Comprehensive Physical Therapy Management of a Patient with Decreased Shoulder Function and a History of Breast, Lung, and Oral Cancer: A Case Report
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Background and Purpose
- Multiple primary cancers are uncommon in the same individual with an incidence rate of 2–17%.1
- Surgery, chemotherapy, endocrine therapy, and radiation may result in immediate and/or long-term effects on the musculoskeletal, cardiopulmonary, nervous, and integumentary systems potentially resulting in decreased functional mobility and quality of life (QOL) for the individual.2,3
- The purpose of this case report was to describe a comprehensive physical therapy (PT) plan using manual therapy and therapeutic exercises in the management of decreased shoulder function for a patient with a history of breast, lung, and oral cancers.

Background of Cancer History

<table>
<thead>
<tr>
<th>Region</th>
<th>Pathology</th>
<th>Staging</th>
<th>Surgery</th>
<th>Radiation Oncology</th>
<th>Medical Oncology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right Breast</td>
<td>Invasive ductal adenocarcinoma</td>
<td>Iia</td>
<td>Lumpectomy; Lymph Node Biopsy</td>
<td>External Beam Radiation</td>
<td>Chemotherapy; Carboplatin and Paclitaxel</td>
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<tr>
<td>Right Lung</td>
<td>Non-small cell carcinoma</td>
<td>Ii</td>
<td>Lobectomy of Right Upper and Middle Lobes</td>
<td>External Beam Radiation</td>
<td>Chemotherapy; Carboplatin and Paclitaxel</td>
</tr>
<tr>
<td>Root of Tongue</td>
<td>Non-small cell carcinoma</td>
<td>III</td>
<td>Biopsy</td>
<td></td>
<td>Cisplatin</td>
</tr>
</tbody>
</table>

Case Description
- 71-year-old married female, retired nurse

PMH:
- Osteoarthritis of C6, depression, and osteoporosis.
- Prior smoking history (approximately two packs per week for 25 years) but quit after breast and lung cancer diagnoses.

Main Concerns:
- Decreased range of motion (ROM) of her right upper extremity (RUE) and neck, decreased strength in her RUE, and constant sharp pain in her neck and RUE affecting her ability to complete activities of daily living.

Episode of Care Timeline
The patient is a 71-year-old female with a past medical history significant for multiple primary cancers, arthritis of C6, depression, and osteoporosis.

- Initial diagnosis of stage I invasive ductal carcinoma of the right breast.
- Diagnosed with stage III non-small cell carcinoma of the root of the tongue.
- Onset of Symptoms: Pain and decreased ROM
- Day 0
- 2-3 weeks post initial evaluation
- 3-9 weeks post initial evaluation
- 7 years prior to initial evaluation

Interventions
Following discharge, she planned to continue exercising and work with a personal trainer at the facility.

Outcomes

<table>
<thead>
<tr>
<th>Outcomes</th>
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</thead>
<tbody>
<tr>
<td>Cervical Spine ROM: Daily use of RUE to promote function and decrease pain.</td>
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<tr>
<td>Functional exercises to improve strength of RUE</td>
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<tr>
<td>Patient Reported Outcomes</td>
</tr>
<tr>
<td>Numeric Pain Rating Scale</td>
</tr>
<tr>
<td>M:10, 1 - aching</td>
</tr>
<tr>
<td>ER:68</td>
</tr>
<tr>
<td>Flexion: 23°</td>
</tr>
<tr>
<td>Extension: 15°</td>
</tr>
<tr>
<td>Sidebend: Right: 19°, Left: 6°</td>
</tr>
<tr>
<td>Rotation: Right: 46°, Left: 44°</td>
</tr>
<tr>
<td>Shoulder: Active Range of Motion</td>
</tr>
<tr>
<td>M:10, 1 - aching</td>
</tr>
<tr>
<td>Pain:*; Degrees: 3°; 10; R: internal rotation; ER: external rotation; UEFS: Upper Extremity Functional Scale; 3= fair; 4= good; R: at rest; M: With movement</td>
</tr>
</tbody>
</table>

Figure 2

Figure 3

Figure 4

Figure 1

Discussion
- The patient had improvements in strength, ROM, pain, and function over 9 visits.
- Patients tend to be physically inactive due to cancer and cancer treatment-related side effects.4
- Physical activity should be considered the cornerstone of every cancer survivors’ life to increase QOL; however, there continue to be obstacles to patients receiving skilled PT and engaging in safe physical activity.5,6,7,8
- The use of appropriate pathways to provide proper screening and referral to rehabilitation can potentially help mitigate future occurrences of late effects and impairments leading to decreased QOL for cancer survivors.5,6,7,8

Limitations
Limitations to this case report were the inability to obtain a full pathological report, and exact details on radiation and chemotherapy treatment (i.e. dosages, frequency, etc.)

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References

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