Interdisciplinary Treatment of Chronic Pain in a Patient with Post-Traumatic Stress Disorder Using Battlefield Acupuncture and Physical Therapy Intervention: A Case Report
Alyssa Reidy, SPT, LAT, ATC
Ellen Donald, PhD, PT ; Arie van Duijn, EdD, PT, OCS
Florida Gulf Coast University, Department of Rehabilitation Sciences, Fort Myers, FL, USA

**Introduction**

Post traumatic stress disorder (PTSD) is a mental health disorder caused by a significant stress response of a perceived traumatic event. Symptoms of PTSD include ongoing re-experiences of the traumatic event, avoidance of triggering stimuli, and hyper aroused states. Patients with PTSD may experience chronic pain as a result of dysregulation of neurobiological substrates altering pain transduction pathways and pain processing mechanisms mediated by the central nervous system. Substance abuse is a common problem in patients with PTSD to manage both physical and emotional symptoms. Battlefield acupuncture (BFA), a subset of acupuncture available only to active and veteran military personnel, may be an alternative tool to manage pain for more effective physical therapy treatment of chronic pain.

**Clinical Impression**

- Diagnosis: ICF—neck pain with mobility deficits and low back pain with movement coordination impairments
- Problem List: soft tissue dysfunction, postural imbalances, poor biomechanics, core weakness, and poor motor planning of core and postural muscles
- Examination findings indicated cervical and lumbar musculoskeletal impairments as the structural cause of functional limitations
- Prognosis of the patient was complicated by fear avoidance behaviors in anticipation of pain and hyper reactive neural response to painful stimuli, likely associated with PTSD
- Patient was referred for BFA treatment in conjunction with PT intervention after 5 PT visits without improvement as an alternative for pain management
- Patient began BFA after 10 PT visits due to scheduling limitations of a shared medical appointment

**Patient History/ Systems Review**

- 57 y.o. male with chronic neck and low back pain
- Symptoms increase with functional movement, including bed mobility, transfers, pushups, pullups, pull downs, and sit ups, limiting his ability to engage in physical exercise
- PMH: BMI 30, PTSD, sleep disorder, impaired fasting glucose, hyperlipidemia, benign prostatic hyperplasia, gastroesophageal reflex disease, sacroiliac inflammation, shoulder joint pain, chronic low back pain, history of colon poly, umbilical hernia, and seborrheic dermatitis
- Prescription opioids were contraindicated in this patient due to history of chronic substance abuse

**Examination**

- Completed ND1 and Oswestry each scored 25/50 (50%), indicating severe disability each
- General limitation of cervical and lumbar segmental mobility and pain with cervical and lumbar AROM
- Weakness in C6-C7 and L4-L5 key muscles, diminished C7 DTR BIL
- Cervical soft tissue dysfunction with active trigger points BIL and postural imbalances
- Core weakness and poor motor planning demonstrated by double leg lowering test
- Excessive pain with functional movement upon observation

**Outcomes**

<table>
<thead>
<tr>
<th>Cervical Range of Motion</th>
<th>Initial PT Evaluation</th>
<th>Post-PT Intervention (10 visits)</th>
<th>Post-BFA + PT Intervention 1</th>
<th>Post-BFA + PT Intervention 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexion</td>
<td>15°</td>
<td>15°</td>
<td>20°</td>
<td>25°</td>
</tr>
<tr>
<td>Extension</td>
<td>15°</td>
<td>15°</td>
<td>15°</td>
<td>15°</td>
</tr>
<tr>
<td>Left side bending</td>
<td>15°</td>
<td>15°</td>
<td>10°</td>
<td>10°</td>
</tr>
<tr>
<td>Right side bending</td>
<td>15°</td>
<td>15°</td>
<td>10°</td>
<td>10°</td>
</tr>
<tr>
<td>Left rotation</td>
<td>20°</td>
<td>20°</td>
<td>25°</td>
<td>25°</td>
</tr>
<tr>
<td>Right rotation</td>
<td>20°</td>
<td>20°</td>
<td>30°</td>
<td>30°</td>
</tr>
</tbody>
</table>

**Discussion**

- The patient reported less pain and demonstrated improved quality of functional movement after 3 BFA treatments with 2 subsequent PT interventions
- This case is limited by restricted access to patient records after this case report to see full results with additional BFA + PT interventions
- This case reports does not indicate effectiveness of interdisciplinary treatment using BFA and PT intervention to manage chronic pain and improve functional outcomes
- Further research is needed to:
  - further support the efficacy of BFA for managing chronic pain
  - look at longevity of BFA effects
  - determine the average number of BFA treatments needed to see consistent reports of pain control, and
  - determine efficacy in the civilian population

**References**: See Handout with Reference List