SUPPLEMENTARY MATERIALS

Supplementary Tables

Supplementary Table 1. MOOSE Checklist

Item No	Recommendation	Reported in Section
Reporting of background		
1	Problem definition	Introduction; Methods
2	Hypothesis statement	Introduction
3	Description of study outcome(s)	Methods
4	Type of exposure or intervention used	Methods
5	Type of study designs used	Methods; Table 1
6	Study population	Methods; Table 1
Reporting of search strategy should include		
7	Qualifications of searchers (eg, librarians and investigators)	Methods
8	Search strategy, including time period included in the synthesis and key words	Methods
9	Effort to include all available studies, including contact with authors	Methods
10	Databases and registries searched	Methods; Figure 1
11	Search software used, name and version, including special features used (eg, explosion)	Methods
12	Use of hand searching (eg, reference lists of obtained articles)	Methods
13	List of citations located and those excluded, including justification	Figure 1; Supplementary Table 2
14	Method of addressing articles published in languages other than English	Methods
15	Method of handling abstracts and unpublished studies	Methods
16	Description of any contact with authors	N/A
Reporting of methods should include		
17	Description of relevance or appropriateness of studies assembled for assessing the hypothesis to be tested	Methods

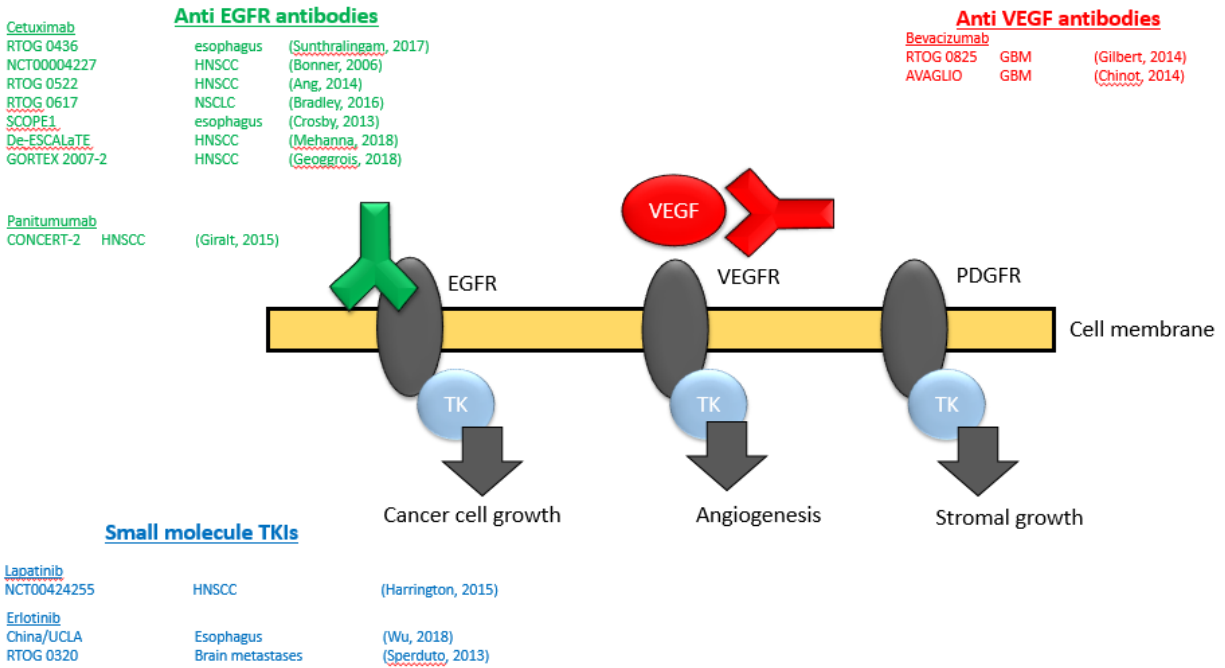| 18	Rationale for the selection and coding of data (eg, sound clinical principles or convenience)	Methods
19	Documentation of how data were classified and coded (eg, multiple raters, blinding and interrater reliability)	Methods
20	Assessment of confounding (eg, comparability of cases and controls in studies where appropriate)	Methods
21	Assessment of study quality, including blinding of quality assessors, stratification or regression on possible predictors of study results	Methods
22	Assessment of heterogeneity	Methods
23	Description of statistical methods (eg, complete description of fixed or random effects models, justification of whether the chosen models account for predictors of study results, dose-response models, or cumulative meta-analysis) in sufficient detail to be replicated	Methods
24	Provision of appropriate tables and graphics	Figures 1-2; Tables 1-3
Reporting of results should include		
25	Graphic summarizing individual study estimates and overall estimate	Figures 2; Tables 2-3
26	Table giving descriptive information for each study included	Table 2
27	Results of sensitivity testing (eg, subgroup analysis)	Results; Figure 2
28	Indication of statistical uncertainty of findings	Results; Figures 2; Tables 2-3
Reporting of discussion should include		
29	Quantitative assessment of bias (eg, publication bias)	Methods
30	Justification for exclusion (eg, exclusion of non-English language citations)	Methods
31	Assessment of quality of included studies	Methods; Figure 1
Reporting of conclusions should include		
32	Consideration of alternative explanations for observed results	Discussion
33	Generalization of the conclusions (ie, appropriate for the data presented and within the domain of the literature review)	Conclusion
34	Guidelines for future research	Discussion; Conclusion
35	Disclosure of funding source	Title Page

