**[Reviewer #1]**

Scientific Quality: Grade C (Good)

Language Quality: Grade C (A great deal of language polishing)

Conclusion: Major revision

Specific Comments to Authors:

This is an interesting article reporting on studies of the cardiovascular system at high altitude, with 88 references. It can be accepted only after some important revisions:

1. The most important questions this article should report on are the subject being studied, and the results so far obtained. This is reported on in the "Discussion" section. It should instead be placed in the "Results" section.

Reply: We really appreciate the reviewer to point this out. These contents have been incorporated into the results section and highlighted the revised/added contents with yellow color in the revised manuscript.

2. The authors should produce a table listing the subjects being studied, and the summarize most important points so far revealed about high altitude cardiovascular system function or disease.

Reply: Thank you very much for your comments. Keywords reflect the core themes and main content of article. Therefore, we summarized the these most important points to revealed about high altitude cardiovascular system function or disease according to the most popular keywords.

**Table 12** Critical aspects of the cardiovascular system at high altitude

| | keywords | Significant points |
|---|---|---|
| 1 | hypoxia | Hypoxia emerges as the predominant characteristic among individuals residing at high altitudes. |
| 2 | exercise at high altitude | Exercise training is advocated for enhancing adaptation to high altitude. |

| | | |
|---|---|---|
| 3 | pulmonary hypertension | Pulmonary artery pressure increases at high altitude due to vasoconstriction. |
| 4 | oxidative stress | Oxidative stress is activity at high altitude. |
| 5 | metabolomic | Metabolomics has offered novel perspectives on the pathophysiological mechanisms that underlie adaptations to early hypobaric hypoxia, as well as other diseases associated with tissue hypoxia. |
| 6 | Adaptation/ acclimatization | Adaptation or acclimatization occurs in individuals residing at high altitudes for extended periods, including indigenous populations. |
| 7 | echocardiography | Echocardiography serves as a valuable diagnostic tool for identifying cardiac diseases in high-altitude environments. |

3. The Abstract and Conclusion sections should be rewritten to highlight what is revealed on cardiovascular high altitude studies so far in their analysis with 88 references, instead of giving unimportant technical information such as who the authors are, where they are from, the keywords used or which journal the results appear in.

Reply: We thank the reviewer to point this out. We have revised the abstract and conclusion sections to emphasize the principal theme of this article. Furthermore, the modifications and additions in the revised original manuscript have been delineated in yellow.

**[Science editor]**

1 Conflict of interest statement: Academic Editor has no conflict of interest.

2 Manuscript's theme: The topic is within the scope of the journal.

3 Scientific quality: The authors submitted an evidence review about the latest research advances and hotpots in cardiovascular system at high altitude. The manuscript is overall qualified.

(1) Advantages and disadvantages: The reviewers have given positive peer-review reports for the manuscript. Classification: Grade C; Language Quality: Grade C. The reviewed paper provides a comprehensive examination to probe the performance and mechanisms of cardiovascular system in high altitude environment based on the Web of Science Core Collection of Science Citation Index Expanded. The article is interesting and the introduction is acceptable. The overall content is informative, well-researched, and evidence-based. However, there are several areas need some revision: (1) The abstract and conclusion sections should be rewritten to highlight what is revealed on cardiovascular high altitude studies; and (2) The conclusion section should focus on the explanation of results.

(2) Main manuscript content: The author clearly stated the purpose of the study and the research structure is complete. However, the manuscript still requires a further revision according to the detailed comments listed below.

(3) Table(s) and figure(s): There are 3 Figures and 11 Tables, and all should be improved. Detailed suggestions for each are listed in the specific comments section.

(4) References: A total of 88 references are cited, including 11 published in the last 3 years. The author does not have self-cited references. The cited references are overall sufficient and reasonable. The reviewer didn't request the authors to cite improper references published by him/herself.

4 Language evaluation: The English-language grammatical presentation needs to be improved to a certain extent. Before final acceptance, the authors must provide the

English Language Certificate issued by a professional English language editing company. Please visit the following website for the professional English language editing companies we recommend: https://www.wjgnet.com/bpg/gerinfo/240.

Reply: As suggested, the manuscript has been polished by Charlesworth Language Editing Company, and the certificate was attached below.


**EDITORIAL CERTIFICATE**

This document certifies that the manuscript below was edited for correct English language usage, grammar, punctuation and spelling by qualified native English speaking editors at Charlesworth Author Services.

