

The use of daily self-administered indirect moxibustion during chemotherapy - is it feasible and acceptable in an NHS setting?

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Background

20-30% of cancer patients may experience chemotherapy induced pancytopenia (CIP), comprising neutropenia, anaemia or thrombocytopenia, leading to dose reductions or treatment delays impacting on quality of life and overall survival. Daily application of moxibustion (moxa), a traditional East Asian treatment using heat from a smouldering herb (*Artemesia vulgaris*), is reported to reduce CIP.

Primary aim

To assess the feasibility of teaching NHS chemotherapy patients a 10-minute protocol to apply moxa daily to leg acupuncture point ST-36.

Secondary aims (selected)

To obtain a first measure for:

- Concordance with protocol and safety
- Frequency of CIP
- Other toxicities (CTCAE Grade 3 or above)
- Completion of chemo to schedule.



Methods

Patients with gynaecological, breast, or colorectal cancer and not receiving G-CSF were shown how to locate and moxa ST-36 (see video available at: http://www.ljmc.org/2_research/projects/moxa.html)

Where possible moxa use commenced up to one week prior to first chemotherapy, continuing daily until three weeks after chemo ended. Participants recorded moxa use and adverse events on Daily Moxa Diaries. Blood counts were undertaken prior to each chemotherapy cycle; however mid-cycle assessments were not routinely conducted. Incidences of CTCAE Grade 2 or higher haematological toxicity were noted, along with blood transfusions.

Relative Dose Intensity (RDI) was calculated to assess changes in planned treatment schedule or dose.

Publication

de Valois B, Young T, Glynn-Jones R, Scarlett C, Staebler F (2016) Limiting chemotherapy side effects by using moxa. Using daily self-administered indirect moxibustion to St 36 *zu san li* to reduce chemotherapy-induced pancytopenia: study protocol for a feasibility study. *European Journal of Oriental Medicine*; 8(3) 29-39.

