

The Use of Acupuncture for Side Effects of Cancer

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Cancer causes 26.2% of all deaths per year in
the UK (2004)

28.8% of all male deaths

23.9% of all female deaths

Worldwide

- 54.5 million people diagnosed in the last 5 years
- 24.6 million (45%) alive after 5 years

Cancer Research UK, 2007

- Cancer is now classified as a chronic disease with physical and psychological sequelae

Azis & Rowland, 2003



Lance Armstrong
Winner, Tour de France 1999-2005

How Does Acupuncture Fit in?



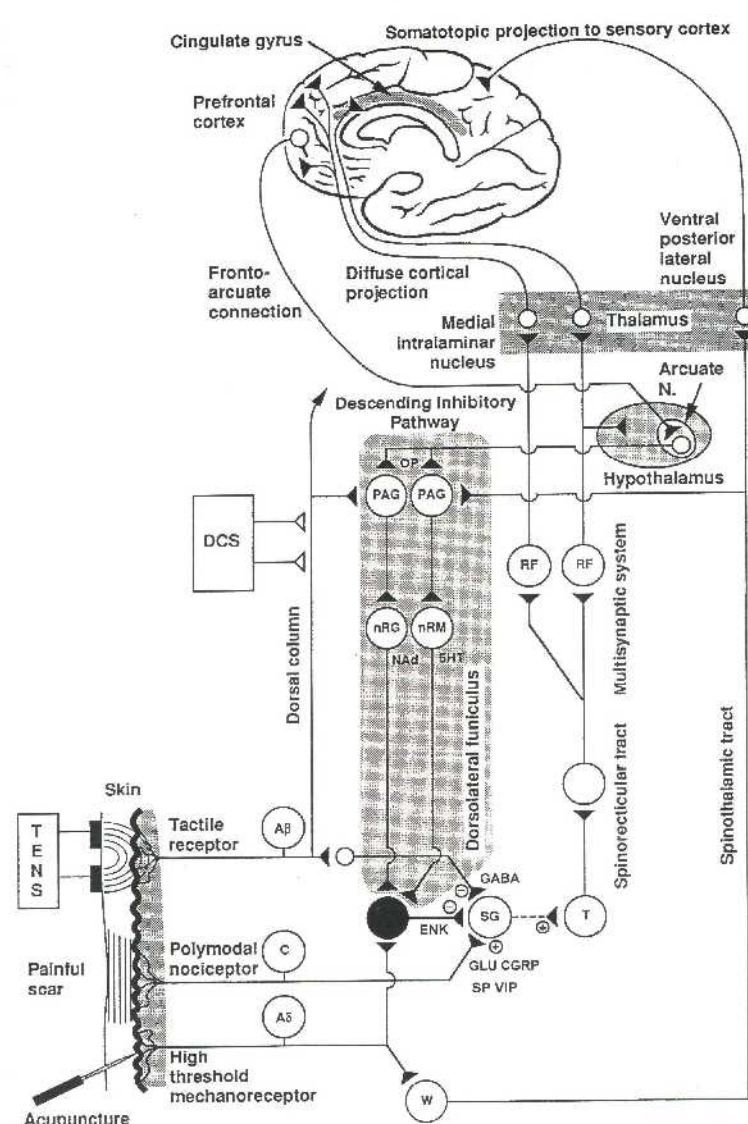
Well – acupuncture has an increasing role in the treatment of cancer pain and symptom control

In clinical practice, acupuncture treatment is rarely given alone, it is usually combined with a therapeutic interview - both of which may help the patient

Principles of Treatment – Dual Approach

- Physical attributes of treatment
Appropriate choice of acupuncture points and ‘dose’ for symptom control
- Psychological aspects of treatment
A course of acupuncture gives a unique opportunity for psychological support alongside a course of treatment

Physical Attributes of Acupuncture



Mechanisms of Action

Endogenous opioids Enkephalins $\delta \uparrow$
 Dynorphins $\kappa \uparrow$
 β -endorphin $\mu \uparrow$

