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ADMINISTRATIVE INFORMATION

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Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202470083

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 22 July 2024 and was last updated on 7 March 2025.

INTRODUCTION

Review question / Objective How do PDT affect the clinical results in patients with OC diseases?

Does PDT application provide superior clinical microbial (Candida colony counts) improvement compared with conventional chemical therapies for the OC patient?

What was the rankings on the effect of PDTs in reducing candida colony counts and which one is more suitable for patients with OC diseases?

Condition being studied The following PICO framework was according to the Participants, Interventions, Control, and Outcome (PICOS) principle: i) Patients: patients diagnosed with OC diseases; ii) Intervention: for the test group, additional PDT or PDT alone.

METHODS

Search strategy #1Search: ((((((photodynamic therapy) OR (PDT)) OR (photochemotherapy)) OR (photodynamic inactivation)) OR (photoinactivation)) OR (photo radiation therapy) #2 Search: (((candida) OR (monilia)) OR (candidiasis)) OR (fungi) #3 Search: (denture stomatitis) OR (oral) #4 Search: #1 AND #2 AND #3.

Participant or population Patients diagnosed with oral mucosa candidiasis diseases.

Intervention Photodynamic therapy.

Comparator Chemical therapies.

Study designs to be included Randomized controlled trials (RCTs) or cohort study.

Eligibility criteria Inclusion criteria were defined as: i) patients diagnosed with OC; ii) Patients treated by PDT or additional PDT compared to other conventional chemical therapies (CCT); iii) Studies describing clinical outcomes or microbial (Candida colony counts) improvement. Exclusion criteria were defined as: i) animal and in vitro studies; ii) duplicated data; iii) RCTs without any intervention (e.g. on prevalence); iv) dissertations that have not been peer reviewed or publicly published.

Information sources We searched relevant articles through the Cochrane Library, Web of Science and PubMed databases.

Main outcome(s) Clinical outcomes or microbial (Candida colony counts) improvement.

Quality assessment / Risk of bias analysis Using the Cochrane Collaboration tool's in Review Manager software (version 5.0 for Windows) and Newcastle Ottawa scale (NOS).

Strategy of data synthesis RRs with 95% CIs presented the estimated effects for dichotomous outcomes. The I² statistic were performed to estimate between-study heterogeneity.

Subgroup analysis Perform subgroup analysis if necessary.

Sensitivity analysis When more than 8 studies were included.

Country(ies) involved China.

Keywords photodynamic therapy; chemical therapy; oralcandidiasis.

Contributions of each author

Author 1 - Yao Lin.

Author 2 - Jianfeng Ding.

Author 3 - Yufu He.

Author 4 - Manting Zhang.

Author 5 - Jingqi Zhang.

Author 6 - Haotian Zhong

Author 7 - Qinghua Liu.

Author 8 - Junbing He.

Note: We add JianFeng Ding as one of the lead authors because he made important contributions in the later article writing and design. Jingqi Zhang and Haotian zhong were also listed as one of the authors due to their contributions.