# 西黄胶囊对大鼠放射性口腔黏膜炎的防护作用

《现代肿瘤医学》[ISSN:1672-4992/CN:61-1415/R] 期数: 2020年03期 页码: 383-386 栏目: 论著（基础研究） 出版日期: 2019-12-26

**Title:** The protection of Xihuang capsules against radiation-induced oral mucositis in rats

**作者:** 董克臣[1]; 张 萌[1]; 梁 毅[1]; 彭 聪[2]; 费新雄[1]
1.鄂东医疗集团市中心医院头颈肿瘤内科；2.耳鼻喉科，湖北 黄石 435000

**Author(s):** Dong Kechen[1]; Zhang Meng[1]; Liang Yi[1]; Peng Cong[2]; Fei Xinxiong[1]
1.Department of Head and Neck Oncology；2.Department of Otolaryngology，Huangshi Central Hospital of Edong Healthcare，Hubei Huangshi 435000，China.

**关键词:** 大鼠; 放射性口腔黏膜炎; 西黄胶囊; 白介素-1β; 肿瘤坏死因子-α; 防护作用

**Keywords:** rat; radiation-induced oral mucositis; Xihuang capsule; interleukin-1β (IL-1β); tumor necrosis factor-α (TNF-α); protective effect

**分类号:** R739.91

**DOI:** 10.3969/j.issn.1672-4992.2020.03.007

**文献标识码:** A

**摘要:** 目的：探讨西黄胶囊对大鼠放射性口腔黏膜炎的防护作用及相关机制。方法：将54只雌性Wistar大鼠随机分为给药组、单纯照射组和空白对照组。除空白对照组，其他两组均以6 MV X射线左侧颊黏膜单次30 Gy照射制作大鼠放射性口腔黏膜炎模型。从第1天开始至照射后第28天连续灌胃，给药组灌西黄混悬液，单纯照射组和空白对照组灌生理盐水。照射后观察大鼠颊黏膜的变化情况，照射后第3、14、28天处死大鼠观察颊黏膜病理切片，用ELISA法检测血清中白介素-1β(IL-1β)和肿瘤坏死因子-α(TNF-α)水平，RT-PCR法检测颊黏膜组织中IL-1β和TNF-α mRNA的表达。结果：与单纯照射组比较，给药组大鼠口腔黏膜炎明显减轻；给药组血清中IL-1β和TNF-α水平及颊黏膜组织中IL-1β和TNF-α mRNA表达均较单纯照射组低(P<0.05)。结论：西黄胶囊能够减轻照射大鼠口腔黏膜的炎性反应，其机制可能与抑制炎性因子IL-1β和TNF-α的释放、下调相关基因的表达有关。

**Abstract:** Objective：To investigate the protective effect and relative mechanism of Xihuang capsules on radiation-induced oral mucositis in rats.Methods：Totally 54 female Wistar rats were randomly divided into administration group，irradiation alone group and blank control group.Except for the blank control group，the other two groups were modeled with a single dose of 30 Gy in 6 MV X-ray by Varian Trilogy.The administration group rats were given Xihuang suspension for continuous gastric perfusion from the 1st day to the 28th day after irradiation，while the irradiation alone group and the blank control group were given normal saline.The changes of buccal mucosa were evaluated daily after irradiation.The rats were sacrificed on the 3rd，14th and 28th day after irradiation to observe the pathological sections of buccal mucosa.After rats being sacrificed，the levels of interleukin-1β (IL-1β) and tumor necrosis factor-α (TNF-α) in serum were measured by ELISA，and IL-1β and TNF-α mRNA expression in buccal mucosa tissue were assayed by RT-PCR.Results：After Xihuang capsules treatment，the inflammatory reaction of buccal mucosal tissue was markedly decreased compared with irradation alone group.Furthermore，the serum levels of IL-1β and TNF-α were obviously reduced (P<0.05) and the IL-1β and TNF-α mRNA levels in buccal mucosal tissue were also decreased (P<0.05).Conclusion：Xihuang plays a mucoprotective role against radiation-induced oral mucositis in rats and the down-expression of IL-1β and TNF-α may be involved.

