

## 6. Nervous System Diseases

### Reference

Heo KH, Hwang HJ, Park YH, et al. Effects of pulsed electromagnetic therapy for cervicogenic headaches: Randomised clinical trial. *Hanbang-Jaehwal-Uihakgwa-Hakhoeji (Journal of Oriental Rehabilitation Medicine)* 2007; 17(3): 147–59 (in Korean with English abstract).

### 1. Objectives

To evaluate the effectiveness of pulsed electromagnetic therapy for cervicogenic headaches.

### 2. Design

Randomized controlled trial (RCT).

### 3. Setting

One Oriental hospital (Dongkuk University Bundang Oriental Hospital), Republic of Korea.

### 4. Participants

Patients who visited the hospital between 1<sup>st</sup> November 2006 and 5<sup>th</sup> June 2007 with cervicogenic headache, VAS score over 5 (n=34).

### 5. Intervention

Arm 1: Acupuncture + pulsed electromagnetic therapy (n=18).

Arm 2: Acupuncture only (control treatment) (n=16).

Acupuncture was applied to the Wangu (GB12, 完骨), Fengchi (GB 20, 風池), Fengfu (GV 16 風府), Anmian (EX-HN22, 安眠), and Huatuojiaji (EX-B2, 華陀夾脊) acupoints between the 2<sup>nd</sup> and 3<sup>rd</sup> cervical vertebra.

Pulsed electromagnetic therapy (PEMT) was applied after acupuncture of the suboccipital fascia. Digitized electromagnetic 5-Hz and 10-Hz impulses were delivered for 15 minutes with frequency changing every 5 seconds using a CR-3000 (CR Technology, SungNam, Korea) equipped with a high performance microactuator.

### 6. Main Outcome Measures

Pain assessed on a visual analogue scale (VAS).

### 7. Main Results

The site of the headache was related to the severity of the neck injury. The headaches were generally on the left side or both sides and rarely on the right side. Improvement was significant throughout the treatment course in Arm 1 ( $P<0.05$ ) but only after the 3<sup>rd</sup> treatment in Arm 2. The between-group difference in VAS was significant after ( $P<0.05$ ) but not before treatment.

### 8. Conclusions

Pulsed electromagnetic therapy enhances improvement attributable to acupuncture only treatment.

### 9. Safety assessment in the article

Not mentioned.

### 10. Abstractor's comments

This study evaluated the effect of pulsed electromagnetic therapy on cervicogenic headaches. Pain intensity was more significantly reduced by pulsed electromagnetic therapy combined with acupuncture. The limitation of this study is that the randomization method was not mentioned. But it is clinically meaningful in that this study is a randomized, controlled trial of a headache remedy.

### 11. Abstractor and date

Jang KT, 31 August 2010.