Pomeranz, 2000

Up-regulation endogenous analgesic genes

Guo, 1996

Lee & Beitz, 1993

Zhang et al, 1998

Local anaesthetic blocks action

Dundee & Ghaly, 1991

Autonomic effects

Lundeberg, 1999

5-HT (serotonin)

Han & Terenius, 1982

Oxytocin

Uvnas-Moberg, 1993

Endogenous steroids

Roth, 1997

Cholecystokinin \uparrow CCK

Zhou, 1993

Immunomodulation

Jonsdottir, 1999

Plus many other mechanisms

3200 BC



2009



Principles of Point Selection for Cancer Patients Using a Neurophysiological Approach that We Use in the UK

- Segmental points

Segmental acupuncture is the technique of needling an area innervated by the same spinal segment as the disordered structure under treatment

- Strong traditional points eg LI4, LR3

- Trigger points - myofascial pain is common in cancer patients

- Sympathetic blocking points

- T1-2 or T1-5

- L1-2

Segmental acupuncture
is the technique of
needling an area
innervated by the same
spinal segment as the
disordered structure
under treatment



Traditional Points e.g. LI4





Trigger points are used

- High proportion of *musculoskeletal* pain is myofascial arising from a ‘trigger point’
- Myofascial pain common in cancer patients – up to 34%
- Acupuncture is a powerful treatment to deactivate trigger points

Sympathetic Blocking Points

Paravertebral needling

Head & neck, upper arm

T1-T2

(also include C7)

Chest

T1-T5

Low back, lower limbs

Paravertebral needling

include

L1 & L2



Let's look at an example ...

Breast Surgery Related Pain

- Biopsy
- Wide local excision
- Axillary sampling or axillary dissection
- Mastectomy
- Mastectomy and reconstruction
e.g. latissimus dorsi flap or DIEP
(abdominal donor site reconstruction deep inferior epigastric perforator) flap

