CMAC211

Session 5

The Essential Concept of De Qi

Chinese Medicine

Department
Pre Readings


Qi ≠ Energy

“It should be noted that the interpretation of qi as “energy”, so widespread in TCM literature today, lacks any historical basis.”

Huang Di Nei Jing Su Wen
– Unschuld 2011, p20

Image: Vaterland, 2014
Qi has at least 407 Definitions

• None of these translations is energy
• “No drama exists in content alone, all drama exists in context” – Matt Church 2010
• In your own time watch Andrew Nugent Head’s Daoyin & Chinese Medicine: The Demystifying Qi Seminar
De Qi

• Acupuncture elicits a composite of unique sensations
• De Qi can be felt by the patient as:
  • Suan (aching or soreness)
  • Ma (numbness or tingling)
  • Zhang (fullness, distention or pressure)
  • Zhong (heaviness)
  • Or the less desirable tong (pain sharp)

Yang et al 2013
When and when can it be felt

<table>
<thead>
<tr>
<th>When</th>
<th>Where</th>
</tr>
</thead>
<tbody>
<tr>
<td>When the needle is inserted to a given depth</td>
<td>At site of stimulation</td>
</tr>
<tr>
<td>When the needle is inserted and retained</td>
<td>At (classical) acupuncture points</td>
</tr>
<tr>
<td>During manipulation</td>
<td>Along the channels</td>
</tr>
<tr>
<td>After insertion and manipulation</td>
<td>De Qi has been defined in relation to propagated sensations in the channels</td>
</tr>
<tr>
<td>Temporary and vanish quite quickly after insertion</td>
<td>At the needle site and elsewhere in the channels</td>
</tr>
<tr>
<td>15 seconds after insertion</td>
<td></td>
</tr>
<tr>
<td>1-20 minutes after insertion</td>
<td></td>
</tr>
</tbody>
</table>

Bovey 2006, p19
When and when can it be felt

• Patients experiences deqi very differently because of conditions of constitution, therapists manipulation, direction, depth and angle of needling
• Chinese patients seem to enjoy deqi where many American patients do not.
• Some researchers have coined the phrase “whimpification.” where any sensation is perceived as pain
• Aching seems to be the most common form of deqi
Felt by the Acupuncturist as

- Needle grasping. The tissues surrounding the needle can be tight, tense and full when the de qi has been obtained.
- Sometimes translated as “needle sensation”, the arrival of qi, and “needling response.”
- It's what makes the needle hold in the tissues.
Felt by the Acupuncturist as

- The metaphor of fishing is often used.
- Needle quivering or seeing skin colour changes along the channel.
- Infrared sensors or other instruments have been used.
- By contrast “no deqi the practitioner's hand feels empty as if needling into a void”.

Bovey, 2006 p19
Image: John Flannery 2014
Other physical signs

• Another important feature of deqi is that it often spreads or radiates from the point of its elicitation.

• Called propagated sensation along the meridians (PSM)

• Acupuncture can also contract the intraspindle muscle to produce myoelectricity.

• Secondary impulses that reach the brain produces patient's sensation of needling

Yang, 2013, p2
Image: John Wallach 2015
Other physical signs

• Acupuncture can produce two sensations
• Pain on needle insertion when piercing the skin due to the concentration of nerve fibres and the deqi caused by stimulation of deeper structures
• Sharp pain is considered a noxious stimulus and not deqi. This has been shown via fMRI

Yang, 2013, p2
Image: SMART imagebase, 2016
In the Brain

• FMRI studies have shown that Deqi may deactivate the limbic system whereas noxious stimuli activate this system see work of Hui et al.

• As the sensations of Deqi are varied, it is accepted that deqi involves a multitude of fibre types.
In the Brain

- Hsieh et al. showed by PET scan that elicitation of deqi resulted in significant increase in blood flow in the hypothalamus and insula with an extension to the midbrain when compared minimal or no stimulation at LI4

Image: SMART imagebase, 2016
# Nerve fibres involved in Deqi

<table>
<thead>
<tr>
<th>Afferent nerve fibre</th>
<th>Diameter (µm)</th>
<th>Velocity (m/s)</th>
<th>Function</th>
<th>Acupuncture Sensation</th>
</tr>
</thead>
<tbody>
<tr>
<td>β II myelinated</td>
<td>8-13</td>
<td>40 - 70</td>
<td>Touch, vibration</td>
<td>Numbness</td>
</tr>
<tr>
<td>AY III</td>
<td>4-8</td>
<td>15-40</td>
<td>Touch, pressure</td>
<td>Heaviness, pressure, fullness</td>
</tr>
<tr>
<td>Aδ III</td>
<td>1-4</td>
<td>5-15</td>
<td>Pain, warmth, cold, pressure</td>
<td>Soreness, pressure, pain warmth, cold</td>
</tr>
<tr>
<td>C IV unmyelinated</td>
<td>0.2-1</td>
<td>0.2-2</td>
<td>Pain, warmth, cold pressure, autonomic postsynaptic olfactory</td>
<td>Pain, soreness, warmth, cold, pressure</td>
</tr>
</tbody>
</table>