Results

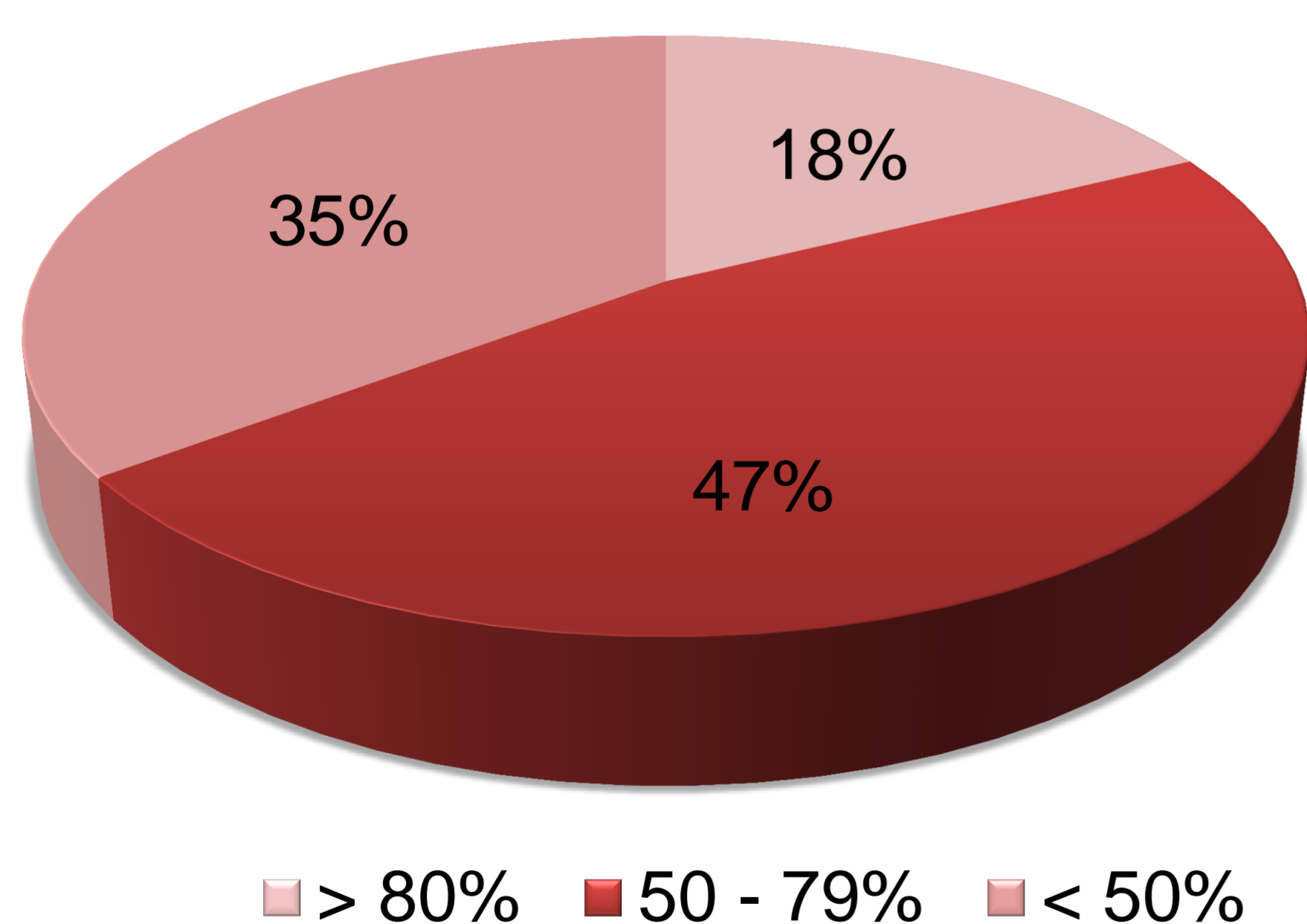
Participants

Of 25 participants (2 breast, 10 gynaecological and 13 colorectal (7 male, 6 female)) 15 were receiving chemotherapy for early disease or in an adjuvant setting and 10 had advanced or metastatic disease. Mean age was 57 years (range 21-74). 17/25 commenced using moxa on or before their first cycle of chemotherapy.

Concordance with protocol and safety

- 17/25 participants completed Daily Moxa Diaries reporting on 1975 moxa applications.
- No participant was 100% compliant (see Figure 1). Days on which moxa was used ranged from 2 to 205.
- No adverse events were reported; 3 participants reported mild skin sensitivity on occasion.

Figure 1: Concordance with daily use



Frequency of CIP

Episodes of CIP in 130 cycles numbered:

- 1 Grade 4 neutropenia at mid cycle (neutropenic sepsis)
- 5 Grade 3 neutropenia at mid cycle (n=4)
- 4 Grade 3 anaemia (n=3, 2 given blood transfusions)
- 0 Grade 3 thrombocytopenia.

Grade 2 or above neutropenia is known to have occurred in 30 cycles (excludes first cycle of chemotherapy).

Other toxicities (CTCAE Grade 3 or above)

- Chemotherapy induced peripheral neuropathy (n=2)
- Vomiting Grade 3 (n=1)
- Diarrhoea Grade 4 (n=1, required haemodialysis).

Completion of chemo to planned schedule

Relative Dose Intensity (RDI)

RDI, the ratio of the delivered dose intensity of chemotherapy to the planned dose intensity, ranged from 0.125 (n=1) to 1.0 (i.e. no dose reductions or delays, n=6), median 0.88.

Planned cycles	Participants completing chemo to planned schedule	Participants with variance to planned schedule (actual cycles/planned cycles)
1	1	0
4	6	0
6	6	2: 4/6 & 5/6
8	0	1: 1/8
10	0	1: 9/10
12	4	3: 7/12, 9/12, 10/12
TOTAL	17	7

Future Plans

This study confirms that this intervention is feasible and acceptable in the NHS. The next step is an RCT comparing patients using and not using moxa. However, this feasibility study identified several challenges:

- Daily reminders may improve concordance with daily application of the protocol.
- Patients have dose reductions and delays for reasons other than haematological toxicities (e.g. social, neuropathy, abnormal LFTs or U&Es, non-cancer related comorbidities) which confound analysis.
- To reduce confounding variables it may be better if a future study was confined to a single disease site and chemotherapy regimen.
- Lack of mid cycle blood counts means CIP may be underestimated in our study.
- Where care between cycles of chemotherapy was delivered at another hospital it was difficult to collect clinical information.