Pain Following Breast Surgery

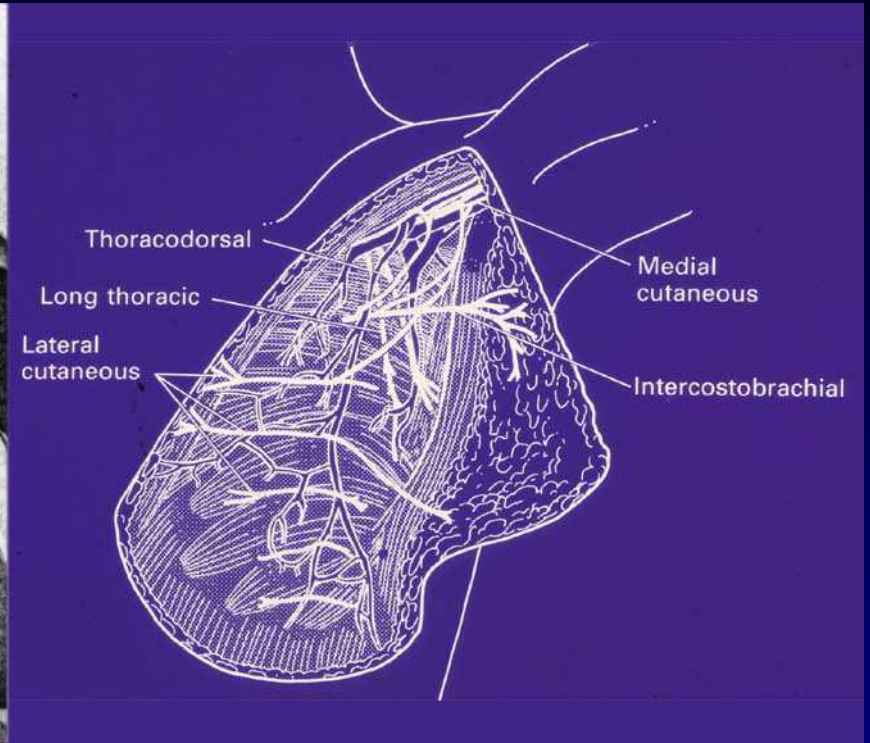
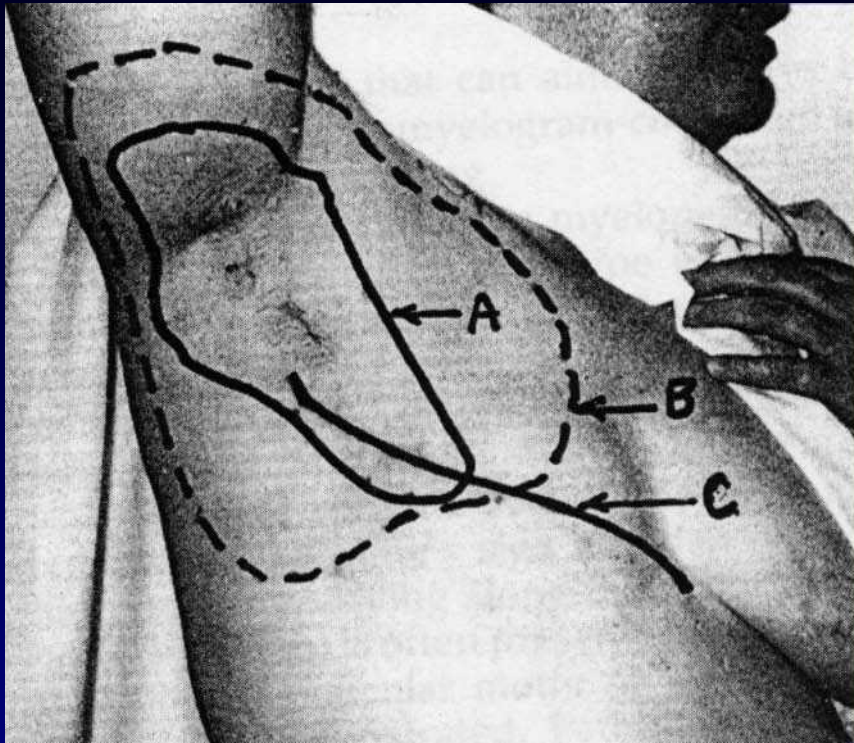
- $\frac{1}{3}$ have chronic pain following breast surgery
- $\frac{1}{2}$ have pain after reconstructive surgery
- Younger patients more susceptible

This profoundly adversely interferes with quality of life and close contact with children and partners

Williams & Filshie, 2004

In many cases, acupuncture can reduce the neuropathic symptoms that prevent close physical contact with children and partners, without the need for long-term medication and its attendant side effects

Intercostobrachial nerve damage is common at axillary dissection



Pain Post Axillary Dissection/Sampling



Note – Segmental and trigger points are both treated

Anterior Scar Pain Post Mastectomy



For hyperpathia in breast axilla we use a wide surrounding technique

Acupuncture can restore colour to a
discoloured limb and seems to be
interchangeable with stellate ganglion
blockade

Pain Post Mastectomy and Radiotherapy



Extreme Case of Radiation Damage

Patient referred to us as tertiary referral







But note she was suicidal pre-treatment despite opioids and now needs no analgesics but needs indefinite top ups every 7-8 weeks.

However her paraesthesia remains.

Results of One Breast Pain Audit

67 patients

average age = 56 years

Time scale one month 3 treatments

Average pain improvement $p < 0.001$

Worst pain improvement $p < 0.001$

Distress levels improvement $p < 0.001$

Interference with

lifestyle improvement $p < 0.001$

Pain behaviour improvement $p < 0.001$

Anxiety marginal fall

Depression significant fall $p < 0.05$

Filshie et al. 1996



Pre-emptive peri-operative needling used to help prevent the acute to chronic pain progression

In order to reduce the possibility of postoperative pain becoming chronic – I use acupuncture immediately preoperatively and leave studs in until the patient is discharged.

Pain Post Breast Reconstruction



Acupuncture may need to be used with medication.

Acupuncture alone may be insufficient.

Especially for latissimus dorsi reconstruction.



