

速获取,且与肝活检相比更具成本效益,更容易获得患者的接受。

伦理学审查:本研究方案于2021年4月2日经由上海交通大学医学院附属瑞金医院伦理委员会审批,批号:(2021)临伦审第(79)号。

利益冲突声明:本研究不存在研究者、伦理委员会委员、受试者监护人以及与公开研究成果有关的利益冲突。

作者贡献声明:桂红莲、谢青对研究的思路或设计有关键贡献;赵钢德、郭斯敏、桂红莲参与研究数据的获取分析解释过程;赵钢德、桂红莲参与起草或修改文章关键内容。

#### 参考文献:

- [1] ZHOU F, ZHOU J, WANG W, et al. Unexpected rapid increase in the burden of NAFLD in China from 2008 to 2018: A systematic review and meta-analysis[J]. *Hepatology*, 2019, 70(4): 1119–1133. DOI: 10.1002/hep.30702.
- [2] KLEINER DE, BRUNT EM, WILSON LA, et al. Association of histologic disease activity with progression of nonalcoholic fatty liver disease [J]. *JAMA Netw Open*, 2019, 2(10): e1912565. DOI: 10.1001/jamanetworkopen.2019.12565.
- [3] NEWSOME PN, SASSO M, DEEKS JJ, et al. FibroScan – AST (FAST) score for the non – invasive identification of patients with non – alcoholic steatohepatitis with significant activity and fibrosis: A prospective derivation and global validation study [J]. *Lancet Gastroenterol Hepatol*, 2020, 5(4): 362–373. DOI: 10.1016/S2468 – 1253(19)30383 – 8.
- [4] ANSTEE QM, LAWITZ EJ, ALKHOURI N, et al. Noninvasive tests accurately identify advanced fibrosis due to NASH: Baseline data from the STELLAR trials[J]. *Hepatology*, 2019, 70(5): 1521–1530. DOI: 10.1002/hep.30842.
- [5] SIDDIQUI MS, YAMADA G, VUPPALANCHI R, et al. Diagnostic accuracy of noninvasive fibrosis models to detect change in fibrosis stage[J]. *Clin Gastroenterol Hepatol*, 2019, 17(9): 1877–1885. e5. DOI: 10.1016/j.cgh.2018.12.031.

- [6] KLEINER DE, BRUNT EM, van NATTA M, et al. Design and validation of a histological scoring system for nonalcoholic fatty liver disease [J]. *Hepatology*, 2005, 41(6): 1313–1321. DOI: 10.1002/hep.20701.
- [7] HARRISON SA, RATZIU V, BOURSIER J, et al. A blood – based biomarker panel (NIS4) for non – invasive diagnosis of non – alcoholic steatohepatitis and liver fibrosis: A prospective derivation and global validation study [J]. *Lancet Gastroenterol Hepatol*, 2020, 5(11): 970–985. DOI: 10.1016/S2468 – 1253(20)30252 – 1.
- [8] EDDOWES PJ, SASSO M, ALLISON M, et al. Accuracy of FibroScan controlled attenuation parameter and liver stiffness measurement in assessing steatosis and fibrosis in patients with nonalcoholic fatty liver disease [J]. *Gastroenterology*, 2019, 156(6): 1717–1730. DOI: 10.1053/j.gastro.2019.01.042.
- [9] OEDA S, TAKAHASHI H, IMAJO K, et al. Diagnostic accuracy of FibroScan – AST score to identify non – alcoholic steatohepatitis with significant activity and fibrosis in Japanese patients with non – alcoholic fatty liver disease: Comparison between M and XL probes [J]. *Hepatol Res*, 2020, 50(7): 831–839. DOI: 10.1111/hepr.13508.
- [10] POYNARD T, MUNTENAU M, MORRA R, et al. Methodological aspects of the interpretation of non – invasive biomarkers of liver fibrosis: A 2008 update [J]. *Gastroenterol Clin Biol*, 2008, 32(6 Suppl 1): 8–21. DOI: 10.1016/S0399 – 8320(08)73990 – 3.
- [11] BRIL F, MCPHAUL MJ, CAULFIELD MP, et al. Performance of plasma biomarkers and diagnostic panels for nonalcoholic steatohepatitis and advanced fibrosis in patients with type 2 diabetes [J]. *Diabetes Care*, 2020, 43(2): 290–297. DOI: 10.2337/dc19 – 1071.

引证本文: ZHAO GD, GUO SM, XIE Q, et al. Diagnostic accuracy of FibroScan – AST score in nonalcoholic steatohepatitis with significant activity and fibrosis [J]. *J Clin Hepatol*, 2022, 38(6): 1288–1292.

赵钢德,郭斯敏,谢青,等. FibroScan – AST 评分对具有显著活动性和纤维化的非酒精性脂肪性肝患者的诊断效能 [J]. *临床肝胆病杂志*, 2022, 38(6): 1288–1292.

(本文编辑: 王亚南)

读者 · 作者 · 编者

## 卡方检验的应用条件

卡方检验是计数资料统计推断的重要方法,可用于两个率或多个率的组间比较,两组或多组间构成比的比较等。

卡方检验的应用条件:(1) 样本量 $\geq 40$ ,且理论频数 $T \geq 5$ 时用卡方检验的基本公式,检验统计量为 $\chi^2$ ;(2) 样本量 $\geq 40$ ,但理论频数 $1 \leq T < 5$ 时用卡方检验校正公式;(3) 若样本量 $< 40$ 或理论频数 $T < 1$ 时,需改用 Fisher 确切概率法进行统计分析。