Assessment of Cancer Patient Frailty: Self-reported Patient Outcomes versus Functional and Laboratory Markers

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Introduction

Patients with a cancer diagnosis can require nutritional, mental health, and functional management for concern about disability and lack of independence. Postoperative morbidity and mortality is influenced by functional dependence, malnutrition, and comorbidities. With movement towards patient-centered care and individual treatment, focus is needed on protecting the patient’s individual goals. However, a lack of literature exists on patient reported outcomes and universally standardized prehabilitation program assessment and treatment. More information is needed on the relationship between reported independence and functional measurements, nutritional markers, and frailty score. This study will attempt to determine that relationship.

Methods

A retrospective review of 107 patients who are enrolled in preoperative prehabilitation at a single tertiary referral center was conducted. Primary outcome was the correlation between each PROMIS physical score, PROMIS mental score, and PHQ2 depression questionnaire all at initial visit with:

- timed-up-and-go (TUG)
- Grip Strength right
- Grip Strength left
- Albumin
- Prealbumin
- hemoglobin
- American Society of Anesthesiology Score (ASA)
- Eastern Cooperative Oncology Group Performance Score (ECOG)
- Charlson comorbidity index (CCMI)

Results

<table>
<thead>
<tr>
<th>(Correlation coefficient, p-value)</th>
<th>PROMIS physical score</th>
<th>PROMIS mental score</th>
<th>PHQ-2 Depression score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timed up-and-go (s)</td>
<td>NS</td>
<td>-0.51, 0.005</td>
<td>NS</td>
</tr>
<tr>
<td>Grip strength (R) (kg)</td>
<td>0.39, 0.02</td>
<td>0.54, 0.001</td>
<td>NS</td>
</tr>
<tr>
<td>Grip strength (L) (kg)</td>
<td>0.46, 0.02</td>
<td>0.52, 0.001</td>
<td>NS</td>
</tr>
<tr>
<td>Frailty Score</td>
<td>NS</td>
<td>-0.46, 0.02</td>
<td>NS</td>
</tr>
<tr>
<td>Prealbumin (mg/dL)</td>
<td>0.35, 0.049</td>
<td>0.45, 0.009</td>
<td>NS</td>
</tr>
<tr>
<td>Hemoglobin (g/dL)</td>
<td>NS</td>
<td>0.47, 0.003</td>
<td>NS</td>
</tr>
</tbody>
</table>

Discussion and Conclusions

A relationship was shown between PROMIS physical score and grip strength and prealbumin; PROMIS mental score with TUG, Grip strength, prealbumin and hemoglobin. These relationships indicate value in obtaining patient-reported outcomes to understand the relationships of measures of frailty to help with optimization prior to surgery. The association of the mental health score to physical measures is seen in this study and demonstrates importance in addressing mental health in patients enrolled in prehabilitation. The lack of correlation of PHQ2 score could signify that depression is not the primary mental health burden in cancer patients.

References