Forequarter Amputation

Phantom Limb Pain

Colder stumps ↑ pain

Sherman and Bruno, 1987

Kristen et al, 1984

Acupuncture → brief sympathetic stimulation
followed by prolonged blockade

Ernst and Lee, 1986

Suggestions for Optimal Treatment for Phantom Limb Pain

- Treat *as early as possible* eg twice a week for 6 treatments + top ups to maintain analgesia
- Pre-emptive peri-operatively
- Sympathetic blocking points to increase the blood supply
- Local segmental points around stump (if tolerable)
- Contralateral ‘mirror’ points
- ▽ ± trigger point treatment for muscle spasm

Acupuncture for Chemotherapy-Induced Peripheral Neuropathy

- Affects 10-20% patients given neurotoxic chemotherapy

Vinca alkaloids Taxanes Platinum analogues

- Pain/numbness and dysaesthesia hands and feet
- CV6 ST36 SI11

Wong & Sager, 2006

- Sympathetic blocking points + distal points

T1-T5 L1-L2

- Strong traditional points e.g. LI4 + TE5 SP6 + LR3

JF, personal observation

Advanced Cancer-Related Dyspnoea





Advanced Cancer Related Breathlessness

Pilot study 20 patients

- Subjective improvement of breathlessness

Borg VAS P<0.005

- Objective improvement of breathlessness

Respiratory rate P< 0.02

- Profound sense of relaxation

P<0.005

- Limited duration

- 14/20 marked symptomatic relief from treatment

Filshie et al, 1996

Advanced Cancer-Related Breathlessness



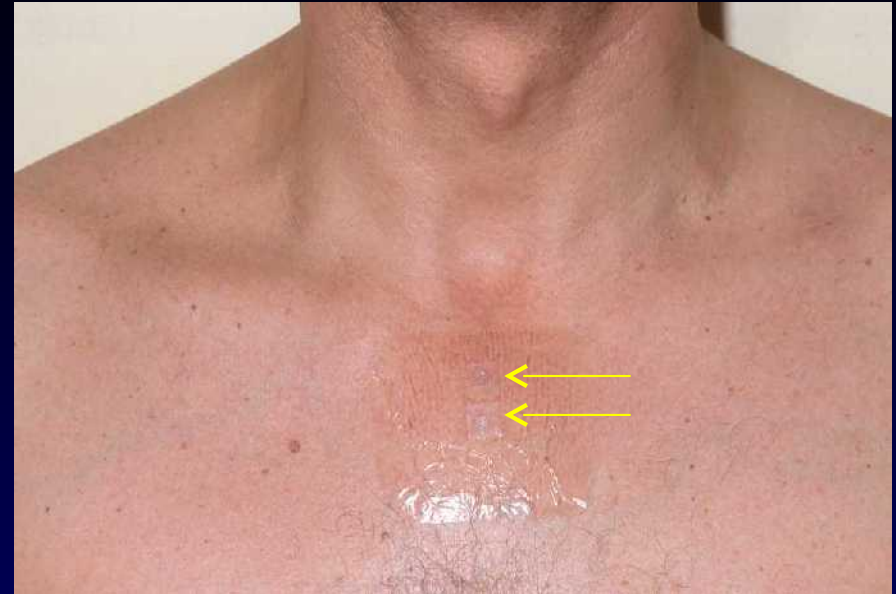
Acupuncture reduced shortness of breath in
subjective and objective measures

Filshie et al, 1996

RCT acupuncture v morphine v acupuncture + morphine

O'Brien M & Filshie J (underway)

