The Use of Western Medical Acupuncture in Palliative Care

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Plan
- Definitions
- Use of acupuncture in UK Palliative Care services
- Mechanisms
- Evidence base
- Clinical aspects
- Training in acupuncture

What is acupuncture
- Acus – needle
- Punctura - to prick

What is Western Medical Acupuncture?
- Western medical acupuncture is a therapeutic modality involving the insertion of fine needles
- It is an adaptation of Chinese acupuncture using current knowledge of anatomy, physiology and pathology, and the principles of evidence based medicine.

Acupuncture-like treatments
- Body acupuncture
- Auricular acupuncture
- Electro-acupuncture
- Moxibustion
- Indwelling needles
- Acupressure
- Migrain/vaccaria seeds
- Laser
- Magnetic therapy
- Point stimulators
- TENS
  - HF/LF (standard)
  - LF/HF (acu-like)

Acupuncture in practice
- Primary care
- Physiotherapy
- Osteopathy
- Chiropractic
- Chronic pain
- Maternity
- Addiction
- Palliative Care
- Musculoskeletal pain
- Back pain
- Neck pain
- Shoulder pain
- OA knee
- Migraine
- Tension headaches
- Functional GI disorders
- Bladder instability
Chinese / Western acupuncture

- Yin / Yang / Qi
- Meridians
- Chinese diagnosis
- Traditional philosophy
- Herbs
- Moxibustion
- Neurophysiological
- Western diagnosis
- Segmental
- Trigger points
- Evidence base
- Handout

UK Palliative Care Survey  

- On-line questionnaire
- 263 emails
- 141 responses = 54%

Acupuncture service available?

- Acup available n=76
- In patients 85%
- Day patients 84%
- Out patients 80%
- Pt's Home 26%
- Care homes 15%

N = 129
Acupuncture treatment

- Treated when attending other services - 73%
- Dedicated acupuncture clinic - 23%

Type of acupuncture

- N=74

Where acupuncture not available

- N=53

Evidence base

"The lack of evidence in support of acupuncture prevents greater use of acupuncture in our palliative care service"

- Strongly agree 5 26%
- Agree 28
- Neutral 25
- Disagree 52 51%
- Strongly disagree 32
- Don’t know 4

How does it work?

- Neurotransmitters eg endorphins
- Segmental effects
- Heterosegmental effects
- Wind-up / neuronal plasticity

- 73% agree or strongly agree

- If funding and a suitable practitioner were available, acupuncture would be a useful addition to our service.
Acupuncture analgesia

- requires stimulation of an intact nervous system
- is blocked by:
  - local anaesthesia of the tissue being stimulated
  - nerve section or nerve damage
- Naloxone and six other opiate antagonists
- antibodies to endorphins
- microinjection of naloxone or endorphin antibodies
  - lesioning the periaqueductal grey (PAG)
- is not blocked by dextro-naloxone
- is subject to cross-circulation effects
- is associated with a rise in mRNA for proenkephalin

Segmental Acupuncture Analgesia

- Collaterals in midbrain run from Thalamus and SSC to Periaquaductal Grey (PAG)
- α-endorphin & met-encephalin in PAG mediate enhanced descending inhibition (concentrated at the segment stimulated)

Heterosegmental Acupuncture Analgesia

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Wind up

- Chronic pain
- Central sensitisation
- Increased pain response
- Allodynia / Hyperalgesia / Hyperpathia
- N Methyl D Aspartate (NMDA) receptors

Acupuncture and TENS

- Muscle afferents A6
- Slowly adapting
- Effect builds
- Longer lasting
- Greater effect on ‘Wind Up’
- Treatments weekly/monthly
- Practitioner administered
- Skin afferents Aβ
- Quickly adapting
- Immediate effect
- Wears off
- Less effect on ‘Wind Up’
- Treatments 2-3x /day
- Self administered
Use of acupuncture in palliative care

- Pain
- CIPN
- Nausea
- Breathlessness

- Dry mouth
- Hot flushes
- Fatigue
- Bladder symptoms

Pain

2 Systematic reviews with meta-analysis
- Acupuncture for Pain Management in Cancer: A Systematic Review and Meta-Analysis (Hu 2016)
- 20 RCTs
- Acupuncture plus drug therapy is more effective than conventional drug therapy alone
- Acupuncture alone not superior to drug therapy

Evidence base for acupuncture

- Systematic review Franconi 2013
- 3 RCTs, 3 Case series, 1 case report, 1 animal study
- All studies positive
- Heterogenous interventions, methodologies and outcome measures, small sample sizes, poor/no controls
- Concluded studies suggest a positive effect for acupuncture which would support the planning of higher quality RCTs

In practice - pain

- Acupuncture useful
- If myofascial component to pain
- For ‘difficult’ pain eg neuropathic pain
- For treatment-related pain eg scar / CIPN
- If pain partially/poorly responsive to opioids
- For patients sensitive to drug side effects
- Patient wishes to avoid increases in medication

