Improving Function and Fatigue for a Patient Status Post Thoracoabdominal Resection of a Gastric Tumor and Chemotherapy: A Case Report

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Abstract & History

Background
• A gastrointestinal stromal tumor (GIST), a type of stomach cancer, occurs when abnormal cells develop in the tissue of the gastrointestinal tract.
• Stomach cancer is a relatively rare carcinoma that is often not detected until later stages.

Purpose
• Document the physical therapy approach for a deconditioned patient due to resection of a malignant stomach tumor and both neoadjuvant and adjuvant chemotherapy.

Case Description
• 36-year-old male
• Status post left thoracoabdominal resection of a malignant stomach tumor including a partial gastrectomy and splenectomy.
• At least Stage III B Stomach Cancer.
• 18cm diameter tumor in stomach, esophagus, and spleen discovered during imaging for stomach ulcer.
• Patient received two months of neoadjuvant chemotherapy prior to tumor resection.
• Patient presented to outpatient PT two months post tumor resection.

Patient History and Systems Review
• Past Medical History: type 2 diabetes, hypertension, bilateral knee pain and seizures.
• Patient Complaints: bilateral UE weakness, decreased trunk ROM, decreased UE ROM, and generalized fatigue.
• Activity Limitations: walking >10 minutes, cooking, eating solid food, cleaning, family time, and driving >30 minutes.
• Functional Limitations: inability to work and/or play with his children.
• Patient Social History: employed as a second grade teacher prior to diagnosis, married; the father to two young girls; led a mildly sedentary life.

Figure 1: Gastrointestinal Tract


Purpose
• Sedentary life to diagnosis; married; the father to two young girls; led a mildly sedentary life.

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Tests and Measures

Range of Motion
• Trunk: Limited active motion in all directions most notably left rotation and extension.
• Upper Extremities: Limited active and passive motion with bilateral internal rotation and left flexion.

Manual Muscle Testing

Upper Extremity

Shoulder Abduction | Shoulder Flexion | Shoulder External Rotation | Shoulder Internal Rotation | Elbow Extension | Elbow Flexion
---|---|---|---|---|---
Left | 4/5 | 4+/5 | 4/5 | 4/5 | 4+/5 | 4+/5
Right | 4/5 | 4+/5 | 4/5 | 4/5 | 4+/5 | 4+/5

Observations and Subjective
• Posture: Moderate forward head with guarded rounded shoulders.
• Palpation of Incision: Tenderness with complaint of 1/10 pain and mild fibrosis.

Numerical Pain Rating Scale

Initial Evaluation = 4/10
Re-Evaluation = 3/10

Numerical Fatigue Rating Scale

Initial Evaluation = 52.94%
Re-Evaluation = Not Performed

Short Musculoskeletal Functional Assessment

Initial Evaluation = 52.94%
Re-Evaluation = Not Performed

Diagnosis & Prognosis

Diagnosis
• Medical: Malignant gastrointestinal stromal tumor of the stomach.
• Physical Therapy: Generalized muscle weakness and abdominal pain.

Prognosis
• Good prognosis for improved range of motion, strength, and pain.
• Fair prognosis for improved fatigue.

Interventions

1. Increasing Range of Motion
2. Generalized Conditioning
3. Upper Extremity Strengthening
4. Upper Extremity and Core Range of Motion
5. Trunk Range of Motion & Generalized Conditioning
6. Generalized Conditioning

Interventions (Cont.)

Home Exercise Program
• Core strengthening once per day and upper extremity and core stretching twice per day.

Outpatient Physical Therapy
• Total of 15 visits over a six week period.
• Length of sessions gradually increased from less than 30 minutes to greater than 90 minutes.

Outcomes: Re-Evaluation at Six Weeks

Range of Motion
• Trunk: Mildly limited active motion in extension with all other trunk motions within normal limits.
• Upper Extremities: Mildly limited left shoulder active and passive flexion, left internal rotation equal to right.

Manual Muscle Testing
• Upper Extremities: All bilateral measurements at full strength of 5/5.

Observations and Subjective
• Posture: Mild forward head with mildly rounded shoulders.
• Palpation of Incision: Tenderness with 0/10 pain and minimal fibrosis.

Discussion

Patient Progress
• Overall, good progress made in first 6 weeks of outpatient PT despite diagnosis and subsequent cancer treatments.
• Self reported decrease in pain and fatigue, despite adjuvant chemotherapy treatments.
• GIST is rare and literature on research is limited.
• Future research is needed to support the outcomes of this case report.

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References and Image Sources

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Image Sources: