

- magnetic stimulation on urethral closure in healthy volunteers. Urology, 1999, 54:652-655.
- 5 Lin VW, Singh H, Chitkara RK, et al. Functional magnetic stimulation for restoring cough in patients with tetraplegia. Arch Phys Med Rehabil, 1998, 79:517-522.
  - 6 Lin VW, Hsiao IN, Dhaka V. Magnetic coil design considerations for functional magnetic stimulation. IEEE Trans Biomed Eng, 2000, 47: 600-610.
  - 7 Lin VW, Wolfe V, Frost FS, et al. Micturition by functional magnetic stimulation. J Spinal Cord Med, 1997, 20:218-226.
  - 8 Lin VW, Wolfe V, Perkash I. Micturition by functional magnetic stimulation in dogs-a preliminary report. Neurourol Urodyn, 1997, 16:305-313.
  - 9 Polkey MI, Luo Y, Guleria R, et al. Functional magnetic stimulation of the abdominal muscles in humans. Am J Respir Crit Care Med, 1999, 160:513-522.
  - 10 Lin VW, Hsiao IN, Zhu E, et al. Functional magnetic stimulation for conditioning of expiratory muscles in patients with spinal cord injury. Arch Phys Med Rehabil, 2001, 82: 162-166.
  - 11 Shafik A. Suppression of uninhibited rectal detrusor by functional magnetic stimulation of sacral root. J Spinal Cord Med, 2000, 23:45-50.
  - 12 Yamanishi T, Yasuda K, Suda S, et al. Effect of functional continuous magnetic stimulation for urinary incontinence. J Urol, 2000, 163:456-459.
  - 13 Davey K, Luo L, Ross DA. Toward functional magnetic stimulation (FMS) theory and experiment. IEEE Trans Biomed Eng, 1994, 41: 1024-1030.
  - 14 Hsiao IN, Lin VW. Improved coil design for functional magnetic stimulation of expiratory muscles. IEEE Trans Biomed Eng, 2001, 48:684-694.
  - 15 Similowski T, Fleury B, Launois S, et al. Cervical magnetic stimulation: a new painless method for bilateral phrenic nerve stimulation in conscious humans. J Appl Physiol, 1989, 67:1131-1318.
  - 16 Dimarco AF, Kovuri S, Pedro J, et al. Intercostal muscle pacing in quadriplegic patients. Amer Rev Resp Dis, 1991, 143:473.
  - 17 Lin VW, Frost FS. Functional magnetic defecation-a reality? Arch Phys Med Rehabil, 1994, 75:1033.
  - 18 Lin VW, Hsiao I, Goodwin D, et al. Functional magnetic stimulation facilitates colonic transit in rats. Arch Phys Med Rehabil, 2001, 82: 969-972.
  - 19 Ishikawa N, Suda S, Sasaki T, et al. Development of a noninvasive treatment system for urinary incontinence using a functional continuous magnetic stimulator (FCMS). Med Biol Eng Comput, 1998, 36:704-710.
  - 20 Yamanishi T, Yasuda K, Sakakibara R, et al. Induction of urethral closure and inhibition of bladder contraction by continuous magnetic stimulation. Neurourol Urodyn, 1999, 18:505-510.
  - 21 Sheriff MK, Shah PJ, Fowler C, et al. Neuromodulation of detrusor hyper-reflexia by functional magnetic stimulation of the sacral roots. Br J Urol, 1996, 78:39-46.

(收稿日期:2003-02-24)

(本文编辑:阮仕衡)

## · 短篇论著 ·

### 温热低周波并超短波综合治疗急性肌纤维织炎 132 例

王美玲 王全顺 王全之

#### 一、资料与方法

急性肌纤维织炎患者 128 例,男 56 例,女 72 例;年龄 23~56 岁;病程 1~2 d。共分 3 组:超短波组 46 例,其中颈肩部肌纤维织炎 26 例,腰部肌纤维织炎 20 例;温热低周波组 40 例,其中颈肩部肌纤维织炎 28 例,腰部肌纤维织炎 12 例;综合治疗组 42 例,颈肩部肌纤维织炎 28 例,腰部纤维织炎 14 例。3 组在性别、年龄结构上基本相同。

(1)超短波组:采用上海产 CDB-I 型超短波电疗机,波长 7.374 m,输出最大电流 300 mA,最大功率 700 W,频率 40.68 MHz,2 个 16 cm×23 cm 的电极,间隙 3~5 cm。患者取仰卧位,2 个电极板于患部对置,每日 1 次,每次 20 min。(2)温热低周波组:采用日本株氏会社 HOMER INO 研究所制造的 HL-Ⅲ型温热式低周波治疗仪,治疗频率 1~1 000 Hz,治疗温度程序选择 30~38℃之间,将“+”导子置于大椎穴或命门穴,2 个“-”导子分别置于肌肉酸痛最剧烈处。根据病变部位不同分别选择仿生手法拍打、推压、按揉等治疗程序,治疗强度旋钮调到 60~80 之间,每次 15~20 min,每日 1 次。(3)综合治疗

组:先进行超短波治疗,随后用温热式低周波治疗,治疗方法、时间、剂量及评定标准与单一治疗组相同。3 组均经 4 次治疗后评定疗效。

疗效标准:痊愈——症状、体征均消失;好转——症状减轻,体征部分好转;无效——经 4 次治疗后,症状、体征无明显改善。

#### 二、结果与结论

综合治疗组痊愈 39 例,好转 3 例,无效 0 例,治愈率 92.9%,总有效率 100%;超短波组痊愈 29 例,好转 15 例,无效 2 例,治愈率 63%,总有效率 95.7%;温热低周波组痊愈 31 例,好转 8 例,无效 1 例,治愈率 77.5%,总有效率 97.5%。3 组治愈率经统计学分析,综合治疗组与超短波组比较,χ<sup>2</sup> = 9.48, P < 0.01, 差异有非常显著性;超短波组与低周波组比较,χ<sup>2</sup> = 2.12, P > 0.05, 差异无显著性意义。

以上结果显示,综合治疗组治愈率明显高于低周波组和超短波组,说明温热低周波并超短波是急性肌纤维织炎的有效治疗方法,值得临床推广应用。

(收稿日期:2003-03-29)

(本文编辑:熊芝兰)