Chemotherapy Induced Peripheral Neuropathy

- CIPN is a side effect of chemotherapy which causes pain, numbness and tingling in the hands and feet
- It can occur in 30 – 40% of patients having chemotherapy
- Limits CTX treatment – duration and dose
- Symptoms may improve spontaneously – usually within first year after CTX
- Some patients have symptoms which are permanent
- Treatment of symptoms of CIPN with conventional medication is usually unsuccessful

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Systematic review and meta-analysis of acupuncture to reduce cancer-related pain (Chiu 2016)

- 29 RCTs
- Acupuncture is effective in relieving cancer-related pain, particularly malignancy-related and surgery-induced pain

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RCTs
- Xu 2010
  - RCT - 64 patients with CIPN
  - Manual acupuncture
  - Control – Cobamamide (vit B12)
  - Improved symptoms on CIPN questionnaire
- Tian 2011
  - RCT – 76 patients with CIPN
  - Acupuncture and moxibustion
  - Control – Neurotropin IM injections
  - Significantly improved symptoms and quality of life

Neurophysiology study
- Schroeder 2012
  - 6 patients / 5 controls (usual care)
  - Both groups had carbamazepine or pregabalin
  - Weekly acupuncture for 10 weeks
  - Acupuncture group
    - Improved nerve conduction studies in 5
  - Control group
    - 1 improved, 3 no change, 1 worse

Experience treating CIPN in Hospice setting
- 14 Patients with CIPN
  - Treated with acupuncture in last 12 months
  - Had at least 6 treatments
  - Average age 63
  - 8 Female, 6 Male
  - 9 Ca Colon, 5 Ca Breast
  - 9 had Oxaliplatin, 5 had Docetaxel chemotherapy
  - 14 Surveys sent out
  - 12 Responses were received
  - 11 completed symptom scores

Clinical recommendations
- Try acupuncture
  - Common
  - Distressing for patients
  - No effective conventional treatment
- Use points in peripheries
- Stimulation as tolerated
- Persevere – at least 6 treatments
- ?EA
  - Stop when symptoms plateau
  - ?Monthly top-up treatments
  - ?Consider self-acupuncture
  - ?Massage therapies

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<tr>
<th>Before and after acupuncture</th>
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<tr>
<td>Before</td>
<td>After</td>
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<tr>
<td>Difficulty with fine tasks</td>
<td>Difficulty with fine tasks</td>
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<tr>
<td>Dropping things</td>
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<tr>
<td>Burning self due to loss of sensation</td>
<td>Burning self due to loss of sensation</td>
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<td>Stumbling/falls</td>
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<td>Loss of balance</td>
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<td>Loss of sleep</td>
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<td>Reduced activity eg walking</td>
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<td>Depression</td>
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<td>Anxiety</td>
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<td>Tiredness</td>
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<td>Frustration</td>
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<td>Cold feet</td>
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Nausea and Vomiting

- Three positive Cochrane reviews and one other systematic review
  - CTX, pregnancy, surgery
  - 3 RCTs in chemotherapy
  - 2 Cohort studies in Palliative Care patients
  - PC6
    - Acupuncture, Acupressure, EA

In practice – nausea and vomiting

- Acute n/v
  - Often managed effectively with antiemetics / SD
  - Acupuncture as adjuvant treatment for resistant symptoms
- Chronic n/v
  - Useful with / instead of drug treatment
  - CTX-related n/v
    - Useful alongside standard antiemetic regimes
    - Caution re indwelling studs / risk of neutropaenia

Dyspnoea

- Positive systematic review
- One positive RCT in lung cancer / mesothelioma
  - Improved dyspnea and relaxation scores, acupuncture was morphine-sparing
- Three positive RCTs in COPD
  - Objective and subjective improvement

Mechanism of action

- Unknown
- Likely to be non-specific effect
- Endorphins
- Oxytocin
- Reduced sensation of breathlessness due to competing sensory stimulation
- Distraction
- Improved feeling of control
- Reduced anxiety/panic

Dry mouth

- Three positive RCTs
  - Post RTX to H&N
  - 25% patients improved
  - Symptom scores
  - Resting and stimulated saliva flows
- Several cohort studies and case series
Group treatment

- Simcock 2012
  - 145 patients with radiation induced xerostomia
  - Persistent dry mouth for at least 18 months after RTX for head and neck cancer
  - Group acupuncture weekly for 8 weeks
  - Control group - oral care education
  - 24-26% patients reported improvement compared to 14-19% in control group
  - Significant reductions in scores for dry mouth, sticky saliva, needing to sip to swallow food, and waking up at night to drink

- Group treatment useful

Points used in literature

- Overlap salivary gland innervation
- Face
  - Somatic innervation
- Ear points
  - Parasympathetic innervation
- Glissophobia / Vagus
- Hands
  - Sympathetic innervation
  - Segmental T1

Hot flushes

- Two Systematic Reviews and one Meta-analysis
- Pts with hot flushes due to hormone treatment for breast cancer
- Results contradictory and inconclusive

