Comprehensive Physical Therapy Management of a Patient with Decreased Shoulder Function and a History of Breast, Lung, and Oral Cancer: A Case Report

Andrew Chongaway, BS, DPT Student, and Amy J. Litterini PT, DPT
Doctor of Physical Therapy Program, University of New England, Portland, Maine

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.

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.

During the staging workup for breast cancer, stage IIa non-small cell adenocarcinoma of right upper and middle lobes of the lung was detected.

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
- 9 weeks post initial evaluation

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

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.

Outcomes

Table: Cervical Spine: Active Range of Motion

<table>
<thead>
<tr>
<th>Initial Evaluation</th>
<th>Discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexion</td>
<td>23°</td>
</tr>
<tr>
<td>Extension</td>
<td>19°</td>
</tr>
<tr>
<td>Sidebend</td>
<td>Right: 19°; Left: 6°</td>
</tr>
<tr>
<td>Rotation</td>
<td>Right: 46°; Left: 44°</td>
</tr>
</tbody>
</table>

Interventions
- Interventions with focus on decreasing pain and improving cervical spine and right shoulder active ROM
- Interventions with focus on improving functional mobility and increasing strength

Discharge from skilled PT

Outcomes

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 survivor’s life to increase QOL; however, there continue to be obstacles to patients receiving skilled PT and engaging in safe physical activity.5,6,7
- 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.6,7

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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Contact Information: achongaway@une.edu Twitter: @achongaway

References

Figure 1: Progression of Treatment

Figure 2: Home Exercise Program

Figure 3: Therapeutic Exercises

A. Active Assisted ROM
B. Resisted Rows
C. Resisted Band Pull Apart
D. Resisted Scapular Wall Slide
E. Functional Resisted Flexion/Extension
F. Resisted Flexion in Supine

Figure 4: Performance-Based and Patient Reported Outcomes

Intervention: Soft Tissue Mobilization
Muscle Energy Technique
ROM of Cervical Spine and Shoulders
Aquatic Therapy
Therapeutic Exercises

Aquatic Exercise: Case Description