Introduction to Myofascial Trigger Point Acupuncture

-An Evidence Based Needling Method

www.fisiokinesiterapia.biz
What is a MTrP?

- A point of tenderness in a muscle.
- Stimulation of MTrP may cause pain at a remote region.
- Often associate with a taut band in a muscle.
Causes of MTrP

- Trauma to muscle
- Muscle ischaemia
- Visceral-somatic reflex
- Radiculopathic compression of nerve root
- Anxiety
- Others possible causes
MTrP Related Taut Band

- MTrP usually situated at the centre or terminal of a taut band
- The band disappears when the MTrP is deactivated.
- Caused by dysfunctioning motor endplate / local ischaemia.
- Taut band $\rightarrow$ Latent MTrP $\rightarrow$ Active MTrP
Local Twitch Response (LTR)

- Essentially a spinal reflex
- Stimulation via a sensitized afferent → elicited reflex motor efferent response.
- Essential for diagnosis and treatment
Diagnosis of MTrP Syndrome

► Symptoms
  ▪ Pain
  ▪ Restricted movement
    ► Can be symptom or sign
  ▪ Weakness
    ► Can be symptom or sign
  ▪ Sleep disturbance
  ▪ Peripheral hypothermia
Diagnosis of MTrP Syndrome

► Physical Signs
  - “Jump” or “Shout” sign
  - Pain Reproduction
  - Palpable Taut Band
  - Local Twitch Response
  - Cutaneous & Subcutaneous tissue thickening
Reliability and consistence can be improved through experience and training.

Cardinal signs are:

- Tenderness
- Taut band*
- Local Twitch Response*
- Referred Pain
The Pain Gate Mechanism

► “Stimulation of the large fibres can close the gate for transmission of the smaller fibres.”

► Skin / Muscle Nociceptors
  ▪ A-delta fiber, Group III nociceptors
    ► Myelinated, 1-5um, 5-15m/s
  ▪ C fibre, Group IV nociceptors
    ► Unmyelinated, 0.25-1.5um, 0.5-2m/s
Pain Modulation Mechanism
Pain Modulation Mechanism

- **Endogenous Pain-suppressing Substance**
  - **Opiate receptors**
    - Widely distributed in the brain and spinal cord
    - Their presence, indicate the existence of the endogenous opioid peptides.
  - **Opioid peptides**
    - Morphine-like substance,
    - Enkephalins & dynorphins mainly at limbic structure, periadqueduct grey area, nucleus raphe magnus, substantia gelatinosa → CSF
    - β-endophine secreted from adrenal gland, gut, sympathetic ganglia, peripheral autonomic neurons → Blood
Needling on MTrP

- Wet Needle Vs. Dry Needle
- Needling action is the Key point
- Deep dry needling Vs Superficial dry needling
Deep Dry Needling

- A painful technique
- Insert the needle rapidly into the MTrP
- Elicit the Local Twitch Response (LTR) or soreness / swollen sensation / radiation to the affected area.
- Needle Manipulation
- After treatment soreness
Superficial Dry Needling

- The needle is just subcutaneous, right over the MTrP.

- Working mechanism:
  - Activate Ei interneuron
  - Descending inhibitory systems and DNIC
Superficial Dry Needling

- Insertion of superficial dry needle
  - Stimulation of A-delta sensory fibre
  - Doral horn-situated enkephalinergic inhibitory interneuron
  - Serotonergic & Noradrenergic descending systems
  - Blockage of the intra-dorsal horn passage of MTrP nociceptive information
  - Alleviation of MTrP pain
Superficial Dry Needling

► Minimal sensation technique

► 2 methods:
  ▪ Perpendicular
  ▪ Horizontal

► Perpendicular:
  ▪ Pointing to the MTrP,
  ▪ Insert for 5-10mm
  ▪ Needle manipulation
Superficial Dry Needling

- Horizontal:
  - Horizontally at the subcutaneous tissue right over the MTrP
  - Needle manipulation
Treatment for MTrP Syndrome

1. Assessment: locate the active / latent MTrP’s
2. Deactivate the MTrP
3. Stretching to the affected muscle
4. Advice on correction and prevention
Clean Needle Technique

- Reference

Clean Needle Technique Manual for Acupuncturist

Guideline and Standard for the Clean and Safe Clinical Practice of Acupuncture


www.aomalliance.org
Need for CNT

* Needling treatment always has potential infection hazard.
* Good knowledge in transmission and prevention of infection, e.g. hepatitis, HIV.
Recommendations for Equipment

► Use only: sterile, filiform (solid), disposable needles.

► Appropriate needle package.

► Avoid contamination in needle removal from the package.

► Proper disposal of used needles.

► Cupping devices must be sterilized in chemical disinfectant bath after in contact with patient’s blood. Otherwise, wash with soap and running water.
General Guideline

► Patient positioning:
  ▪ Comfortable and suitable for needling.

► Preparing the site for needle insertion:
  ▪ The area should be clean, free of any cuts, wound or disease,
  ▪ Use 70% alcohol to disinfect the skin,

► Palpating the point:
  ▪ It is acceptable to touch the acupoint after cleaning, with uncontaminated hand.
  ▪ Swabbing the acupuncturist’s fingertips can be a substitute to the second handwash.
Shoulder Pain 1

- **Supraspinatus Muscle**
- MTrP & referred pain:
  - deltoid region,
  - lateral epicondyle,
  - similar to the distribution of C5-C7.
Shoulder Pain 2

- Infraspinatus Muscle
- MTrP & Referred Pain:
  - deep inside the shoulder joint
  - similar to the C5-C7 distribution in the arm.

- Difficulty in Hand-behind-back
Shoulder Pain 3

- **Biceps Brachii Muscle**
- **MTrP & Referred Pain**
  - MTrP usually at the lower portion of the muscle
  - → Pain referred upward to the anterior surface of the shoulder.
- **Biceps Tendinitis**
Points to be noted

- Sound anatomy & pain physiology
- Stimulation should be within patient’s pain tolerance.
- All MTrP’s should be treated in the same session
- Stretch after needling
- Tender spot Vs MTrP