

## Factors Affecting Treatment Resilience in Patients with Oesophago-Gastric Cancers Undergoing Palliative Chemotherapy: A Literature Review

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**Abstract :** Introduction: Oesophago-gastric (OG) cancers are the fifth commonest in the UK, accounting for over 12,000 deaths each year. Most patients will present at later stages of the disease, with only 21% of patients with stage 4 disease surviving longer than a year. As a result, many patients are unsuitable for curative surgery and instead receive palliative treatment to improve prognosis and symptom burden. However, palliative chemotherapy can result in significant toxicity: almost half of the patients are unable to complete their chemotherapy regimen, with this proportion rising significantly in older and frailer patients. In addition, clinical trials often exclude older and frailer patients due to strict inclusion criteria, meaning there is limited evidence to guide which patients are most likely to benefit from palliative chemotherapy. Inappropriate chemotherapy administration is at odds with the goals of palliative treatment and care, which are to improve quality of life, and this also represents a significant resource expenditure. This literature review aimed to examine and appraise evidence regarding treatment resilience in order to guide clinicians in identifying the most suitable candidates for palliative chemotherapy. Factors influencing treatment resilience were assessed, as measured by completion rates, dose reductions, and toxicities. Methods: This literature review was conducted using rapid review methodology, utilising modified systematic methods. A literature search was performed across the MEDLINE, EMBASE, and Cochrane Library databases, with results limited to papers within the last 15 years and available in English. Key inclusion criteria included: 1) participants with either oesophageal, gastro-oesophageal junction, or gastric cancers; 2) patients treated with palliative chemotherapy; 3) available data evaluating the association between baseline participant characteristics and treatment resilience. Results: Of the 2326 papers returned, 11 reports of 10 studies were included in this review after excluding duplicates and irrelevant papers. Treatment resilience factors that were assessed included: age, performance status, frailty, inflammatory markers, and sarcopenia. Age was generally a poor predictor for how well patients would tolerate chemotherapy, while poor performance status was a better indicator of the need for dose reduction and treatment non-completion. Frailty was assessed across one cohort using multiple screening tools and was an effective marker of the risk of toxicity and the requirement for dose reduction. Inflammatory markers included lymphopenia and the Glasgow Prognostic Score, which assessed inflammation and hypoalbuminaemia. Although quick to obtain and interpret, these findings appeared less reliable due to the inclusion of patients treated with palliative radiotherapy. Sarcopenia and body composition were often associated with chemotherapy toxicity but not the rate of regimen completion. Conclusion: This review demonstrates that there are numerous measures that can estimate the ability of patients with oesophago-gastric cancer to tolerate palliative chemotherapy, and these should be incorporated into clinical assessments to promote personalised decision-making around treatment. Age should not be a barrier to receiving chemotherapy and older and frailer patients should be included in future clinical trials to better represent typical patients with oesophago-gastric cancers. Decisions regarding palliative treatment should be guided by these factors identified as well as patient preference.

**Keywords :** frailty, oesophago-gastric cancer, palliative chemotherapy, treatment resilience

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