

论文

酶联免疫斑点法在涂阴结核病人快速诊断中应用

李海¹, 郑春燕², 杨莉¹, 王剑¹

1. 广西医科大学公共卫生学院职业卫生与环境卫生学教研室, 广西 南宁 530021;
2. 广西医科大学基础医学院免疫学教研室

摘要:

目的 评价酶联免疫斑点技术(ELISPOT)在涂阴结核病人快速诊断中的临床应用价值。方法 应用ELISPOT技术检测30例涂阳结核病人、106例涂阴结核病人和71例非结核对照者外周血单个核细胞的 γ 干扰素(INF- γ),同时对14例涂阳结核病人、105例涂阴结核病人和全部71例对照者实施结核菌素皮肤实验(TST),计算灵敏度和特异度。结果 涂阳和涂阴结核病组的ELISPOT灵敏度分别为96.7%和88.7%,TST灵敏度分别为78.6%和65.7%,2组ELISPOT灵敏度、TST灵敏度间差异均无统计学意义($P>0.05$);涂阳结核病组ELISPOT灵敏度与TST灵敏度间差异无统计学意义($P>0.05$);涂阴结核病组ELISPOT灵敏度高于TST灵敏度,差异有统计学意义($\chi^2=15.83, P<0.001$);对照组中ELISPOT特异度为84.5%,高于TST特异度的59.2%,差异有统计学意义($\chi^2=11.28, P=0.001$);对照组接种卡介苗和未接种卡介苗者ELISPOT特异度分别为88.5%和73.3%,差异无统计学意义($P>0.05$);对照组接种卡介苗者TST特异度为38.5%,低于未接种卡介苗者的71.1%,差异有统计学意义($\chi^2=7.27, P=0.007$)。结论 ELISPOT可作为临床实践中涂阴结核病的辅助诊断技术,有助于结核病人得到更快速的诊断和治疗。

关键词: 酶联免疫斑点技术(ELISPOT) 结核菌素皮肤实验(TST) 涂阴结核病人 快速诊断

Application of enzyme-link immunospot assay in rapid diagnosis of sputum smear-negative tuberculosis

LI Hai, ZHENG Chun-yan, YANG Li, et al

Department of Occupational and Environmental Health, School of Public Health, Guangxi Medical University, Nanning, Guangxi Zhuang Autonomous Region 530021, China

Abstract:

Objective To evaluate the usefulness of enzyme-link immunospot assay(ELISPOT) in the diagnosis of sputum smear-negative tuberculosis. Methods Totally 30 tuberculosis patients with sputum smear-positive, 106 tuberculosis patients with sputum smear-negative, and 71 non-tuberculosis patients were enrolled. The interferon-gamma(INF- γ) produced by peripheral blood mononuclear cells of all participants was detected by ELISPOT, and parts of participants were performed with tuberculin skin test(TST) simultaneously. Results The sensitivity of ELISPOT in patients with sputum smear-positive(96.7%, 29/30) was higher than that of patients with sputum smear-negative(88.7%, 94/106), without significant difference($\chi^2=0.925, P>0.05$). The sensitivity of TST in patients with sputum smear-positive(78.6%, 11/14) were higher than that of patients with sputum smear-negative(65.7%, 69/105) with no significant difference($\chi^2=0.925, P>0.05$). In patients with sputum smear-negative, the specificity of ELISPOT was higher than that of TST with significant difference($\chi^2=15.83, P<0.001$). However, in control group, the sensitivity of ELISPOT(84.5%, 60/71) was higher than that of TST(59.2%, 42/71) with significant difference($\chi^2=11.28, P=0.001$), and the specificity of ELISPOT in controls with Bacille Calmette Guerin (BCG) vaccination(73.3%, 33/45) was higher than that of patients without BCG vaccination with no significant difference($P>0.05$), while the specificity of TST in controls with BCG vaccination(38.5%, 10/26) was lower than that of patients without BCG vaccination(71.1%, 32/45) with significant difference ($P=0.007$). Conclusion The ELISPOT is an supplementary mean for the diagnosis of sputum smear-negative tuberculosis in clinical practice. It would be helpful for the rapid diagnosis and treatment for the patients.

Keywords: enzyme-link immunospot assay tuberculin skin test sputum smear-negative TB patient rapid diagnosis

收稿日期 2012-05-20 修回日期 网络版发布日期

DOI: 10.11847/zgggws2013-29-04-04

基金项目:

扩展功能

本文信息

- Supporting info
- PDF(1012KB)
- [HTML全文]
- 参考文献

服务与反馈

- 把本文推荐给朋友
- 加入我的书架
- 加入引用管理器
- 引用本文
- Email Alert
- 文章反馈
- 浏览反馈信息

本文关键词相关文章

- 酶联免疫斑点技术(ELISPOT)
- 结核菌素皮肤实验(TST)
- 涂阴结核病人
- 快速诊断

本文作者相关文章

- 李海
- 郑春燕
- 杨莉
- 王剑

PubMed

- Article by LI Hai
- Article by ZHENG Chun-yan
- Article by YANG Li
- Article by et al

通讯作者: 杨莉

作者简介:

参考文献:

- [1] Kang YA, Lee HW, Hwang SS, et al. Usefulness of whole-blood interferon- γ assay and interferon- γ enzyme-linked immunospot assay in the diagnosis of active pulmonary tuberculosis[J]. Chest, 2007, 132(3): 959-965.
- [2] WHO. Global tuberculosis control: epidemiology, strategy, financing: WHO report 2009. Geneva: WHO, 2009.
- [3] Lalvani A, Pathan AA, McShane H, et al. Rapid detection of *Mycobacterium tuberculosis* infection by enumeration of antigen specific T cells[J]. Am J Respir Crit Care Med, 2001, 163(4): 824-828.
- [4] 中华人民共和国卫生部. WS288-2008肺结核诊断标准[S]. 北京: 人民卫生出版社, 2008.
- [5] Barnes PF. Diagnosing latent tuberculosis infection: the 100-year upgrade[J]. Am J Respir Crit Care Med, 2001, 163(4): 807-808.
- [6] Passalent L, Khan K, Richardson R, et al. Detecting latent tuberculosis infection in hemodialysis patients: a head-to-head comparison of the T-SPOT TB test, tuberculin skin test, and an expert physician panel[J]. Clin J Am Soc Nephrol, 2006, 2(1): 68-73.
- [7] Meier T, Eulenbruch HP, Wrighton-Smith P, et al. Sensitivity of a new commercial enzyme-linked immunospot assay (T-SPOT-TB) for diagnosis of tuberculosis in clinical practice[J]. Europe Journal of Clinical Microbiology Infectious Disease, 2005, 24(8): 529-536.
- [8] Goletti D, Vincenti D, Carrara S, et al. Selected RD1 peptides for active tuberculosis diagnosis: comparison of a gamma interferon whole-blood enzyme-linked immunosorbent assay and an enzyme-linked immunospot assay[J]. Clin Vaccine Immunol, 2005, 12(11): 1311-1316.
- [9] Wu X, Zhang L, Zhang J, et al. Recombinant early secreted antigen target 6 protein as a skin test antigen for the specific detection of *Mycobacterium tuberculosis* infection[J]. Clin Exp Immunol, 2008, 152(1): 81-87.

本刊中的类似文章

文章评论 (请注意: 本站实行文责自负, 请不要发表与学术无关的内容! 评论内容不代表本站观点.)

反馈人	<input type="text"/>	邮箱地址	<input type="text"/>
反馈标题	<input type="text"/>	验证码	<input type="text" value="6627"/>