

Letter to the editor regarding “Prognostic role of microRNA-150 in various carcinomas: a meta-analysis”

Min Li¹

Ying Yang²

¹Department of Oncology, Changsha Central Hospital, Changsha, Hunan,

²Department of Orthopaedic Surgery, Shanghai Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, People's Republic of China

Dear editor

Emerging evidence has shown that aberrant microRNA expression has the potential to be used for predicting survival and treatment response of carcinomas.^{1–3} Recently, the role of miR-150 was investigated in various types of cancers, but the results were inconsistent and inconclusive.^{4–7} Therefore, we read with great interest the enlightening work of Wang et al⁸ published in *OncoTargets and Therapy*. This study conducted a meta-analysis to evaluate the prognostic significance of miR-150 in various carcinomas by calculating the pooled hazard ratio (HR) of both overall survival (OS) and progression-free survival (PFS) in patients with various types of cancer. The authors concluded that miR-150 expression was not significantly associated with multiple cancers in terms of OS, whereas the high expression of miR-150 was significantly associated with worse progression. It is a very interesting and valuable study. Before accepting their conclusions, we would like to express some concerns in relation to their meta-analysis.

To begin with, only two electronic databases (PubMed and EMBASE databases) were systematically searched by the investigators. The small number of acquired papers would be a significant limitation of the meta-analysis. We recommend more electronic databases, such as OVID, ISI Web of Science database, Cochrane Library, Chinese Wanfang database and China National Knowledge Infrastructure (CNKI). Meanwhile, publication language was limited to English in the meta-analysis. Thus, there might exist a potential language bias in their meta-analysis, and we suggest no language restriction for the included studies to reduce the bias.

Furthermore, some important keywords, including mir-150 and malignancy, were also omitted. We suggest the investigators supplement those words in the search strategy in order to enlarge the coverage of relevant publications. In addition, there was no qualitative assessment with respect to this meta-analysis. To avoid the potential bias in the meta-analysis, the methodological quality of the studies incorporated in this meta-analysis should be investigated using the Newcastle–Ottawa scale as described in a previous meta-analysis.⁹

In addition, nine studies including 1,999 participants were considered eligible for this meta-analysis. Also, some other important clinical features were omitted. For us to regard this meta-analysis well, we suggest that the investigators should supplement relevant characteristics, such as gender, tumor stage, metastasis and regulation tendency of related microRNAs. Meanwhile, the nomenclature of microRNAs has changed according to the latest guidance from miRBase (Release 21); therefore, the updated,

Correspondence: Ying Yang
Department of Orthopaedic Surgery,
Shanghai Ninth People's Hospital,
Shanghai Jiao Tong University School of
Medicine, 639 Zhizaoju Road, Shanghai
200011, People's Republic of China
Tel +86 21 2327 1133
Fax +86 21 6313 7020
Email leeny520@126.com

official names including the 3p and 5p nomenclature need to be used throughout the paper.

Eventually, in the meta-analysis of the correlation between OS and miR-150 expression, there was obvious between-study heterogeneity among those nine enrolled studies ($I^2=80\%$). The investigators should conduct sensitivity analyses to figure out the reason for the obvious heterogeneity.^{9,10} Additionally, the investigators concluded that the high expression of miR-150 was significantly associated with worse progression, but they focused only on the effect of miR-150 expression on the OS and PFS. To make this paper better, the effect of miR-150 expression on clinical stage, local relapse and distant metastasis should be supplemented in the results section (Table 2).

In conclusion, we wish to thank the authors for bringing this meta-analysis with respect to miR-150 expression in various types of carcinomas to our attention. Clearly, more well-designed studies with large sample size are needed to further clarify the prognostic role of miR-150 in monitoring the prognosis and progression of various cancers, thus providing a more comprehensive evaluation of relevant biomarkers for future clinical studies.

Disclosure

The authors report no conflicts of interest in this communication.

References

1. Acunzo M, Romano G, Wernicke D, et al. MicroRNA and cancer—a brief overview. *Adv Biol Regul.* 2015;57:1–9.
2. Wong N, Khwaja SS, Baker CM, et al. Prognostic microRNA signatures derived from the cancer genome Atlas for head and neck squamous cell carcinomas. *Cancer Med.* 2016;5(7):1619–1628.
3. Luo Z, Feng C, Hu P, et al. Serum microRNA-199a/b-3p as a predictive biomarker for treatment response in patients with hepatocellular carcinoma undergoing trans-arterial chemoembolization. *Onco Targets Ther.* 2016;9:2667–2674.
4. Sarlinova M, Halasa M, Mistuna D, et al. miR-21, miR-221 and miR-150 are deregulated in peripheral blood of patients with colorectal cancer. *Anticancer Res.* 2016;36(10):5449–5454.
5. Sakr M, Takino T, Sabit H, et al. miR-150-5p and miR-133a suppress glioma cell proliferation and migration through targeting membrane-type-1 matrix metalloproteinase. *Gene.* 2016;587:155–162.
6. Huang S, Chen Y, Wu W, et al. miR-150 promotes human breast cancer growth and malignant behavior by targeting the pro-apoptotic purinergic P2×7 receptor. *PLoS One.* 2013;8:e80707.
7. Wang S, Yin J, Li T, et al. Upregulated circulating miR-150 is associated with the risk of intrahepatic cholangiocarcinoma. *Oncol Rep.* 2015;33(2):819–825.
8. Wang W, Wang X, Zhang Y, et al. Prognostic role of microRNA-150 in various carcinomas: a meta-analysis. *Onco Targets Ther.* 2016;9:1371–1379.
9. Dong Y, Fu C, Guan H, Zhang Z, Zhou T, Li B. Prognostic significance of miR-126 in various cancers: a meta-analysis. *Onco Targets Ther.* 2016;9:2547–2555.
10. Ding Y, Ma Q, Liu F, Zhao L, Wei W. The potential use of salivary miRNAs as promising biomarkers for detection of cancer: a meta-analysis. *PLoS One.* 2016;11(11):e0166303.

Dove Medical Press encourages responsible, free and frank academic debate. The content of the OncoTargets and Therapy 'letters to the editor' section does not necessarily represent the views of Dove Medical Press, its officers, agents, employees, related entities or the OncoTargets and Therapy editors. While all reasonable steps have been taken to confirm the content of each letter, Dove Medical Press accepts no liability in respect of the content of any letter, nor is it responsible for the content and accuracy of any letter to the editor.

OncoTargets and Therapy

Publish your work in this journal

OncoTargets and Therapy is an international, peer-reviewed, open access journal focusing on the pathological basis of all cancers, potential targets for therapy and treatment protocols employed to improve the management of cancer patients. The journal also focuses on the impact of management programs and new therapeutic agents and protocols on

Submit your manuscript here: <http://www.dovepress.com/oncotargets-and-therapy-journal>

patient perspectives such as quality of life, adherence and satisfaction. The manuscript management system is completely online and includes a very quick and fair peer-review system, which is all easy to use. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Dovepress