RCTs

- 3 RCTs Acupuncture vs Usual Care
  - Acupuncture significantly superior
  - Frequency of flushes reduced by 40-60%
  - Usual care – flushes reduced by 30%
- 7 RCTs Acupuncture vs 'Sham'
  - Both groups improved
- 4 RCTs Acupuncture vs Hormone treatment
  - Acupuncture group improved ( flushes reduced by 50%)
  - But not as much as hormone group (100%)
- 2 RCTs Acupuncture vs non-penetrating control
  - No difference although one study showed reduced severity of flushes in acupuncture group

Acuflash

- Borud 2009
  - 267 patients with menopausal flushing
    - At least 7x /24h
  - Acupuncture and advice vs advice only
  - Acupuncture group
    - Frequency of flushes reduced by 3.8 /24h
    - Intensity of flushes (0-10) reduced by 3.2
  - Control group
    - Frequency of flushes reduced by 2.7 /24h
    - Intensity of flushes (0-10) reduced by 1.8
  - Statistically significant differences

Conclusions

- Acupuncture needling, whether it is real or sham acupuncture, relieves hot flushes
- No evidence that effect is point-specific
- Needs ongoing treatment to maintain benefit
- (compare CIPN)
- Consider indwelling needles or self needling
Fatigue
• Post chemotherapy fatigue
• Two positive RCTs
  • Acupuncture vs usual care (advice/leaflet) – N=302
  • Acupuncture vs acupressure vs sham acupressure N=47
• Cohort study N=37
• Mean improvement in fatigue scores of around 30%

Irritative bladder symptoms
• Literature review
  • Two case series and six RCTs
  • Six RCTs
    • Overactive bladder
    • Not cancer patients
    • PTNS - Percutaneous tibial nerve stimulation
    • All showed statistically significant subjective and objective improvement
    • Benefit equivalent to Oxybutinin/Tolteridine

Innervation of the bladder

PTNS

Electroacupuncture
• EA at acupuncture point SP6 is equivalent to PTNS

Lymphoedema
• Usually a contraindication to acupuncture
• Two small RCTs and two case series
• Improved limb circumference, movement, QoL
• No adverse effects
• Generally not recommended
Non-Palliative Care evidence base

- Low back pain
  - Positive Cochrane review, (NICE) Sentinel trial (2001-2002)
  - OA spine
  - 5 Prospective studies, (N=3093/1162/638/298/241)
  - Neck pain
  - Large RCT (N=7164): Cochrane mod pos
  - Shoulder pain
  - 2 RCTs (N=424/425)

- Migraine
  - Positive Cochrane review, 1 large RCT (N=2022), NICE

- Tension type headaches
  - Positive Cochrane review, 1 large RCT (N=5352), NICE

- OA knee
  - 1 Systematic review / meta-analysis, 3 Large RCTs (N=1334/1007/712), Cochrane mod pos

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  - 2 RCTs (N=424/425)

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Adverse events following acupuncture

- Two Prospective studies
- 66000 treatments by 652 UK acupuncturists
- Minor adverse events 10%
  - Treatment 3%
  - Bleeding / bruising 3%
  - Aggravation of symptoms 2%
  - Pain at needle site 1%
  - No Serious adverse events
  - Significant events in 0.1%
  - reflex anoxic seizure, fainting, forgotten needle, forgotten patient

Consent

- Written consent obtained
- Expectations discussed
- Possible adverse events
- Cautions and contraindications
- Plan of treatment
- Cessation of treatment

Treatment planning

- Initial course of 6 treatments
- ?Monthly top-ups
- ?Stimulation as tolerated
- ?Electroacupuncture
- Monitor response
  - ?Daily
  - ?Weekly
  - Partial response
  - ?Plateau
  - ?No response
- ?Discharge
- ?Other complementary therapies

Cautions in Palliative Care

- Spinal Cord Compression
  - Vertebral mets – RTX first
- Skin mets / local tumour
- Lymphoedema
  - or chemotherapy / RTX
- Pneumothorax
  - final / cachexia patients
- Anticoagulants
- Chemotherapy / Haematology patients
  - Neutropenia – avoid indwelling needles
  - Thrombocytopenia – avoid vigorous needling

Training in acupuncture

- British Medical Acupuncture Society
- Training for regulated health professionals
  - Foundation Course
  - Special topic days
    - Palliative Care, Back pain, Headache, Electroacupuncture, Osteoarthritis, Women's health, Pregnancy & Childbirth
  - Scientific meetings
BMAS Foundation course

- Two weekends or four weekdays
- Lectures and practical
- Case discussions
- May lead to
  - Certificate of Basic Competence or
  - Diploma in Acupuncture

Topics covered
- Safety
- Trigger points
- Upper limb
- Lower limb
- Back
- Abdomen
- Neurophysiology
- Gynae and GI disorders
- ENT and headaches
- Ear acupuncture
- Addictions
- Electroacupuncture

BMAS Palliative Care Day

- For acupuncturists wishing to use acupuncture in Palliative Care setting
- Covers evidence base, patient assessment and approach to treatment
- Application to symptom control
  - Pain, nausea, breathlessness, dry mouth, fatigue, flushes, urinary symptoms
- Running an acupuncture service in palliative care
- Lectures and group discussions