**Paper Title:**

Cardiovascular system at high altitude: emerging advances from bibliometric and visualization analysis

**Author:**

何 思毅

**Date certificate issued:**

January 31, 2024

cwauthors.com

5 Academic norms and rules: Please provide the filled conflict-of-interest disclosure form.

Reply: The filled conflict-of-interest disclosure form has been provided.

6 Specific comments:

(1) Please add the Core tip section. The number of words should be controlled between 50-100 words.

Reply: The Core tip section has been added.

(2) Please provide the PubMed numbers (https://pubmed.ncbi.nlm.nih.gov/) and DOI

citation numbers (https://doi.crossref.org/simpleTextQuery) to the reference list and list all authors of the references. If a reference has no PMID and DOI, please provide the source website address of this reference.

Reply: Based on these comments, the PubMed numbers and DOI citation numbers have been added in the reference.

(3) Please provide the Figures cited in the original manuscript in the form of PPT. All text can be edited, including A,B, arrows, etc. With respect to the reference to the Figure, please verify if it is an original image created for the manuscript, if not, please provide the source of the picture and the proof that the Figure has been authorized by the previous publisher or copyright owner to allow it to be redistributed. The legends are incorrectly formatted and require a general title and explanation for each figure. For example, “Figure 1 Pathological changes of atrophic gastritis after treatment. A: ...; B: ...; C: ...; D: ...; E: ...; F: ...; G: ...”.

Reply: As suggested, the Figures have been uploaded in the form of PPT, and the legends have been corrected.

(4) Please upload the approved grant application form(s) or funding agency copy of any approval document(s).

Reply: According to these comments, the detailed approval documents of fundings have been attached below.

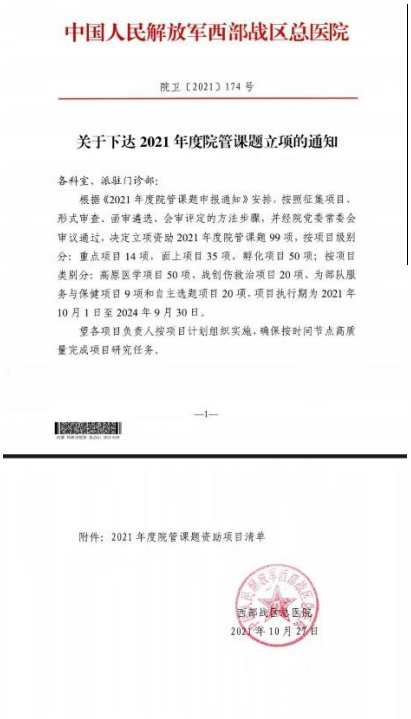
| 详 | 项目名称 | 项目类型 | 推荐单位 | 所属年度 | 申报日期 | 项目状态 |
|---|---|---|---|---|---|---|
| + | 慢性缺氧诱导的ATF6活化通过调控circTBCD在减轻心肌急性缺血再灌注损伤中的作用研究<br>项目周期：2022-01-01 到 2023-12-31<br>管理责任人：刘雪娟☎ | 四川省自然科学基金 | 科技厅 | 2022(2) | 2021/10/10 | 已立项 |

项目详细信息 >>>

| | | | |
|---|---|---|---|
| 项目名称 | 慢性缺氧诱导的ATF6活化通过调控circTBCD在减轻心肌急性缺血再灌注损伤中的作用研究 | 项目类别 | 四川省自然科学基金 |
| 项目管理处室 | 基础研究处 | 管理责任人 | 刘雪娟☎ |
| 申报经费 | 10 万元 | 项目总经费 | 10 万元 |
| 承担单位 | 中国人民解放军西部战区总医院 | 项目负责人 | 何思毅 |
| 推荐单位 | 科技厅 | 计划年度 | 2022(2) |
| 操作记录 | [查看记录] | 特殊功能 | - |
| 填报时间 | 2021年10月10日 | 起止年限 | 2022-01-01 至 2023-12-31 |
| 申报资料 | [查看申报书] [导出申报书] [下载申报书] | | |

以下信息仅立项项目可见 >>>

| | | | |
|---|---|---|---|
| 立项编号 | 2022NSFSC1295 | 立项经费 | 10 万元 |
| 计划任务书 | 未填写或未上报 | 验收书签署 | 还未填写 |



