与疾病的发展相关联, 会增加其发生率和预后不良等的发生, 但长期以来缺乏统一的诊断标准。GLIM (全球领导人发起的营养不良) 标准的确立为诊断各种疾病相关的营养不良提供了统一的标准。GLIM 标准采用两步诊断法: 先筛查是否存在营养不良风险, 再评估明确诊断和分级。该标准包括3项表型标准 (非意愿性体重减轻、低BMI、肌肉量减少) 和2项病因标准 (食物摄入或吸收不良; 疾病负担/炎症反应), 应用1项表型标准加1项病因标准可对营养不良作出诊断, 再依据3个表型标准对营养不良的严重程度进行等级划分。GLIM标准已应用于多种疾病的营养不良诊断, 本文按人群分类, 分别从老年人群、肿瘤患者、非肿瘤消化系统疾病患者、代谢性疾病患者、传染病和风湿病患者的诊断效能等方面进行阐述。

关键词

GLIM标准, 营养不良, 不同疾病

Current Status of GLIM Criteria in Diagnosing Malnutrition in Different Diseases

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Received: Jan. 5th, 2024; accepted: Feb. 2nd, 2024; published: Feb. 9th, 2024

Abstract

Malnutrition is associated with the development of diseases, increasing its incidence and poor prognosis, but there has been a lack of unified diagnostic criteria for a long time. The establish-

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ment of the GLIM (global leader initiated malnutrition) standard provides a unified standard for diagnosing malnutrition related to various diseases. The GLIM standard adopts a two-step diagnostic method: first screen for the risk of malnutrition, and then evaluate and clarify the diagnosis and grading. This standard includes three phenotypic criteria (involuntary weight loss, low BMI, and decreased muscle mass) and two etiological criteria (food intake or absorption disorders; disease burden/inflammatory response). The application of one phenotypic criterion plus one etiological criterion can diagnose malnutrition, and the severity of malnutrition can be graded based on the three phenotypic criteria. The GLIM standard has been applied to the diagnosis of malnutrition in various diseases. This article categorizes the population and elaborates on the diagnostic efficacy of elderly people, cancer patients, non tumor digestive system disease patients, metabolic disease patients, infectious disease and rheumatic disease patients.

Keywords

Global Leadership Initiative on Malnutrition Standard, Malnutrition, Different Diseases

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1. 引言

营养不良是临床实践中一个常见病症,与患病率、病死率和医疗费用增加相关,严重影响临床治疗效果[1]。但其标准定义一直存在争议[2],缺乏统一、标准化的评估方法使得不同研究中的诊断存在显著差异[2][3][4][5]。这不仅严重制约了对营养不良进行系统评价,也限制了大规模流行病学研究的开展[4]。因此,国际社会迫切需要就营养不良诊断达成国际共识,制定统一的标准[5]。基于这一背景,GLIM标准应运而生[6]。它由多个国际权威临床营养组织共同发起,通过相关国际会议形成初步方案[7],广泛征求相关学科专家意见[8],开展大规模研究,并采用投票以制定诊断标准框架[6]。至2018年,GLIM诊断共识正式发布,标志着营养不良诊断的标准化进程取得重大进展[8]。GLIM诊断标准采用两步诊断策略,第一步利用验证的筛查工具识别有营养不良风险的人群,第二步对筛查阳性者进一步评估[9],这相比传统方法更加全面系统、规范[7]。GLIM包括表型和病因两个指标,能够全面反映营养状态[6][9]。此标准集各国专家意见之大成,有望减少人群间的诊断差异,造福全球营养不良患者[10][11]。

本综述将深入探讨GLIM标准的应用和影响。通过检验其在不同患者群体中的有效性,评价其优势及存在的问题,为标准进一步改进提供建议,以期促进诊断规范化。

2. GLIM标准在老年人群中的应用

当前各项研究表明,GLIM标准在评估不同老年人群的营养状态和相关预后方面显示出较好的适用性。在老年住院患者中,与MNA-SF和MNA-LF相比,GLIM标准可以更精确地识别出91.3%的营养不良[12];且GLIM标准与MNA-SF筛查工具结合使用($K = 0.629$, $P < 0.001$),可以提高对老年住院患者营养不良的识别效能[13];同时还发现老年住院患者从入院到出院期间营养状态持续恶化的趋势(营养不良:19.6% vs 33.4%, $P < 0.001$) [14];此外,GLIM标准也可有效评估老年住院患者的功能状态,诊断出的营养不良与基线功能减退显著相关($OR = 3.70$, 95%CI: 1.27~10.80, $P = 0.017$) [15]。在其他老年疾病人群中,如老年心力衰竭患者中,GLIM标准可以准确识别42.4%的营养不良,其死亡风险较高(HR: 1.57, 95%CI: 1.09~2.27, $P = 0.016$),在判断预后方面优于GNRI评估工具[16]。更为广泛地,GLIM标准也已在脑卒中

