ACUPUNCTURE today

CANCER CARE

The Pain of Chemotherapy: A Case Study

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The primary reason for presenting this case study and patient is to review the pain relief response she experienced from micro-current electro-acupuncture for taxane induced neuropathy.

The Patient's Complaint

The chief complaint was neuropathic pain in the hands bilaterally and in the right foot. The patient, a 59-year-old retired, Caucasian female with invasive ductal breast cancer estrogen receptor, progesterone receptor and Her 2-neu positive, with a 1.3 cm tumor in the right breast (diagnosed July 2014), started acupuncture once a week with her second course of chemotherapy (CMTX).

Her chemotherapy consisted of standard doses of carboplatin, pertuzumab, and paclitaxel. She developed nausea, fatigue/exhaustion, anxiety and some neutropenia with first cycle of chemotherapy as well as neuropathy in her hands and feet. Due to the taxane neuropathy she began receiving weekly acupuncture treatments with subsequent cycles of chemotherapy. During the last three courses of CMTX the pain in her hands was down to 2/10 while touching objects (from 4-7/10 initially) and 0/10 at rest. She was able to complete CMTX December 2014 followed by a lumpectomy.

TABLE 1: FACT-TAXANE QUESTIONNAIRE RESULTS

Survey Question	Timepoint Baseline	Week 4	Week 7	Month 7
Numbness or tingling in my hands	2	3	3	0
Numbness or tingling in my feet	3	2	2	1
Discomfort in hands	2	3	3	0
Discomfort in feet	3	2	2	1
Joint pain or muscle cramps	2	2	2	1
Feel weak all over	3	1	2	1
Trouble hearing	2	0	1	1
Ringing or buzzing in my ear	3	1	1	0
Trouble buttoning buttons	3	0	1	0
Trouble feeling shape of small objects in my hands	2	1	1	0
Trouble walking	2	0	0	0
Feel bloated	3	0	0	0
Hands swollen	1	0	0	0
Legs or feet swollen	1	0	0	0
Have pain in fingertips	2	3	3	0
Bothered by the way my hands or nails look	2	0	0	1
Summary Score	36	18	21	6

Validated Survey Based Clinical Assessment Tool

The FACT-Taxane neuropathy scale is a valid assessment tool for evaluating taxane induced peripheral neuropathy.[1] It was used to evaluate her progress at the initial acupuncture treatment, just prior to her fourth chemotherapy dose and after her sixth/final dose (results are shown above on the table). Note the improvement in the majority of symptoms by the completion of therapy. The summary score decreased from 36 to 21, a 45 percent decrease in symptoms. Seven months after completion of treatment her summary score decreased to a six.

The patient eventually returned to a pain level of 0/10 after completing chemotherapy and radiation treatments. Starting within seven days of her first dose of chemotherapy her acupuncture treatments definitively lowered her pain from the start of her first dose, confirmed by a validated survey tool (FACT-Taxane neuropathy scale).

This is the acupuncture protocol used in this study: Bai xie and ba feng bil/electrical stimulation (e-stim) of 5 micro amps, Guanyuan REN 4, Qihai REN 6, Sanyinjiao SP 6 bilaterally (BIL), Zusanli ST 36 bil Yuang Ling Quan GB 34 bil/e-stim to Qiuxu GB 40 bil/e-stim, Quchi LI 11 bil/e-stim to Waiguan SJ 5 bil/e-stim, Lieque LU 7 bil, Zhaohai KID 6 bil, yintang, shishencong, 30 minutes, (e-stim 5 micro-amps attached to points (LI 11 to SJ 5 bil, GB 34 to GB 40 bil). The transcutaneous electrical stimulator (TENS) unit used in each treatment was the Pantheon 8 channel intermittent mode 100 micro amps at 5 hertz (hz) for 30 minutes.

The patient eventually returned to her baseline of idiopathic neuropathy (prior to starting chemotherapy) only in her right foot mid three toes at 3/10 after completing chemotherapy and radiation treatments. Starting acupuncture prior to her first dose or immediately afterward may have lowered her pain from the start of her first dose.

Theories About Pain

A multitude of theories of pain control mechanisms have been investigated over the past decades to evaluate and clarify these mechanisms of acupuncture and electro-acupuncture (EA). These theories include: gate control theory,[2] spinal segmental mechanism,[2] endogenous opioid system,[2] descending noradrenergic and serotonergic systems,[2] and diffuse noxious inhibitory control.[1] Studies suggest that acupuncture may be clinically effective for various types of pain including low back pain, chronic knee pain, chronic headaches and recently, different types of chronic pain.[3] Electro-acupuncture (EA) utilizes electrical stimulation, and has an analgesic effect on different types of acute pains and persistent inflammatory pain when applied to both rodent and human subjects.[4]

Additionally supporting evidence was demonstrated in another study on the Analgesic effect of electro-acupuncture on inflammatory pain in the rat model of collagen induced arthritis: mediation by cholinergic and serotonergic receptors in Brain Research.[5] The results demonstrated that μ and ð opioid receptors, α2- adrenoreceptors, 5 HT3. M1 muscarinic receptors, and GABA A ad GABAergic receptors are involved in the mechanisms of EA induce analgesia effect on neuropathic pain.[5]

This report, though a solitary case study, supports the need for larger studies of acupuncture treatment of chemo-induced peripheral neuropathy.

References

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