The Association between Inflammatory Diet and Infection-Related Cancers in Adults: A Systematic Review

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INTRODUCTION

- Approximately 12.1% of cancer cases worldwide were attributed to infections.
- Inflammation resulting from persistent infections initiates and promotes carcinogenesis.
- Various types of dietary patterns have different effects on cancer outcomes.
- Though evidence suggests a link between dietary patterns and infection-related cancers, a comprehensive systematic review exploring this association across various types of cancers is lacking.

OBJECTIVE: To investigate the relationship between inflammatory dietary patterns and infection-related cancers in adults.

METHODS

- Example search term includes: [(diet OR inflammation) AND (inflammation OR interleukin 6) AND [cervical OR liver OR gastric] AND (cancer OR neoplasm)], all animal-related studies were excluded.
- Used Covidence systematic review platform, discrepancies were resolved with input from a third reviewer.

RESULTS

- 3,633 studies were screened, 19 met the eligibility criteria and were included in the analysis.
- All studies indicated pro-inflammatory diet was linked to an increased risk of infection-related cancers, including gastric (ORs= 1.17-4.60), cervical (ORs= 1.17-3.14), and liver (ORs= 1.28-3.22) cancers.
- Mean study quality score was 7.4/10

DISCUSSION

- There is a more consistent association between diet and infection-related cancer than the cancers were located at the same anatomic site as the infection (e.g., cervix, liver, and gastric), as opposed to non-localized site infection-related cancers (e.g., lymphoma).
- There were some differences by sex (e.g. three studies showed a stronger association between diet and gastric cancer risk in females compared to males).
- To our knowledge, this is the first systematic review examining the association between various infection related cancers and dietary patterns.

CONCLUSIONS

Pro-inflammatory diet is positively associated with risk of infection-related cancers. Future interventions should focus on translating these findings to behavioral modification strategies that encourage anti-inflammatory diets to reduce the risk of infection-related cancers.

CONTACT INFORMATION

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