[17]、COPD [18] [19] [20]、肿瘤[21]、糖尿病[22]等其他多种老年疾病人群中得到验证, 显示出良好的适用性。但是, 在预测老年骨折患者死亡风险方面, GLIM 标准的评估效果要略差于 SGA 和 MNA-SF [23]。综上, GLIM 标准评估效果因人群和目的不同而有些区别。

3. GLIM 标准在肿瘤患者中的应用

GLIM 标准在评估肿瘤患者的营养状态和相关预后方面发挥着重要作用。针对头颈癌患者, Przekop 等人的研究发现, 与简单应用 BMI 相比, GLIM 标准与患者预后相关性更强, 可以更准确预测患者的生存率[24]。在老年癌症患者中, Zhang 等人回顾性研究后发现, GLIM 标准下营养不良的老年癌症患者总体生存期明显缩短(HR 为 1.35, 95%CI: 1.09~1.66, $P = 0.006$ 和 HR 为 1.71, 95%CI: 1.37~2.14, $P < 0.001$), 可以预测生存状况[25]。此外, Sanchez 等人的研究显示, 基于 CT 测定的肌少症指标, GLIM 标准可以显著提高对住院肿瘤患者营养不良状态的识别及死亡风险的预测(HR: 2.47, 95%CI: 1.07~5.68, $P = 0.033$) [26]。Yin 等人基于 GLIM 标准开发出一个决策树模型, 可以快速评估癌症患者的营养不良严重程度和预测不良预后[27]。Kiss 等人通过机器学习模型比较了包括或不包括肌肉量的 GLIM 标准在预测癌症患者预后方面的效果, 发现两者大致相当, 但后者会漏诊部分患者[28]。在多项针对特定部位肿瘤的研究中, GLIM 标准均显示出可评估患者营养状态及预测围手术期风险的效果, 如胃癌[29] [30]、食管癌[31]和结肠直肠癌[32]。

除评估营养状态外, GLIM 标准还可评估肿瘤患者的代谢状态, McGovern 等对晚期癌症患者研究发现, 与 GLIM 标准判断的恶病质相关炎症指标如 LDH 水平升高[33]。另有研究还比较了 GLIM 标准一步法和两步法对肿瘤患者的诊断效果, 发现一步法存在一定假阳性, 而标准推荐的两步法则可以避免这一问题。对肿瘤患者进行 GLIM 评估时, 应该遵循标准推荐的先筛查后诊断的两步法, 从而提高诊断的准确性[34] [35]。

4. GLIM 标准在消化系统疾病患者(非肿瘤)中的应用

在评估肝硬化患者营养不良和预后方面, Santos 等回顾性研究显示, 大多数 GLIM 组合诊断肝硬化患者营养不良的效能各有不同(患病率范围为 0.7%到 30.9%), 与 SGA 评估结果(63.2%存在营养不良)一致性较差($k = 0.018 \sim 0.235$), 但包含肌肉量指标的特定组合(GLIM32、33、34 组合)可预测肝移植前后 1 年死亡风险(HR 分别为 2.07、2.13、2.02), 用于评估肝硬化患者的预后[36]。在失代偿期肝硬化患者中, GLIM 诊断的营养不良与 EWGSOP2 诊断的肌肉减少症两者共存(14.7%)可显著增加长期死亡风险(HR: 3~4)[37]。

对于克罗恩病患者, 在治疗反应方面, GLIM 阳性(64.4%)而 NRS 阴性(42.4%)的克罗恩病患者接受营养支持后, 6 周临床缓解率显著提高, 可改善疾病预后[38]。在 GLIM 标准的表型及病因特征上, 随着营养不良程度加重, IBD 患者出现的营养不良表型和病因特征也越多[39]。

5. GLIM 标准在代谢疾病患者中的应用

在评估糖尿病患者营养状态和预后方面。Albukhari 等的研究发现, 针对 2 型糖尿病患者, GLIM 标准的准确度较高(AUC = 0.877), 与 SGA 高度一致($k = 0.778$), 说明 GLIM 标准可作为 SGA 的替代, 用于 2 型糖尿病患者的营养评估[40]。Sanz-Paris 等的回顾性队列研究显示, GLIM 标准下重度营养不良可增加老年 2 型糖尿病患者的死亡风险(HR = 2.09, 95%CI: 1.29~3.38, $P = 0.003$), 而中度营养不良对患者总死亡率无显著影响[22]。

