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The role of adjuvant radiotherapy after surgery in early-stage tongue carcinoma. A systematic review and meta-analysis

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ADMINISTRATIVE INFORMATION

Support - The Affiliated Hospital of Xuzhou Medical University.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 10 December 2023 and was last updated on 10 December 2023.

INTRODUCTION

Review question / Objective The role of adjuvant radiotherapy after surgery in early-stage tongue carcinoma.

Condition being studied Our study patients were diagnosed with oral tongue cancer and we focused on the role of radiotherapy of early-stage (T1-2N0M0) patients after surgery.

METHODS

Search strategy We use the four databases of PubMed, Cochrane Library , Web of Science and Chinese databases, a systematic literature search was conducted in October, 2023.

Participant or population The study included patients who had been diagnosed with oral tongue cancer. In order to study the role of radiotherapy of early-stage (T1-2N0) patients after surgery.The eligible studies should meet the following criteria: (1) Tongue cancer confirmed by pathological diagnosis; (2) The stage of patients were T1-2N0M0; (3) Providing survival data, including hazard ratio (HR) and 95% confidence interval (CI) measurements for OS, RFS, DFS or PFS, or providing Kaplan-Meier curves based on post-operative radiotherapy (PORT) and surgery only.The following studies have been excluded from consideration due to the following reasons: (1) Comment, animal studies, conference abstract, none-comparative studies, letter, editorials, reviews and meta-analysis; (2) Studies without available data can be extracted.

Intervention Patients with oral tongue cancers undergoing post-operative radiotherapy (PORT).

Comparator Patients with oral tongue cancers undergoing no treatment after surgery.

Study designs to be included Retrospective studies or randomized controlled trials.

Eligibility criteria (1) Tongue cancer confirmed by pathological diagnosis; (2) The stage of patients was T1-2N0M0; (3) Providing survival data, including hazard ratio (HR) and 95% confidence interval (CI) measurements for OS, RFS, DFS or PFS, or providing Kaplan-Meier curves based on post-operative radiotherapy (PORT) and surgery only.

Information sources We use the four databases of PubMed, Cochrane Library and Web of Science and Chinese databases, a systematic literature search was conducted in October, 2023.

Main outcome(s) Survival data, including hazard ratio (HR) and 95% confidence interval (CI) measurements for OS, LRFS, DFS or PFS.

Quality assessment / Risk of bias analysis Quality assessment was performed using the Newcastle–Ottawa quality assessment scale (NOS) or The Cochrane ROB. NOS criteria scores range from 0 (lowest) to 9 (highest), and a NOS score ≥6 is considered a high-quality study.

Strategy of data synthesis The statistical analysis was performed using Stata 15.0. It involved calculating the correlations between treatment measures and OS, RFS, PFS, or DFS. If $P<0.05$ and $I^2>50\%$, it indicated high heterogeneity, and a random-effects model was applied. Otherwise, a fixed-effects model was used. Additionally, a sensitivity analysis was conducted by systematically excluding individual studies in order to evaluate the robustness of the meta-analysis. $P<0.05$ was considered statistically significant.

Subgroup analysis None.

Sensitivity analysis None.

Country(ies) involved China.

Keywords PORT, early stage, tongue cancer.

Contributions of each author

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