

DRAFT ABSTRAK SYSTEMATIC REVIEW

**PEMBROLIZUMAB IN THE TREATMENT OF HEMATOLOGIC
MALIGNANCIES: A SYSTEMATIC REVIEW**

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Background: Leukemia, a type of hematologic malignancy, presents significant treatment challenges due to its complex pathophysiology and the mechanisms that allow cancer cells to evade immune surveillance. One of the major obstacles in leukemia therapy is the inhibition of the programmed cell death protein 1 (PD-1) pathway, which plays a critical role in suppressing the immune response against malignant cells. Pembrolizumab, a monoclonal antibody targeting PD-1, has emerged as a promising targeted immunotherapy with demonstrated efficacy in various cancers. This study aims to evaluate Pembrolizumab's efficacy and safety for various hematologic malignancies.

Methods: This study was conducted following the Synthesis without meta-analysis (SWiM) guideline. We conducted a systematic database search using a predetermined search query in PubMed, Cochrane Central Library, and Google Scholar. Ten independent reviewers screened articles for eligibility according to the inclusion criteria and assessed each study's risk of bias using the Cochrane Collaboration Tool and CASP.

Results: Four clinical trials and a cohort article have been analyzed in this study. Pembrolizumab is considered safe and is shown to be effective when used in combination therapy for patients with AML, CLL, and CML.

Conclusion: The administration of Pembrolizumab is well-tolerated and demonstrates strong effectiveness when used in combination therapy for patients with leukemia. To reinforce these findings, further investigation with the next level of clinical trials and various regimens is needed.

Keywords: Immunotherapy, Leukemia, PD-1 inhibitor, Pembrolizumab

DRAFT ABSTRAK META ANALYSIS

EFFICACY OF VAGUS NERVE STIMULATION IN MANAGING IRRITABLE BOWEL SYNDROME: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: Irritable bowel syndrome (IBS) is a common gastrointestinal disorder characterized by abdominal pain and altered bowel habits. Conventional treatments often have limited efficacy and side effects. Vagus nerve stimulation (VNS) has emerged as a potential non-invasive neuromodulation therapy to alleviate IBS symptoms through modulation of autonomic and gastrointestinal functions.

Objective: This study aims to evaluate the effectiveness of VNS in managing clinical symptoms of IBS.

Methods: This study was conducted following the PRISMA guideline. We conducted a systematic database search using a predetermined search query in PubMed, Cochrane Central Library, and Google Scholar. Ten independent reviewers screened articles for eligibility according to the inclusion criteria and assessed each study's risk of bias using the Cochrane RoB 2.0. Outcomes assessed included changes in constipation frequency, abdominal pain scores, quality of life, IBS symptom severity, and mechanistic biomarkers related to vagal nerve activity and immune modulation. Statistical pooling was conducted to estimate the overall effect sizes.

Results: Three clinical trials have been analyzed in this study. VNS significantly decreased abdominal pain assessed by visual analog scale scores (Mean Difference=-1.82; 95%CI -2.34,-1.30; p=<0.001) and increased complete spontaneous bowel movements per week. Improvements were also observed in quality of life and overall IBS symptom scores.

Conclusion: VNS is an effective and safe adjunct treatment for reducing abdominal pain, improving bowel habits, and enhancing quality of life in patients with IBS. Future large-scale randomized trials are warranted to further validate these findings and elucidate detailed mechanistic pathways.

Keywords: irritable bowel syndrome, neuromodulation, taVNS, vagus nerve stimulation