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INFLUENCE OF PHYSICAL ACTIVITY LEVEL ON THE DEVELOPMENT OF CHEMOTHERAPY-INDUCED PERIPHERAL NEUROPATHY: PRELIMINARY DATA

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Background:
Chemotherapy-induced peripheral neuropathy (CIPN) is a side effect of the administration of oxaliplatin, a neurotoxic agent, which causes dysfunction of peripheral neurons and interferes with quality of life. Pharmacological therapies have shown limited efficacy in controlling symptoms, leading to the exploration of physical exercise as a therapeutic alternative. Additionally, patient's physical activity level has been identified as a factor important for treatment tolerance, quality of life, and potentially, mitigating CIPN symptoms. However, the relationship between pre-chemotherapy physical activity levels and incidence and progression of CIPN symptoms remains poorly understood, particularly in patients with advanced colorectal cancer receiving oxaliplatin-based chemotherapy.

Aim:
To assess whether physical activity levels prior to chemotherapy influences the progression of CIPN symptoms across three cycles of oxaliplatin-based chemotherapy.

Methods:
Ten patients diagnosed with advanced colorectal cancer (stages III and IV), with a mean age of 63.5 ± 9.5 years, were evaluated. Physical activity levels were assessed at baseline using the International Physical Activity Questionnaire - Short Version (IPAQ-SV), and CIPN symptoms were assessed using the Chemotherapy-Induced Peripheral Neuropathy Assessment Tool (CIPNAT) at baseline and throughout three subsequent chemotherapy cycles.

Results:
Of the 10 patients evaluated, 7 were classified as sedentary or insufficiently active, who presented a progression of CIPN symptoms throughout the cycles. A significant increase in CIPN symptoms between cycles 1 and 3 ($p < 0.05$) was observed in these 7 patients, suggesting neurotoxicity in this cohort. In contrast, the three patients classified as active did not experience a significant increase in symptoms over the same period ($p > 0.05$).

Conclusions:
Our preliminary data suggest that pre-chemotherapy physical activity levels may modulate the development of CIPN symptoms. These findings underscore the need for confirming this association and investigating the effects of structured exercise training as a potential non-pharmacological strategy to prevent and/or manage these symptoms.

Keywords

Colorectal Cancer, PHYSICAL ACTIVITY LEVEL, CIPN, chemotherapy

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

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