Supplementary Table 2. Rationale for exclusion of individual studies following initial screening process[a]

Author name	Study Name	PMID	Year	Reason for exclusion
Kelly	SWOG S0023	18378568	2008	RTKi was delivered sequentially, rather than concurrently with RT
Sweigert		27511844	2016	RTKi and radiotherapy are given in both arms
Ghi		28911070	2017	RTKi and radiotherapy are given in both arms
Govindan	Trial 30407	21747084	2011	Did not provide HR for survival
Lefebvre	TREMPLIN	23341517	2013	Did not provide HR for survival
Salma		21330337	2011	Did not provide HR for survival
Tao	GORTEC 2007-01	29878867	2018	RTKi and radiotherapy are given in both arms
Hammell	LAP-07	27139057	2016	RTKi was delivered sequentially, rather than concurrently with RT
Gillison	RTOG 1016	30449625	2018	RT was given via accelerated fractionation in both arms
Edelman	RTOG 0839	28629896	2017	Did not provide HR for survival

[a]RTKi, receptor tyrosine kinase inhibitor; HR, hazard ratio, RT, radiotherapy

Supplementary Figures

Supplementary Figure 1. Mechanism of Action of Small Molecule and Antibody RTKi's.

Anti EGFR antibodies

Cetuximab
RTOG 0436   esophagus   (Sunthralingam, 2017)
NCT00004227   HNSCC   (Bonner, 2006)
RTOG 0522   HNSCC   (Ang, 2014)
RTOG 0617   NSCLC   (Bradley, 2016)
SCOPE1   esophagus   (Crosby, 2013)
De-ESCALaTE   HNSCC   (Mehanna, 2018)
GORTEX 2007-2   HNSCC   (Geoggrois, 2018)

Panitumumab
CONCERT-2   HNSCC   (Giralt, 2015)

Anti VEGF antibodies

Bevacizumab
RTOG 0825   GBM   (Gilbert, 2014)
AVAGLIO   GBM   (Chinot, 2014)

EGFR

VEGF

VEGFR

PDGFR

Cell membrane

TK

TK

TK

Cancer cell growth

Angiogenesis

Stromal growth

Small molecule TKIs

Lapatinib
NCT00424255   HNSCC   (Harrington, 2015)

Erlotinib
China/UCLA   Esophagus   (Wu, 2018)
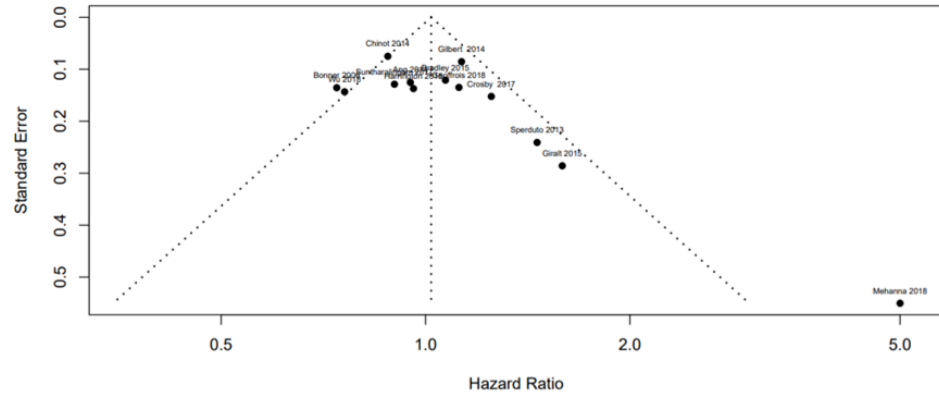RTOG 0320   Brain metastases   (Sperduto, 2013)

Supplementary Figure 2. Bias in the articles evaluated.

	Random Sequence Generation (Selection bas)	Allocation Concealment (Selection bias)	Blinding (Performance bias and detection bias): Survival	Blinding (Performance bias and detection bias): Toxicity	Incomplete Outcome Data (Attrition bias): Survival	Incomplete Outcome Data (Attrition bias): Toxicity	Selective reporting (Reporting bias)	Other Bias
Harrington et al	~	-	-	-	~	~	~	~
Wu et al	~	-	-	NA	-	NA	~	√
Sperduto et al	~	-	-	-	-	-	-	-
Ang et al	~	-	-	-	-	-	-	-
Bradley et al	-	-	-	-	-	-	-	-
Crosby et al	~	-	-	-	-	-	-	-
Suntharalingam et al	-	-	-	NA	-	NA	-	-
Bonner et al	~	-	-	NA	-	NA	-	-
Chinot et al	~	-	-	-	-	-	-	-
Gilbert et al	~	-	-	NA	-	NA	-	-
Mehanna et al	~	-	-	NA	-	NA	-	-
Geoffris et al	-	-	-	NA	-	NA	-	-
Giralt et al	-	-	-	NA	-	NA	-	-

Supplementary Figure 3. Funnel plots depicting bias of hazard ratio analysis (A) and relative risk analysis (B).

A

B