

INPLASY PROTOCOL

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None.

The Challenge of Primary Gastric Melanoma: A Systemic Review

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Review question / Objective: A systematic review to compare the one year survival of patients diagnosed with primary gastric melanoma who undergo surgery compared to those who do not undergo treatment.

Condition being studied: Primary Gastric melanoma, a form of mucosal melanoma which arises from the mucosa of the stomach.

Information sources: PubMed database, google scholar, and Europe PMC.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 07 July 2020 and was last updated on 07 July 2020 (registration number INPLASY202070020).

INTRODUCTION

Review question / Objective: A systematic review to compare the one year survival of patients diagnosed with primary gastric melanoma who undergo surgery compared to those who do not undergo treatment.

Condition being studied: Primary Gastric melanoma, a form of mucosal melanoma which arises from the mucosa of the stomach.

METHODS

Search strategy: A literature search for studies published was conducted using the PubMed database, google scholar, and Europe PMC. The search terms used were "primary gastric melanoma" OR "gastric melanoma" OR "melanoma of the stomach" OR "gastrointestinal melanoma".

Participant or population: Adult patients (>18 year) diagnosed with primary gastric

melanoma defined as patients diagnosed with in situ melanoma within the stomach without presence of cutaneous disease. Excluded were patients with gastrointestinal metastases from sites of cutaneous melanoma.

Intervention: Patients undergoing surgical treatment with curative intent.

Comparator: Non surgical patients.

Study designs to be included: Single case reports and case series. Excluded are review papers, book chapters, and studies not found in the English language.

Eligibility criteria: Adult patients diagnosed with primary gastric melanoma.

Information sources: PubMed database, google scholar, and Europe PMC.

Main outcome(s): Main outcome measurable is one year survival post diagnosis of primary gastric melanoma.

Additional outcome(s): Overall survival will also be measured.

Quality assessment / Risk of bias analysis: Using the tool provided by Murad et al⁴ for the methodical assessment of case reports we reviewed each of these cases, 34 met the criteria score of greater than 4 using the scoring tool based on four categories of selection, ascertainment, causality, and outcome. Given the rarity of gastric melanoma and the limited number of cases available in the literature it was not possible to adequately assess exposure between articles.

Strategy of data synthesis: The search results were screened using title, abstract, and full text to identify papers discussing primary gastric melanoma. These studies were examined for patient age, sex, endoscopic features of melanoma, treatment, histological features, and mortality. Major outcomes for the studies were mortality, 12 month survival, and surgery. All data will be extrapolated and stored in an excel spreadsheet. Any

disagreements in inclusion of studies following review of search results will be discussed between researchers. Where there is no agreement between the researchers the senior authors will provide adjudication.

Subgroup analysis: Patients will be split into groups based on disease at initial diagnosis to compare survival: primary disease in situ, regional lymph node metastasis, and distal metastasis. We will also examine patients who undergo surgical treatment alone or in combination with immuno or chemotherapy. These groups will be compared with control groups who do not undergo treatment and with a group who are offered chemotherapy or immunotherapy without surgery.

Sensitivity analysis: Given the low number of cases and defined outcome sensitivity analysis is not expected to influence our results.

Language: English language only.

Country(ies) involved: Ireland.

Keywords: Gastric melanoma; stomach; gastrointestinal cancer; neoplasm; malignant melanoma; surgery.

Contributions of each author:

Author 1 - Gregory Mellotte - Drafted manuscript, developed search protocol, reviewed search results and papers for inclusion.

Author 2 - Diya Sabu - Drafted manuscript, reviewed search results for inclusion.

Author 3 - Mary O'Reilly - Contributed to selection criteria and provided insight on selection criteria.

Author 4 - Anthony O'Connor - The author provided statistical expertise, helped develop the risk of bias strategy.

Author 5 - Ray McDermott - The author helped draft the manuscript, provided feedback the final manuscript.

Author 6 - Barbara M Ryan - The author read, provided feedback and approved the final manuscript.