中国人民解放军西部战区总医院

院卫〔2021〕174号

关于下达2021年度院管课题立项的通知

各科室、派驻门诊部：

根据《2021年度院管课题申报通知》安排，按照征集项目、形式审查、函审遴选、会审评定的方法步骤，并经院党委常委会审议通过，决定立项资助2021年度院管课题99项，按项目级别分：重点项目14项，面上项目35项，孵化项目50项；按项目类别分：高原医学项目50项，战创伤救治项目20项，为部队服务与保健项目9项和自主选题项目20项，项目执行期为2021年10月1日至2024年9月30日。

望各项目负责人按项目计划组织实施，确保按时间节点高质量完成项目研究任务。

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附件：2021年度院管课题资助项目清单

西部战区总医院

2021年10月27日

| 序号 | 编号 | 科室 | 课题名称 | 负责人 | 课题级别 | 起止时间 | 批准经费 | 备注 |
|---|---|---|---|---|---|---|---|---|
| 40 | 2021-XZYG-B26 | 心内科 | Gasdermin D在战创伤所致脓毒症相关ICU获得性衰弱中的作用及机制研究 | 李霜 | 面上项目 | 2021.10.01-2024.09.30 | 50 | |
| 41 | 2021-XZYG-B27 | 心内科 | 巨噬细胞膜包被载miRNA-146a的ROS响应胶束的构建及其在高原环境下小鼠脓毒性心肌损伤治疗中的作用探讨 | 彭柯 | 面上项目 | 2021.10.01-2024.09.30 | 47 | |
| 42 | 2021-XZYG-B28 | 心内科 | TRPM8在高原性心脏病诊治中的作用及机制研究 | 王强 | 面上项目 | 2021.10.01-2024.09.30 | 49 | |
| 43 | 2021-XZYG-B29 | 心外科 | 太赫兹超材料微流体传感器用于战场体外生命支持系统血液成分快速分析的研究 | 杨柯 | 面上项目 | 2021.10.01-2024.09.30 | 48 | |
| 44 | 2021-XZYG-B30 | 心外科 | 高原胸部战创伤一站式紧急止血及损伤控制技术应用 | 张近宝 | 面上项目 | 2021.10.01-2024.09.30 | 44 | |
| 45 | 2021-XZYG-B31 | 心外科 | 基于蛋白组学和机器学习算法的高原心脏病早期预警模型构建及效能评价 | 何思毅 | 面上项目 | 2021.10.01-2024.09.30 | 50 | |
| 46 | 2021-XZYG-B32 | 血液科 | 同允质下细胞对急进高原所致免疫损伤防治作用的研究 | 施浩 | 面上项目 | 2021.10.01-2024.09.30 | 50 | |
| 47 | 2021-XZYG-B33 | 眼科 | 高原地区官兵视网膜血管炎患病风险评估 | 龙盘 | 面上项目 | 2021.10.01-2024.09.30 | 40 | |
| 48 | 2021-XZYG-B34 | 中医科 | 高原条件下血管增生-修复失衡机制及中药防治策略 | 杨敏 | 面上项目 | 2021.10.01-2024.09.30 | 50 | |
| 49 | 2021-XZYG-B35 | 肿瘤科 | 基于虚拟现实技术对高原寒区战伤现场急救培训在我军机动卫勤人员训练的应用研究 | 杜敏 | 面上项目 | 2021.10.01-2024.09.30 | 29 | |
| 50 | 2021-XZYG-C01 | 病理科 | PRMT5在病毒感染中的效应及机制研究 | 张华 | 孵化项目 | 2021.10.01-2024.09.30 | 30 | |
| 51 | 2021-XZYG-C02 | 超声科 | 基于肺动脉高压心音异常的高原肺水肿智能预警研究 | 何芬 | 孵化项目 | 2021.10.01-2024.09.30 | 24 | |
| 52 | 2021-XZYG-C03 | 超声科 | 超声联合高强度可注射水凝胶在软组织异物定位及取出中的应用研究 | 李露 | 孵化项目 | 2021.10.01-2024.09.30 | 24 | |
| 53 | 2021-XZYG-C04 | 放射科 | 基于静息态fMRI技术的高原高寒低氧环境下军人认知控制网络、情感网络变化的研究 | 左智炜 | 孵化项目 | 2021.10.01-2024.09.30 | 28 | |

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7 Recommendation: Conditional acceptance.