Zhou, 2014, 187
## Proposed physiological effects

<table>
<thead>
<tr>
<th>TCM Concept</th>
<th>Proposed anatomical/physiological equivalents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acupuncture Channels</td>
<td>Connective tissue planes</td>
</tr>
<tr>
<td>Acupuncture points</td>
<td>Convergence of connective tissue planes</td>
</tr>
<tr>
<td>Meridian Qi</td>
<td>Connective tissue biomechanical/bioelectrical signalling</td>
</tr>
<tr>
<td>Blockage of Qi</td>
<td>Altered connective tissue matrix composition leading to altered signal transduction</td>
</tr>
<tr>
<td>Needle grasp</td>
<td>Tissue winding and contraction of fibroblasts surrounding the needle</td>
</tr>
</tbody>
</table>

Langavin and Yandow, 2002, pp257-65
## Proposed physiological effects

<table>
<thead>
<tr>
<th>Qi</th>
<th>Sum of all body energetic phenomena (e.g. metabolism, movement, signalling, information exchange)</th>
</tr>
</thead>
<tbody>
<tr>
<td>De Qi sensation</td>
<td>Wave of connective tissue contraction and sensory mechanoreceptor stimulation along connective tissue planes</td>
</tr>
<tr>
<td>Restoration of Qi flow</td>
<td>Cellular activation/gene expression leading to restored connective tissue matrix composition and signal transduction</td>
</tr>
</tbody>
</table>

Langavin and Yandow, 2002, pp257-65
Common methods of manipulation

• Appropriate depth for the point, LU7 is a more superficial point than GB30
• The following techniques are not as common as lifting and thrusting and rotation.
• Lift and thrust, rotation and twirling will be the basis of many of your needle technique
• Direction of needle in channel
• Speed of insertion (fast or slow) is also important
• Non retaining needle techniques will be covered in later weeks
Depths of Needling

• Whatever the size of needle you should have one-third of the needle above the skin
# The Techniques to get De Qi

- Once the needle has been inserted what do you do?  

<table>
<thead>
<tr>
<th>Pressing (along the channel)</th>
<th>Rotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flicking</td>
<td>Siphoning</td>
</tr>
<tr>
<td>Scraping</td>
<td>Laying Down</td>
</tr>
<tr>
<td>Wagging</td>
<td>Knocking</td>
</tr>
<tr>
<td>Flying</td>
<td>Rotating</td>
</tr>
<tr>
<td>Shaking/pounding</td>
<td>Plus (more than one needle)</td>
</tr>
</tbody>
</table>

- Can all be done with the needle to manipulate the qi

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Liu, 2005
Promoting Qi

Liu, 2005

Click to see the video
Acupuncture Points are........
The Importance of Intent

AACMA, 1997
Guide tube Insertions

• These are used to minimise sensation on insertion - nerve endings
• For ease of use – it's much easier than freehand insertion
• Remind you not to touch the shaft of the needle – i.e. they remain sterile upon insertion
• Aid in dispersion of pressure at the needling site
• The guide tubes are a couple of mm shorter than the needle, so when the needle is tapped, the needle will be inserted a couple of mm into the patient
Guide tubes

This is a 40mm needle and note the length of the needle in comparison to the guide tube; the difference is about 3mm
Guide tube Insertions

• The majority of points that you insert will be with a guide tube, but this is a personal preference
• You will find that some points will be better done freehand
• We are teaching you this first as once you have some more confidence, free hand needling will be easier
Clean Needle Technique

• The following is a demonstration of Clean Needle Technique

• See the demonstration here

• Standard acupuncture cautions and contraindications apply
Skin Penetration

• The area of skin where needles are to penetrate must be disinfected before penetration (DHS 2004, p.18). Any of the following preparations can be used to disinfect skin (DHS 2004 p.18; CDNS 2004, p. 7-6):
  • 70-80% w/w ethanol
  • 60-70% v/v isopropanol
  • Alcoholic formulations with chlorhexidine (0.5-1% w/v) in 60-70% isopropanol or ethanol
  • Aqueous formulations of chlorhexidine (0.5-4% w/v)
  • 10% w/v aqueous or alcoholic povidone-iodine (1% w/v available iodine)
• Ensure the swabs are individually packaged, or the alcohol solution is applied to a clean swap.
• It may be necessary to clean the area of skin before swabbing should visible dirt be present.
• Once the area to be punctured is disinfected, it cannot be touched without the need to re-disinfect.
• One swab per body area needs to be used, i.e. don’t use the same swab from the feet on the face.

Image: McFarlane Medical Equipment, 2016
Explore the Anatomy

• In class have a look at
  • Visible Body
  • Visible Body Muscle Premium
• Just log in with your Endeavour details

Argosy Publishing, 2015
Practical Component

- Lecturer to demonstrate and students to needle the following points – Pay attention to the intent
  - ST40
  - SP6
  - SJ5
  - SI3
  - LR3
  - GB34
Points for Next week

• We are taking an excise in palpation next week and doing points that lie between different structures
• PC6 between two tendons
• KI6 between two ligaments & another tendon
• GB41 between two bones
• LI10 in the grove in the muscle
• KI7 next to a tendon
• LU7 tendon and a bone
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