These points are now called



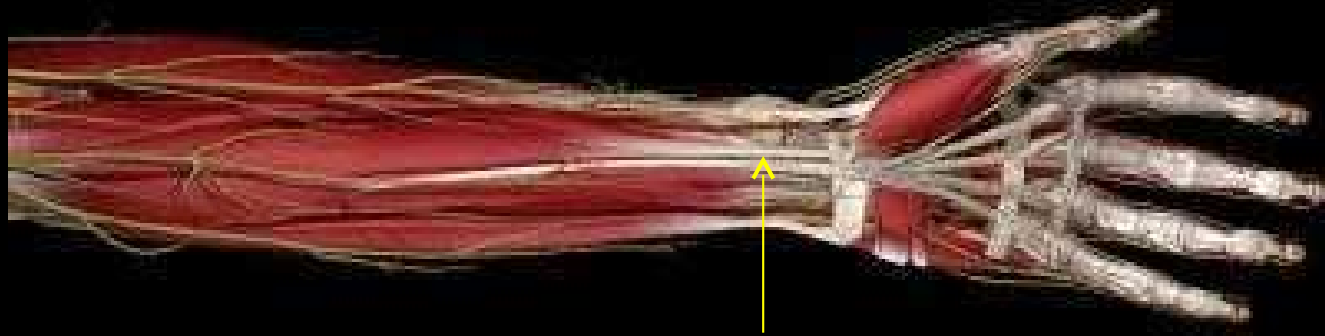
ASAD Points
(Anxiety, Sickness And Dyspnoea)

They are widely used in the UK for palliative care of dyspnoea.

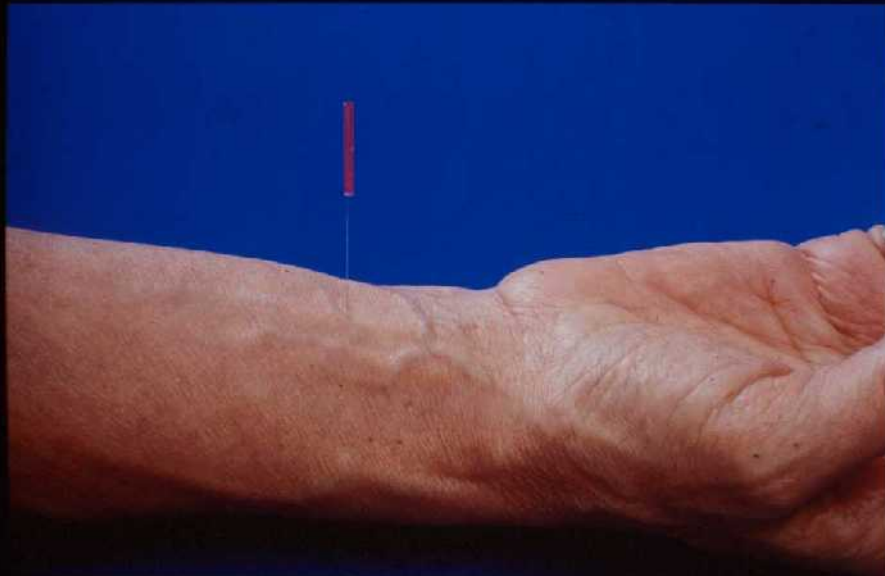
Common Causes of Nausea and Vomiting in Advanced Cancer

- Gastrointestinal problems eg intestinal obstruction/oral Candida
- Drugs eg opioids, antibiotics, iron etc
- Metabolic - hypercalcaemia, renal failure
- Radiotherapy and chemotherapy
- Brain metastases
- Psychological symptoms eg anxiety, fear
- Pain
- Dehydration

Treat cause of nausea and
vomiting if possible



PC6



PC6 main point

Lee & Done, 2004

Ezzo et al, 2005

Streitberger et al, 2006

- Add extra points if no significant gastrointestinal obstruction

eg: CV12 (REN, Zhongwan) ST25 ST36 ASAD



Acupuncture for Hot Flashes and Night Sweats



6 weekly treatments

LI4 TE5 (SJ or triple warmer, Waiguan) SP6 LR3 + ASAD x 2
NB avoid limb post axillary dissection



Self needling with 'one off' needling or indwelling studs used for up to 6 years
79% get 50% or greater reduction in hot flushes
Algorithm for treatment given

