INPLASY PROTOCOL

Corresponding author:
Chuan Qin

qinchuan@pumc.edu.cn

Author Affiliation:
Institute of laboratory animal sciences, CAMS&PUMC

Support: None.

Review Stage at time of this submission: Risk of bias assessment.

Conflicts of interest:
The authors declare no conflict of interest.

The prognosis role of Neutrophil-to-lymphocyte ratio in hypopharyngeal cancer patients : a systematic review and meta-analysis

Zhang, DY[1]; Li, JW[2]; Zhang, L[3]; Zhu, XC[4]; Qin, C[5].

Review question / Objective: P：Hypopharyngeal cancer patients; I：High NLR group; C:Low NLR group; O:Overall survival; S:Cohort study.

Condition being studied: We divided hypopharyngeal cancer patients into high NLR value group and low NLR value group to fine the prognosis role of NLR.

Information sources: PubMed, Embase, Cochrane library and Web of Science databases

INTRODUCTION

Review question / Objective: P：Hypopharyngeal cancer patients; I: High NLR group; C:Low NLR group; O:Overall survival; S:Cohort study.

Condition being studied: We divided hypopharyngeal cancer patients into high NLR value group and low NLR value group to fine the prognosis role of NLR.

METHODS

Search strategy: We performed a comprehensive literature search of articles through the following databases without date limitation:PubMed, Embase, The Cochrane Library and Web of Science,databases.The search was updated to August 1 2020. The main search terms include (((((larynx*[Title/Abstract]) OR (hypopharyn*[Title/Abstract])) OR ("Hypopharynx"[Mesh])) AND(((((neutrophil-To-Lymphocyte Ratio[Title/Abstract]) OR (neutrophil To Lymphocyte Ratio[Title/Abstract])) OR (neutrophil Lymphocyte Ratio[Title/Abstract])) OR (neutrophil/Lymphocyte[Title/Abstract])) OR (NLR[Title/Abstract]))) AND ((((cancer[Title/Abstract]) OR (carcinoma[Title/Abstract])) OR (tumor[Title/Abstract])) OR (Neoplasm[Title/Abstract])) The reference list was also checked for relevant articles.

Participant or population: Patients with hypopharyngeal cancer(confirmed by histopathology)and no metastases from other sites to the cancer.

Intervention: High NLR value.

Comparator: Low NLR value.

Study designs to be included: Both retrospective study and prospective study can be included.

Eligibility criteria: Inclusion criteria for selecting the studies for this meta analysis were as follows criteria: (i) studied patients with oropharynx tumor were pathological examination confirmed; (ii)NLR was measured by serum based methods; (iii) Correlation of NLR with overall survival (OS) (iv) the study type of article should be cohort study Exclusion criteria were as follows: (i)abstracts, letters, case reports, reviews or nonclinical studies; (ii) studies were not written in English; (iii) studies with insufficient data for estimating hazard ratio (HR) and 95% confidence interval (CI); (iv) studies had duplicate data or repeat analysis. (v) full text can not be obtained.

Information sources: PubMed, Embase, Cochrane library and Web of Science databases.

Main outcome(s): Hazard ratio(HR), 95% confidence Interval(CI), overall survival(OS).

Additional outcome(s): None.

Quality assessment / Risk of bias analysis: The Newcastle-Ottawa Scale (NOS) was used to assess each of the included studies quality by two independent authors.Begg's funnel plot and the Egger's linear regression test were performed to evaluate publication bias.

Strategy of data synthesis: We directly obtained HR and 95%CI from each literature or estimated these data according to the data obtained from survival curves with Engauge Digitizer and program based on the method of Jayne F Tierney. HR >1 indicated a worse prognosis noropharynx tumor patients with high expression of NLR. Cochran's Q test and Higgins I-squared statistic were undertaken to assess the heterogeneity of the included trials. We use random effects (DerSimonian–Laird method) models were used to calculate the pooled HRs and 95%CIs because of the data included had heterogeneity. In subgroup analysis to find the heterogeneity, Pheterogeneity 50% suggested significant heterogeneity in the literature and both random-effect model and fix-effect model was used. Subgroup analysis was conducted to explore and explain the diversity (heterogeneity) among the results of different studies. Publication bias was assessed by Begg's and Egger's funnel plot. All p-values were two-sided. A $p < 0.05$ was considered statistical significant. All the statistical analyses were performed using Stata statistical software version 12.0.

Subgroup analysis: Subgroup analysis was conducted to explore and explain the diversity (heterogeneity) among the results of different studies .We divided the study into several different subgroups based on

factors such as the cut-off of NLR, patiants nation and so on.

Sensibility analysis: We will use STATA for sensitivity analysis.

Country(ies) involved: China.

Keywords: hypopharynx cancer, neutrophil-to-lymphocyte ratio, overall survival.

Contributions of each author:
Author 1 - Dongyuan Zhang - Author 1 drafted the manuscript.
Author 2 - Jingwen Li - The author provided statistical expertise.
Author 3 - Ling Zhang - The author contributed to the development of the selection criteria, and the risk of bias assessment strategy.
Author 4 - Xuchao Zhu - The author contributed to the development of the selection criteria, and the risk of bias assessment strategy.
Author 5 - Chuan Qin - The author read, provided feedback and approved the final manuscript.