

Supplementary Table 1: Meta-analysis of observational studies in epidemiology checklist

Criteria	Brief description of how the criteria were handled in the meta-analysis
Reporting of background should include	
Problem definition	YKL-40 is a secreted protein and has been reported to be associated with the prognosis of glioma patients. However, expression of YKL-40 was measured by different testing techniques and defined as protein or mRNA level in different studies
Hypothesis statement	YKL-40 protein level rather than mRNA level should be recommended to evaluate its predict value on the prognosis of glioma patients
Description of study outcomes	OS
Type of exposure or intervention used	Glioma
Type of study designs used	Meta-analysis
Study population	Global
Reporting of search strategy should include	
Qualifications of searchers	Reviewers
Search strategy, including time period included in the synthesis and keywords	See search strategy
Databases and registries searched	PubMed, EMBASE, and NKI
Search software used, name, and version, including special features	We did not employ search software. EndNote was used to merge retrieved citations and eliminate duplications
Use of hand searching	We hand-searched bibliographies of retrieved papers for additional references
List of citations located and those excluded including justifications	Details of the literature search process are outlined in the flowchart. The citation list is available on request
Method of addressing articles published in languages other than English	We placed no restrictions on language; local reviewers fluent in the original language of the article were contacted for translation
Method of handling abstracts and unpublished studies	No abstracts and unpublished studies were used
Description of any contact with authors	No contact with the authors was made
Reporting of methods should include	
Description of relevance or appropriateness of studies assembled for assessing the hypothesis to be tested	See methods
Rationale for the selection and coding of data	See methods
Assessment of confounding	See methods
Assessment of study quality, including blinding of quality assessors; stratification or regression on possible predictors of study results	See methods
Assessment of heterogeneity	Heterogeneity of the studies were explored within two types of study designs using Cochrane's Q -test of heterogeneity and I^2 statistic that provides the relative amount of variance of the summary effect due to the between-study heterogeneity
Description of statistical methods in sufficient detail to be replicated	Description of methods of meta-analyses, sensitivity analyses, assessment of publication bias, and trim and fill method is detailed in the methods
Provision of appropriate tables and graphics	See Table 1 and 2 and Figures 1-7
Reporting of results should include	
Graph summarizing individual study estimates and overall estimate	Figures 2-5
Table giving descriptive information for each study included	[Table 1]
Results of sensitivity testing	[Figure 7]
Indication of statistical uncertainty of findings	95% confidence intervals were presented with all summary estimates, I^2 values and results of sensitivity analyses
Reporting of discussion should include	
Quantitative assessment of bias (e.g., publication bias)	See limitation in discussion
Justification for exclusion	We excluded studies that had not adjusted for prognosis factors in which were associated with overall survival. Those studies that were excluded also indicate positive association, as noted in the discussion
Assessment of quality of included studies	See limitation in discussion

Contd...

Supplementary Table 1: Contd...

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Reporting of conclusions should include	
Consideration of alternative explanations for observed results	<i>MGMT</i> promoter methylation and <i>IDH1</i> mutation affect the actions of YKL-40 directly or indirectly through regulating YKL-40 expression. It should be noted that only three studies were enrolled in this subgroup analysis. Therefore, further clinical trials should incorporate prognostic molecular biomarkers into analysis, such as <i>MGMT</i> , <i>IDH1/2</i> , and <i>TERT</i>
Generalization of the conclusions	YKL-40 protein level rather than mRNA level may be a valuable biomarker for the prognosis of glioma patients. We also noted limited studies accounting for biomarkers
Guidelines for future research	We recommend further clinical trials should incorporate prognostic molecular biomarkers into analysis, such as <i>MGMT</i> , <i>IDH1/2</i> , and <i>TERT</i>
Disclosure of funding source	This research was supported by grants from National Natural Science Foundation of China (number 81573459)

From: Stroup *et al.* Meta-analysis of observational studies in epidemiology: A proposal for reporting. Meta-analysis of observational studies in epidemiology (MOOSE) group. *JAMA* 2000;283:2008-2012. *MGMT*: O⁶-methylguanine-DNA methyltransferase, *IDH1*: Isocitrate dehydrogenase 1, OS: Overall survival