Filshie et al, 2005

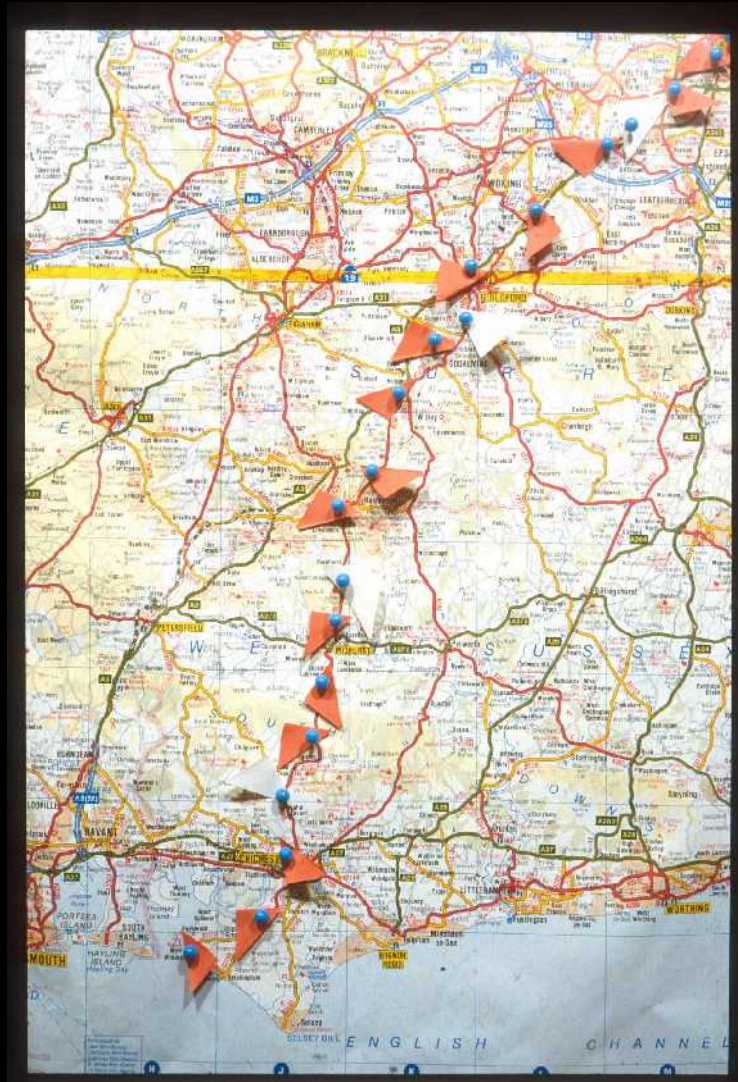
We teach patients to self needle safely at SP6 \pm LR3 on a weekly basis at home – or to insert semipermanent needles at SP6 which can stay in for a week at a time.

We have devised an algorithm:

Filshie J, Bolton T, Browne D, Ashley S.

Acupuncture and self acupuncture for long term treatment of vasomotor symptoms in cancer patients – audit and treatment algorithm. *Acupuncture in Medicine* 2005;23(4):171-180.

Bladder Urgency, Frequency and Nocturia



Kelleher et al, 1994

Mr SG

Date of Birth 1931

- Urinary incontinence after laparoscopic radical prostatectomy

- Urgency

Nocturia

Constant incontinence

Needs pads day and night

Points Used

- LI4 ST36 SP6 CV3 (REN3, Zhongji) or CV4 (REN 4, Guanyuan)
- 2 bilateral paravertebral points L1 & L2
- 2 bilateral sacral points



These points can be useful for frequency,
incontinence and sometimes post
prostatectomy.

Results

- No change after 3 weekly treatments
- 4th treatment some benefit
- 5th treatment dramatic ↓ nocturia
↓ incontinence ↓ frequency
↓ stress incontinence
- 6th treatment minimal incontinence

Occasionally people get radionecrotic ulcers which classically never heal.

This next slide shows healing in an ulcer in a patient too unwell for surgery with acupuncture.

Radionecrotic Ulcers





This was a challenge after a failed skin graft –
but it healed with acupuncture over time.

Principles of Treatment



Plus ...



