Rheumatol Int (2016) 36:447–448
DOI 10.1007/s00296-015-3407-x

Rheumatology INTERNATIONAL

LETTER TO THE EDITOR - FOOD FOR THOUGHT

Subgrouping fibromyalgia patients according to response to therapeutic interventions: a new concept for a disease with low treatment-response rates

Michael Schirmer[1]

Received: 10 July 2015 / Accepted: 7 December 2015 / Published online: 16 December 2015

Patients with fibromyalgia (FM) are usually difficult to treat, and new concepts are needed to improve patients' outcome. For example, it may be helpful to define subgroups of FM patients with similar symptom profiles, e.g., as done by using the OMERACT core symptom domains for FM [1]. Laboratory parameters are not available for FM, and for imaging assessment using ^{18}fluoro-fluorodeoxyglucose-positron emission tomography (^{18}F-FDG-PET), only preliminary data are available: An increase in limbic metabolism was noted with concomitant symptomatic improvement, suggesting that the limbic system attenuates FM symptoms [2]. Considering these principal issues, it could be anticipated that treatment approaches to FM patients are insufficient [3–5], as long as well-defined subgroups are not separately studied in interventional trials.

Only recently Mustafa and Diab [6] reported a promising therapeutic approach in patients with long-standing FM according to the ACR 1990 criteria and limited C1–C2 range of motion based on the flexion–rotation test. After stratification of patients primarily on pre-medication and age, the patients completed a 12-week multimodal program with education, cognitive behavior therapy and exercise. In addition to the multimodal program, patients in the experimental group also received upper cervical manipulative therapy as described by Maitland et al. [7] (after vertebral artery tests on both sites and gentle neck massage). Although outcome parameters were equally improved after 12 weeks of treatment, the long-term analysis showed on holding changes that favored the FM management outcomes of the experimental group.

It was certainly critical for the outcome of this study that Mustafa and Diab [6] included only FM patients with a limited C1–C2 range of motion based on the flexion–rotation test. The occurrence of severe FM after surgery had already been observed in 1991 [8], but the concept that surgery or trauma may initiate FM is still debated despite "weak to nonexisting evidence" [9], and the results of a 3-year follow-up study showed that whiplash injury and road accident trauma are not associated with an increased risk of FM [10].The present criteria used for classification of FM may also result in high rates of diagnosis in whiplash patients because of persistent localized tenderness after motor vehicle collisions [11]. An even broader field of multidisciplinary symptoms will be presented by patients classified according to the (modified) preliminary American College of Rheumatology (ACR) 2010 diagnostic criteria [12], and in case of including "fibrofog" into consideration as recently reviewed by Kravitz and Katz [13]. Detection of effective interventions related to specific causes of FM may become even more difficult when using more general inclusion criteria like these (e.g., without tender points).

Already in 1997, Buskila et al. [14] reported FM following injury in 22 % of those with neck injury versus 2 % of the control patients with lower extremity fractures ($P = 0.001$), and Blunt et al. [15] observed improvement of patients' cervical ranges of motion together with improvement of pain levels after chiropractic management—although their study was not powered sufficiently. Only 14 years later in 2011, Castro-Sánchez et al. [16] reported a significant reduction in pain at 13 of the 18 tender points after 20 weeks of craniosacral therapy in the intervention group. So it seems that Mustafa and Diab added more specific information on possible effects of cervical

✉ Michael Schirmer
schirmer.michael@icloud.com

[1] Department of Internal Medicine, Clinic VI, Medical University of Innsbruck, Anichstrasse 35, 6020 Innsbruck, Austria

interventions in FM patients, as they focus on patients with a limited C1–C2 range of motion based on the flexion–rotation test with subsequent cervical manipulative therapy as described by Maitland et al.

To my opinion, it is an intriguing new concept of subgrouping FM according to specific findings responsive to a specific therapeutic intervention. Maybe more subgroups can thus be defined in the future. The field is open for discussion and further projects.

Compliance with ethical standards

Conflict of interest The author declares that he has no conflict of interest.

References

1. Vincent A, Hoskin TL, Whipple MO et al (2014) OMERACT-based fibromyalgia symptom subgroups: an exploratory cluster analysis. Arthritis Res Ther 16(5):463. doi:10.1186/s13075-014-0463-7
2. Walitt B, Roebuck-Spencer T, Esposito G et al (2007) The effects of multidisciplinary therapy on positron emission tomography of the brain in fibromyalgia: a pilot study. Rheumatol Int 27(11):1019–1024
3. Langhorst J, Klose P, Dobos GJ, Bernardy K, Häuser W (2013) Efficacy and safety of meditative movement therapies in fibromyalgia syndrome: a systematic review and meta-analysis of randomized controlled trials. Rheumatol Int 33(1):193–207
4. Baranowsky J, Klose P, Musial F et al (2009) Qualitative systemic review of randomized controlled trials on complementary and alternative medicine treatments in fibromyalgia. Rheumatol Int 30(1):1–21
5. Casanueva-Fernández B, Llorca J, Rubió JBI, Rodero-Fernández B, González-Gay MA (2012) Efficacy of a multidisciplinary treatment program in patients with severe fibromyalgia. Rheumatol Int 32(8):2497–2502
6. Moustafa IM, Diab AA (2015) The addition of upper cervical manipulative therapy in the treatment of patients with fibromyalgia: a randomized controlled trial. Rheumatol Int 35(7):1163–1174
7. Maitland G, Hengeveld E, Banks K et al (2000) Matiland's Vertebral manipulation, 6th edn. Butterworth, London
8. Disdier P, Harle JR, Brue T et al (1991) Severe fibromyalgia after hypophysectomy for Cushing's disease. Arthritis Rheum 34(4):493–495
9. Wolfe F, Häuser W, Walitt BT, Katz RS, Rasker JJ, Russell AS (2014) Fibromyalgia and physical trauma: the concepts we invent. J Rheumatol 41(9):1737–1745
10. Tishler M, Levy O, Amit-Vazina M (2010) Can fibromyalgia be associated with whiplash injury? A 3-year follow-up study. Rheumatol Int 31(9):1209–1213
11. Robinson JP, Theodore BR, Wilson HD, Waldo PG, Turk DC (2011) Determination of fibromyalgia syndrome after whiplash injuries: methodologic issues. Pain 152(6):1311–1316
12. Fitzcharles M-A, Shir Y, Ablin JN et al (2013) Classification and clinical diagnosis of fibromyalgia syndrome: recommendations of recent evidence-based interdisciplinary guidelines. Evid Based Complement Altern Med. doi:10.1155/2013/528952
13. Kravitz HM, Katz RS (2015) Fibrofog and fibromyalgia: a narrative review and implications for clinical practice. Rheumatol Int 35(7):1115–1125
14. Buskila D, Neumann L, Vaisberg G, Alkalay D, Wolfe F (1997) Increased rates of fibromyalgia following cervical spine injury. A controlled study of 161 cases of traumatic injury. Arthritis Rheum 40(3):446–452
15. Blunt KL, Rajwani MH, Guerriero RC (1997) The effectiveness of chiropractic management of fibromyalgia patients: a pilot study. J Manip Physiol Ther 20(6):389–399
16. Castro-Sánchez AM, Matarán-Peñarrocha GA, Sánchez-Labraca N, Quesada-Rubio JM, Granero-Molina J, Moreno-Lorenzo C (2011) A randomized controlled trial investigating the effects of craniosacral therapy on pain and heart rate variability in fibromyalgia patients. Clin Rehabil 25(1):25–35