Acupuncture to Abdominal Trigger Points as Treatment for Idiopathic Dyspnea: A Case Study

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Background

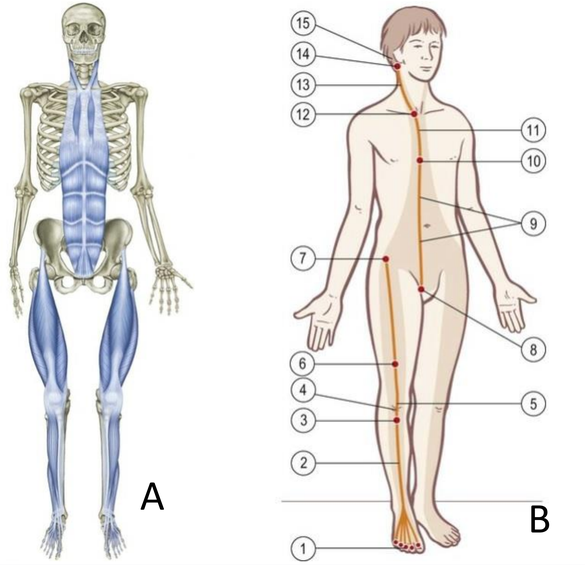
- Dyspnea refers to a subjective sense of discomfort related to respiration[9]
- Treatment often requires addressing the underlying cause which can be neurological, hematologic, psychologic and musculoskeletal disease[9]
- We describe a case of refractory idiopathic dyspnea that completely resolved with acupuncture of abdominal trigger points.

Case Description

- 54 year-old female presented with idiopathic dyspnea and right sided neck and cervical pain with paresthesias
- She displayed excellent exercise tolerance, but was unable to take deep breaths unless lying supine; or when supine or standing she would need to elevate and rotate her right shoulder forward
- Previously treated with course of prednisone and had prior consultations with neurosurgery, cardiology, otolaryngology and sleep medicine
- Prior work up included negative echocardiogram, stress treadmill test, CT Chest, PFTs, thyroid US, LE dopplers and MRI C/T-spine
- Also completed 2 months of exercise-induced laryngeal obstruction biphasic exercises with SLP and 3 months of PT without significant improvement

Exam

- Strength was 5/5 in all myotomes bilaterally with negative Spurling's
- Left cervical rotation and left side-flexion reproduced R sided neck and trapezius pain
- Significant right scapular protraction and depression otherwise unremarkable right scapulothoracic and shoulder examination



A: The Superficial Front Line. **B:** Superficial Front Line Tracks and Stations, 9 indicates rectus abdominus. Reprinted from Anatomy Trains (p.52), by T.W. Meyers, 2021, New York: Elsevier. Copyright Elsevier (2021)

Clinical Course and Treatment

- Initial trial of acupuncture with 9 treatments over 3 months included classical Traditional Chinese medicine theory with needling of BL12 (feng men) and BL13 (fei shu).which are points used for dyspnea and cough.
- Right cervical paraspinal needling at C5-C6
- Dry needling techniques also done to pectoralis minor, infraspinatus and teres minor to help correct scapular protraction and anterior tilt.
- Initial treatment did not provide significant relief of dyspnea
- Palpation revealed significant trigger points found in rectus abdominus during continued treatment

Clinical Course and Treatment

- Mobilization/freeing adhesions where rectus abdominus attaches/abdominal fascia blends into pectoralis can lead to expanded breathing movements[1]
- Treatment of these trigger points led to immediate improvement of breathing for 24 hours
- Additional treatment of rectus abdominus trigger points led to complete resolution of dyspnea

Discussion

- Myofascial trigger points (MTrPs) are hyperirritable taut bands of skeletal muscle fibers that can be palpated
- Exact etiology of MTrPs unknown, Simons has proposed that a series of events ultimately results in severe hypoxia and release of excess sensitizing substances from sustained contractile activity in MTrPs[2].
- Aspects of this hypothesis appear to be supported by current literature[2,3,4,5,6]
- Patient adopted spine flexed/shoulders rounded posture at work which led to sustained shortening of her abdominal muscles and MTrP development.
- This could have led to dyspnea since abdominal expansion is critical to diaphragmatic breathing and abdominal wall MTrPs would limit expansion[7,8]. Her flexed posture also resulted in increased right sided neck and periscapular myofascial pain
- Acupuncture of abdominal MTrPs completely resolved our patient's dyspnea and would represent a simple cost effective treatment if MTrPs are the cause of dyspnea.

References

1. Myers TW 2021 Anatomy Trains Fourth ed
2. Simons DG 2004. J Electromyogr Kinesiol 14, 95-107
3. Simons et al 1976 Am J Phys Med 55, 65-88.
4. Windisch et al 1999 Clin Anat 12, 266-271.
5. Brückle et al. Z Rheumatol 49, 208-216.
6. Shah JP et al 2008 Arch Phys Med Rehabil 89, 16-23
7. De Troyer et al 1988 Clin Chest Med 9, 175-193.
8. Kocjan et al 2017 Adv Respir Med 85, 224-232
9. Wahls SA 2012 Causes and evaluation of chronic dyspnea. Am Fam Physician 86, 173-182.