在评估糖尿病并发症方面, Lauwers 等的前瞻性研究对糖尿病足溃疡患者应用 GLIM 评估显示, 重度营养不良组的糖尿病足溃疡更严重($P = 0.012$), 但营养状态与患者的短期治疗结果不存在统计学关联

($P > 0.05$) [41]。Cakmak 等横断面调查发现, 糖尿病并发症可增加老年患者营养不良、肌少症发生和活动能力下降的风险[42]。但另一项研究却显示, 在缺血性糖尿病足溃疡住院患者中, GLIM 判定的营养不良与肢体缺失或再入院风险之间没有显示出显著关联[43]。

6. GLIM 标准在传染病、风湿病患者中的应用效果

6.1. 传染病中(肺结核)

楼建军等的研究显示, GLIM 标准可以识别出近半数肺结核初治患者存在营养不良(47.9%), 且营养不良组的体重、BMI 和握力均更低($P < 0.05$), 并与病情严重程度相关($P < 0.05$), 治疗完成率也显著更低(24.4% vs 53.1%; $P = 0.005$) [44]。Chen 等的研究发现, 基于 GLIM 标准构建的营养评估模型, 在活动性肺结核患者中显示出较高的敏感度和特异度(97.6%和 93.1%) [45]。

6.2. 传染病中(新冠肺炎)

新冠肺炎(COVID-19)患者在住院和恢复期存在营养不良的问题。具体如下, 在新冠肺炎患者住院期间, 被 GLIM 诊断为营养不良的发生率范围为 37.5%~61.5% [46] [47]。另有研究表明, ICU 和危重症患者的营养不良发生率高达 66.7%, 明显高于普通病房的 42.1% [48], 这预示着在生命体征不稳定的危重患者中, 营养不良比例极高。在新冠肺炎恢复期的观察中, 仍有 22% 的患者存在 GLIM 定义下的营养不良, 这一比例在老年人群中可高达 25% [49]。可以看出, 就算疾病急性期已经度过, 近四分之一的康复患者仍处于长期营养不良的状态。

研究显示 COVID-19 住院患者的营养不良与病情恶化及预后不良相关。GLIM 评定的营养不良是延长住院时间的独立危险因素($HR = 3.773$) [50], 与 ICU 停留时间延长相关[46]; 血清白蛋白减低是 ICU 转入的独立影响因素[48], 吞咽障碍是营养不良的独立危险因素($OR: 3.96, 95\%CI: 1.45\sim 10.75$) [51], 吞咽障碍($HR = 2.953$)和营养不良($HR = 4.279$)同样也是增加患者死亡风险的独立危险因素[52]。

相关统计数据表明, 82% 的 COVID-19 危重症患者存在再喂养综合征的高危风险, 与之相应的是, 研究显示增加蛋白质摄入量可使再喂养综合征的风险降低 90% ($HR: 0.1, 95\%CI: 0.021\sim 0.436, P = 0.002$) [53], 这为 COVID-19 患者的营养支持方案提供了直接有力的证据——增加蛋白质摄入。

关于 COVID-19 患者营养不良的评估方法, 目前常用的包括 GLIM 和 SGA 评分, GLIM 标准的评估效能表现良好($AUC = 0.927$)且两者高度一致($Kappa = 0.85$) [46]。但是, 当采用不同的 SMI 切点时, GLIM 评定的营养不良患者比例会发生显著变化, 从 26% 上升至 50% [54]。综上, 无论急性期还是恢复期, COVID-19 患者广泛存在着不同程度营养不良问题, 应尽早开展营养评估与干预, 可有效改善患者预后。

6.3. 风湿病中

在系统性硬化症患者中, GLIM 定义下营养不良患者的死亡风险及住院率显著偏高($HR = 4.380, P = 0.002$) [55]。另有研究显示, 19% 类风湿性关节炎患者被证实存在低蛋白质消耗性营养不良, 此类患者也仅能依赖 GLIM 加以识别[56]。在系统性红斑狼疮患者中, GLIM 标准可反映出营养状态随着疾病处于活动期而恶化的特点(营养不良: 43.3% vs 74.2%, $P < 0.01$) [57]。

7. 小结与展望

GLIM 标准作为一种新兴的营养评估工具, 总体上表现出良好的适用性, 其应用前景广阔, 但其在评估效果上因人群及评估目的不同而有所区别, 在应用 GLIM 时就要考虑人群的特殊性。由于 GLIM 标准引入了客观性指标, 也就降低了评估者的主观影响, 其操作简便且具有可重复性。GLIM 标准也在病

情进展、预测预后、指导治疗等多方面表现出良好的效能。及时评估和干预患者的营养状态,这对改善患者的治疗和预后发挥着重要作用。今后仍需进一步扩大研究的样本量,进行多中心的前瞻性的研究,以验证 GLIM 标准的适用性。

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