EFFECTS OF WET CUPPING THERAPY IN PATIENTS WITH MYOFASCIAL PAIN SYNDROME: A RANDOMIZED CONTROLLED TRIAL

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Introduction:

The pathophysiology of myofascial pain syndrome (MPS) remains unclear, but energy metabolism has been implicated. A wide variety of treatment approaches are available to patients with MPS including both allopathic and complementary medicine treatments. Wet cupping therapy (WCT) has been used as an alternative treatment method throughout the world for a number of pain conditions. The aim of this study was to evaluate the effectiveness of WCT in patients with MPS and to assess the energy metabolism changes in patients with MPS before and after the WCT.

Methods:

Eighty eight patients with MPS were randomly allocated into two groups; WCT (n=43) and physical therapy (n=45) respectively. The WCT group received WCT twice a month whilst the control group received conventional physical therapy. Visual analogue Scale of pain (VAS-pain), Nottingham health profile (NHP) and Beck depression inventory (BDI) were used for the evaluation of pain, quality of life and depression in patients with MAS. As an indicator of energy metabolism, intra-leukocyte lactate levels in venous and cupping blood were measured before treatment and 2 weeks after treatment in the WCT group. Each WCT procedure lasted about 30 minutes and was conducted in five steps .
1.Primary sucking; The cup is placed on the selected site and the air inside the cup rarified via manual suction an is left for 3-5 minutes. **2.Scarification;** Swab the treated sites with potadine solution and superficial incisions are made on the skin using sterile surgical blades for incision. **3.Bloodletting;** The cup soaked with EDTA(heparin) placed back on the skin, using the same method until it was filled with blood. Each phase of WCT was divided based on a time period of 3-5 minutes. **4.Removal;** The cups were removed. **5.** Apply antibiotic cream and bandages, dressing

Results:

Within each group, the analysis demonstrated statistically significant improvements in VAS from baseline to 1 and 3 months (p<0.001). Within each group, the analysis demonstrated statistically significant improvements in Beck depression index and Nottingham health profile (NHP) (except NHP emotional reactions sub group) and from baseline to 1 month (p <0.05). There was no significant difference between the two groups in terms of efficacy of treatment (p> 0.05). The lactate level in 21 of the patients in the WCT group could be measured without error. The level of lactate in the cupping blood after the WCT was significantly lower than before the WCT (10.9±9.2 µg/mL versus 22.1±23.1µg/mL) (p=0.016). Venous blood lactate level was also low after the WCT but not statistically significant (23.0±23.6 µg/mL versus 32.2±33.6 µg/mL) (p=0.122).

Conclusion:

We concluded that WCT is at least as effective as physical therapy in patients with MAS. As a result a tendency of anaerobic glycolysis to aerobic glycolysis intra-leukocyte cells was statistically shown by WCT. WCT may be considered beneficial by influencing energy metabolism in the treatment of patients with MPS. And future studies testing action mechanism of WCT and including control groups are needed.

Table 1. Demographic characteristics of the patients

	WCT group (n=43)	PT group (n=45)	p
Age (mean±SD)(year)	47.1±8.8	45.8±11.8	0.563
Female/male	31/12	25/20	0.107
BMI (kg/cm ²)	28.4±4.3	27.5±3.2	0.281
Symptom duration(mean±SD)(month)	5.9±4.1	6.6±4.3	0.447

Table 2. Intra-leukocyte lactate levels in venous and cupping blood before treatment 2 weeks after treatment (n=21)

	Baseline	Second week	p
Lactate levels-CB*	22.1±23.1	10.9±9.2	0.016
Lactate levels-VB*	32.2±33.6	23.0±23.6	0.122

CB: cupping blood, VB: Venous blood, p>0.05, * µg/mL

References

1. Jafri MS. Mechanisms of Myofascial Pain. Int Sch Res Notices. 2014;2014. pii: 523924.
2. AlBedah A, Khalil M, Elolimy A, Elsubai I, Khalil A. Hijama (cupping): a review of the evidence. Focus Altern Complement Ther 2011;16:12-16.
3. Kwon YD, Cho HJ. Systematic review of cupping including blood-letting therapy for musculoskeletal diseases in Korea. Korean J Orient Phys Pathol 2007;21:789-793.
4. Issberner U, Reeh PW, Steen KH. Pain due to tissue acidosis: a mechanism for inflammatory and ischemic myalgia? Neurosci Lett 1996;208:191-4.