**参考文献/REFERENCES**

[1] Maria OM，Eliopoulos N，Muanza T，et al.Radiation-induced oral mucositis [J] .Frontiers in Oncology，2017，7(89)：1-23.
[2]Lalla RV，Saunders DP，Peterson DE，et al.Chemotherapy or radiation-induced oral mucositis [J] .Dental Clinics of North America，2014，58(2)：341-349.
[3]ZHU Yong，ZHANG Xuecheng，WEI Lichun，et al.Clinical study of the effect of reduced glutathione injection

in prevention of acute radiation mucositis［J］.Modern Oncology，2007，15(7)：916-918.［朱勇，张学成，魏丽春，等.绿汀诺防治急性放射性粘膜炎的疗效观察［J］.现代肿瘤医学，2007，15(7)：916-918.］
[4]Wang C，Wang P，Ouyang H，et al.Efficacy of traditional Chinese medicine in treatment and prophylaxis of radiation-induced oral mucositis in patients receiving radiotherapy：A randomized controlled trial［J］.Integrative Cancer Therapies，2018，17(2)：444-450.
[5]Mallick S，Benson R，Rath GK，et al.Radiation induced oral mucositis：A review of current literature on prevention and management［J］.European Archives of Oto-rhino-laryngology，2016，273(9)：2285-2293.
[6]Lalla RV，Bowen JM，Barasch A，et al.MASCC/ISOO clinical practice guidelines for the management of mucositis secondary to cancer therapy［J］.Cancer，2014，120(10)：1453-1461.
[7]LAI Mindong，XIONG Shuping，LIU Rong，et al.Clinical observation of locust honey for radiation-induced oral mucositis in nasopharyngeal carcinoma［J］.The Practical Journal of Cancer，2016，31(12)：2096-2098，2100.［赖敏栋，熊淑萍，刘蓉，等.洋槐蜂蜜防治鼻咽癌患者放射性口腔粘膜炎的临床观察［J］.实用癌症杂志，2016，31(12)：2096-2098，2100.］
[8]WU Minhui，YUAN Bin，LIU Qiufang.Research progress on mechanism and prevention of acute radiation-induced oral mucositis［J］.Modern Oncology，2006，14(6)：760-761.［吴敏慧，袁彬，刘秋芳.急性放射性粘膜炎的发生机理及防治的研究进展［J］.现代肿瘤医学，2006，14(6)：760-761.］
[9]FENG Chongjin，GUO Junbing，LI Chuyu，et al.Establishment of murine model of radiation-induced oral mucositis［J］.Chin J Radiol Med Prot，2006，26(4)：346-348.［冯崇锦，郭俊兵，李楚玉，等.大鼠放射性口腔黏膜炎模型的建立［J］.中华放射医学与防护杂志，2006，26(4)：346-348.］
[10]Gruber S，Bozsaky E，Roitinger E，et al.Early inflammatory changes in radiation-induced oral mucositis［J］.Strahlentherapie und Onkologie，2017，193(6)：499-507.
[11]Moslemi D，Nokhandani AM，Otaghsaraei MT，et al.Management of chemo/radiation-induced oral mucositis in patients with head and neck cancer：A review of the current literature［J］.Radiotherapy and Oncology，2016，120(1)：13-20.
[12]Sonis ST.The pathobiology of mucositis［J］.Nature Reviews Cancer，2004，4(4)：277-284.
[13]LONG Xin，ZHANG Zhimin，XIE Gang，et al.Clinical investigation of using Chinese medicine gargle therapy in the prevention and treatment of acute radiation-induced oral mucositis［J］.Journal of Sichuan of Traditional Chinese Medicine，2017，35(1)：179-181.［龙鑫，张智敏，谢刚，等.中药含漱液防治急性放射性口腔黏膜炎临床研究［J］.四川中医，2017，35(1)：179-181.］
[14]HE Fengjiao，YI Haiyan，ZHOU Fang，et al.To observe the clinical efficacy and side effects of Xihuang capsule combined with gefitinib in the treatment of advanced lung adenocarcinoma［J］.J Med Theor & Prac，2018，31(16)：2384-2385，2396.［何凤姣，易海燕，周芳，等.观察西黄胶囊联合吉非替尼治疗晚期肺腺癌的临床疗效及毒副作用［J］.医学理论与实践，2018，31(16)：2384-2385，2396.］
[15]DONG Kechen，XIA Lin，LIANG Yi，et al.The protection of Xihuang Capsules against acute radiation-induced oral mucositis and its mechanisms［J］.Chinese Traditional Patent Medicine，2017，39(6)：1156-1160.［董克臣，夏林，梁毅，等.西黄胶囊防治急性放射性口腔黏膜炎的疗效及相关机制［J］.中成药，2017，39(06)：1156-1160.］

**备注/Memo:** 湖北省自然科学基金（编号：2013CFC060）；黄石市科技攻关计划（编号：HSYL2016000023）

更新日期/Last Update: 1900-01-01