Sympathetic Blocking Points

Paravertebral needling

Head & neck, upper arm

T1-T2

(also include C7)

Chest

T1-T5

Low back, lower limbs

Paravertebral needling

include

L1 & L2



These are points I have found most useful and interchangeable with stellate ganglion blockade.

For example:

I was taught to do lots of nerve blocks when I started to work in pain management. One patient who had a severe radiation injury and a flail right arm had monthly stellate ganglion blocks. On her 24th block she had a fit after only ½ ml local anaesthetic was injected. She recovered very quickly fortunately and I used acupuncture the next time. This worked just as well but only for three weeks at a time rather than four. So I switched to using acupuncture from then on.

Radiation Rectitis



Principles of Treatment

- Sympathetic blocking points L1 + 2
- Gastrointestinal paravertebral abdominal points
- Sacral points S2 S3
- ∇ ± points surrounding the ulcerated area
- Up to 12 weekly treatments initially
- Monthly treatments

Note:

Normally a 6 week course of treatment but 12 for this on account of the challenges to healing in the rectum due to rectal contents.

MR SM

- Aged 71
- Cancer prostate diagnosed 2003
- Neoadjuvant hormone treatment + radiotherapy
- Radiation proctitis & rectal ulceration – radionecrotic ulcer
- No response to hyperbaric O₂, Pentoxifylline
- Pain despite high dose Fentanyl and gabapentin
- Scheduled for colostomy

Plan – 12 weekly treatments

1st treatment no relief

Some relief few days after 2nd treatment

Colostomy cancelled

Rectal bleeding ↓ after 8th treatment

Abdominal pain ↓ after 12 treatments

↓ Fentanyl 50μg then ↓ 25μg

+ bleeding controlled

Monthly treatments needed

Very pleased with ongoing relief

Mrs JS

Aged 61

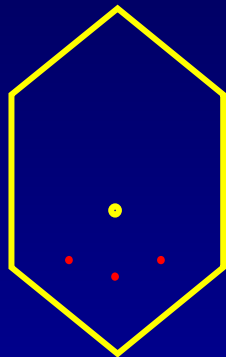
Cancer of uterine cervix 2 years – post chemotherapy, radiotherapy and brachytherapy

Breast cancer also diagnosed 4 months ago

Symptoms

- Hot flushes since Tamoxifen – 28-29 per day, 5-6 drenching at night
- Dyspnoea since bronchiectasis as child
- 8 months diarrhoea, rectal bleeds, radiation rectitis
- Longstanding bladder problems with nocturia and frequency

- Hot flushes ↓ 70% (maintained response)
- Dyspnoea helped significantly post first treatment (maintained response)
- Irritative bladder help -sustained
- Rectal bleeding stopped but starts if she forgets/delays treatment
- Weekly self treatment maintains her response in the following locations



± LR3

SP 6 bilaterally

Cancer Related Fatigue Post Chemotherapy

- Cohort study
37 patients 31 completed the study
- Mean improvement of fatigue scores 31.1%
Vickers et al, 2004
- Acupuncture vs acupressure vs sham
acupressure
- Acupuncture improved fatigue by 36% and
greater than 2 control groups
Molassiotis et al, 2007

- ST36 SP6 most useful points
- Further RCT funded by Breakthrough Breast Cancer in progress

We are doing this trial in London and Manchester -

- 6 weekly treatments then 4 other weekly treatments by therapist, or by self treatment by patient, or no treatment
- To assess if the relief can be maintained

