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Letter to the Editor

Comment on "Muscle wasting and survival following pre-operative chemoradiotherapy for locally advanced rectal carcinoma"

Keywords:
Muscle wasting
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Quality of life
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Exercise
Survival

Dear Editor

The article of Levolger and colleagues addressed the association of muscle wasting and survival in patients with locally advanced rectal carcinoma, undergoing neoadjuvant chemoradiotherapy (NACRT) [1]. The authors found that decreased skeletal muscle mass during NACRT for T3-T4 cancers was associated with decreased disease-free survival and distant metastasis-free survival. Furthermore, patients with higher muscle mass pre-NACRT had documented increased loss. Though, no association between skeletal muscle mass changes and clinical cancer staging was found and increased muscle loss was not associated with decreased overall survival. Since NACRT is the treatment of choice in patients with locally advanced rectal carcinomas, this study will help in the early identification of patients with worst prognosis.

Following this conclusion verbatim, we noticed that the association of cancer cachexia and muscle wasting with decreased patients' survival has been documented in oncology. Recent literature focuses on developing novel drugs that can alter molecular pathways involved in tumor cachexia [2]. Pharmaceutical agents can definitely help us reverse this association, though is this the only consideration to make when treating oncologic patients with muscle wasting?

More confounding factors that should be considered are:

1) Quality of Life (QoL)
2) Immune system
3) Exercise

To start with, advanced disease nature promotes a reduced QoL, severely affecting patients' appetite, leading to muscle and fat catabolism, and reducing patients' compliance. Better QoL has been strongly related to increased survival in colorectal cancer patients. These interactions have led to the recognition of loss of appetite and affected emotional state as predictors of survival and oncology trials now focus on addressing them [3]. There is also growing evidence that emotional state and depression affect major clinical outcomes in cancer patients, through their interaction with immune functions. The immune system affects colorectal cancer prognosis. Increased T-cell cytotoxicity and tumor infiltration, by CD8+ and natural killer (NK) cells, improve patient survival. Apart from the chemotherapy and advanced-disease induced immunosuppression, depression itself is found to impair these anti-tumor effects, reducing NK cells [4]. Furthermore, increased exercise has been associated with an improved QoL, reduced depression and anxiety. Physical activity helps patients retain their muscle mass and reduces tumor recurrence and mortality in patients with colorectal cancer diagnosis [5]. Exercise duration is important to be included in studies involving follow-up of oncologic patients and physicians should incorporate exercise in their treatment plan.

To sum up, we congratulate the authors for their contribution to surgical oncology of rectal cancer that underlines muscle wasting as a prognostic marker of patient survival. Though, we believe that if we include all the above factors, together with muscle wasting, in a multivariate analysis, depression and reduced emotional state would be raised as independent prognostic factors of survival. Depression undermines health, long before the neoplastic disease does.

Conflict of interest

None.

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