Safety

- Good safety record of acupuncture – 66,000 prospective treatments

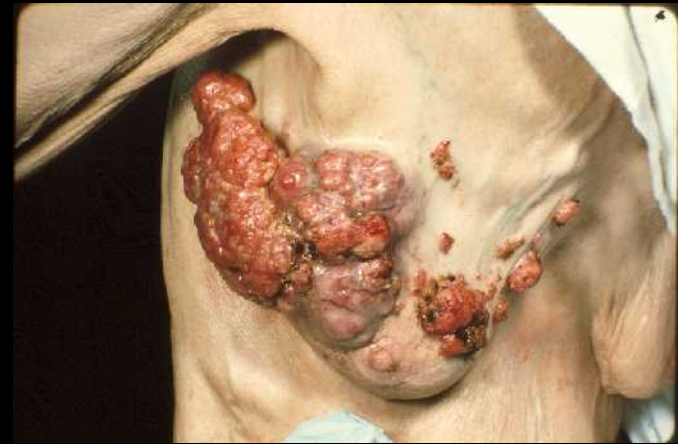
White et al, 2001

MacPherson et al, 2001

- Oncology patients – vulnerable with often rapidly changing clinical picture
- Orthodox diagnosis first and treat alongside conventional treatment
- Acupuncture treatment is more complex in cancer care
- Safety aspects in palliative care reviewed

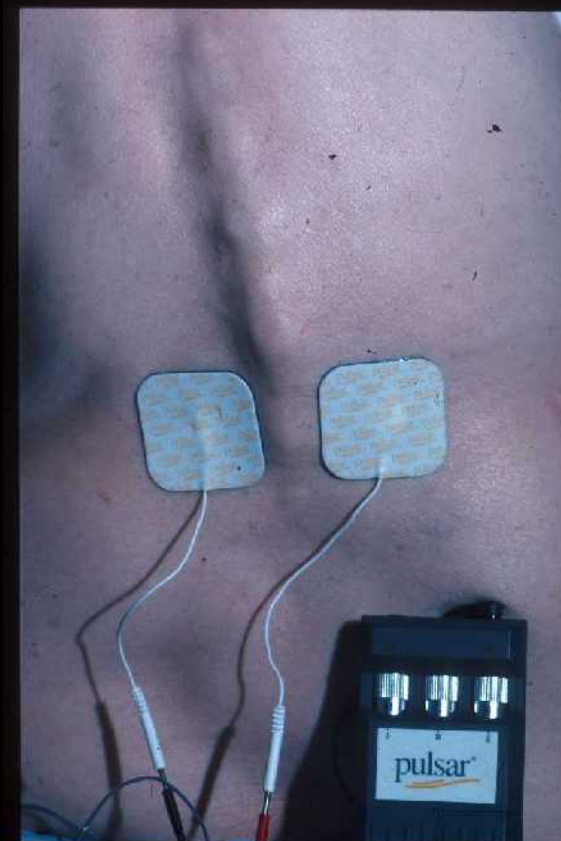
Filshie, 2001

Contraindications and Cautions



Guidelines for safe treatment
Filshie & Hester, 2006

Acupuncture can mask symptoms of cancer and is contraindicated if there is an unstable spine from cancer



It could theoretically remove protective muscle spasm around an unstable area and so avoid in case it could indirectly contribute to cord compression/transection.

- As survivorship increases with all the advances in oncology, we should plan to treat patients who respond well to acupuncture for symptom control long term or even indefinitely for their physical problems
- A course of treatment can also be used to support patients psychologically through their cancer journey

Further Promising Areas for Research

- RCTs pain control
- Dyspnoea
- Breast pain post axillary dissection
- Anxiety in cancer patients
- Fatigue in cancer patients
- Bedsores & ulcers Healing in general
- Plastic surgical skin flap survival
- Why does tolerance occur in advanced/
metastatic disease?
- Safety of acupuncture in cancer patients

Xerostomia

More than 70% of severely ill cancer patients suffer from dry mouth or xerostomia

Common reasons

- Opioids
- Anticholinergic drugs
- Antihistamines
- Dehydration
- Previous radiotherapy for head & neck cancer

- 3rd most distressing symptom

Davies et al, 2001

Treatment Principles for Xerostomia

- Local treatment on face
e.g. ST2 LI20 GV26
- Auricular points
in region to stimulate
parasympathetic control
- Strong distal points
e.g. PC6 stimulates parasympathetic
+ LI4

Possible Mechanisms

↑ volume parasympathetic stimulation

↑ viscosity sympathetic stimulation

Lundeberg, 1999

↑ VIP

Davidson et al, 1998

↑ C-GRP

Davidson et al, 1999

But ...

No quick fix - multiple treatments necessary