

COGNITIVE FUNCTIONAL THERAPY FOR THE MANAGEMENT OF A 36 Y/O FEMALE WITH PERSISTENT BACK PAIN AND MODIC CHANGES TYPE 1

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Background

Chronic low back pain represents a complex interaction of structural, cognitive, emotional, social, physical, neurophysiological and lifestyle factors (Figure 1).

Modic changes type 1 are reported to be associated with low back pain and resistant to care.

Cognitive Functional Therapy (CFT) targets underlying modifiable negative cognitions and pain behaviors contributing to pain sensitivity, pain related distress and disability in an individualized manner. To date the role of CFT in patients with Modic changes type 1 has not been explored.



Figure 1

Purpose

This case study describes the CFT management of a patient with persistent low back pain with Modic changes type 1.

Case

Interview

A 36 year old female with right sided LBP, insidious onset six months earlier.

Aggravating factors: Sitting, forward bending positions, exercise e.g. exercise bike.

Cognitions: Relaxing her spine out of lordosis could damage her spine. Feared that something was wrong with her disc and pelvis.

Emotions: Pain anxiety, fear of structural damage and frustration.

Lifestyle: Inactive.

Social distress: Divorce and financial stress.

Co-morbidity: Previous history of depression.

Goals:

Short term goal - play with her son, house work.

Long term goal - exercise in order to reduce weight.

Radiology: MRI scan (Figure 2): L5/S1: Modic changes type 1, facet joint arthrosis, and severe disc degeneration.

Physical examination (PE)

Postural and movement examination during sitting and forward bended activities. Modifying these behaviors reduced her pain (Figure 3).

Palpation: sensitized at L5/S1

SLR: 90/90

Neurological: NAD

BMI 39

Management

Making sense of pain:

Outline vicious cycle of pain and disability (Figure 4)

Exposure with pain control: (Figure 3)

She was guided to posture and move in a relaxed way without protective guarding to enhance pain control. Exposure to previously avoided movements (bend and lift) and activities (house work, playing with her child and physical activity).

Physical activity: Ride her bicycle daily with relaxed spinal posture.

The follow up sessions (3 in 8 weeks) focused on building confidence in the new movement and postural strategies.

Goals: Playing with her child, house work and exercise.

Outcomes

See table 1



Figure 2 MRI scan, sagittal plan, T2: Modic changes type 1 and severe disc degeneration at L5/S1

Sitting behavior	Sitting behavior change
Hyper-lordosis and unloading the right side with bracing of the abdominal wall.	The patient reported less pain when instructed to relax in sitting and equal weight bearing.
Forward bending movement	Forward bending movement change
Thoraco-lumbar lordosis maintained with co-contraction of the abdominal wall. Bodyweight supported by hands, breath holding and unloading of the right leg.	The patient reported less pain when instructed to relax her back and abdominal muscles during forward bending.

Figure 3 Changing provocative postural and movement behaviors

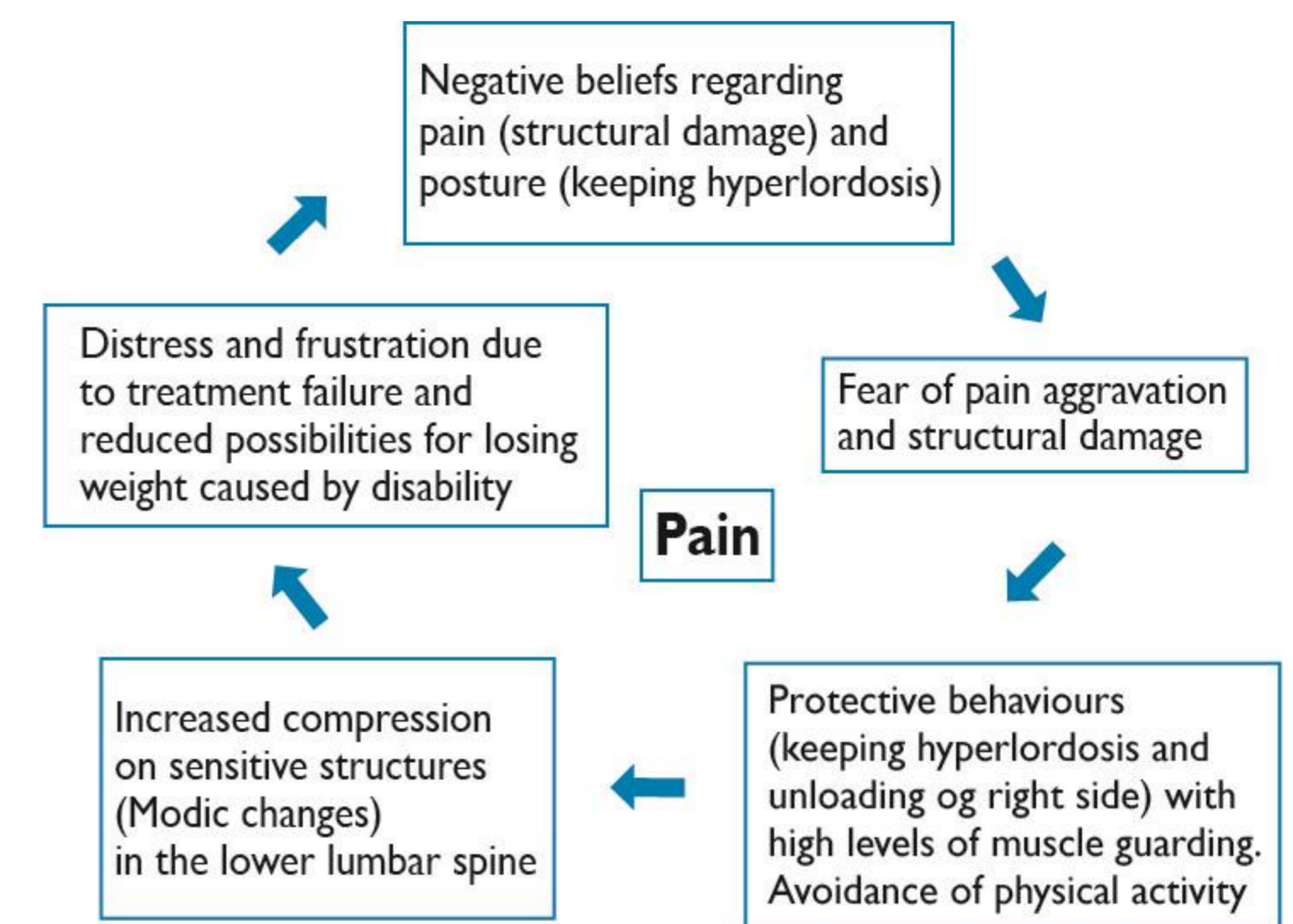


Figure 4 Making sense of pain

Table 1 Outcomes

	Baseline	Post treatment	12 months follow up	20 months follow up
Back pain (NRS 0/10)	5	1	1	1
Leg pain (NRS 0/10)	2	1	0	0
Disability RMDQ (%)	43%	-	8%	0%
Catastrophising (0-10)	2	-	0	1
Anxiety (0-10)	8	-	1	0
Depression (0-10)	1	-	1	1
Fear of movement (0-10)	6	-	0	2
General health (0-100)	50	-	70	90
Treatment satisfaction	-	-	very satisfied	very satisfied

Discussion

- Negative pain cognitions and behaviors are provocative of pain and disability
- May interact with Modic changes type 1 via mechanical loading of pain sensitive structures
- CFT helped make sense of pain, enhanced pain control and returned her to valued activities
- Persistent LBP associated with Modic changes type 1 may be amenable to CFT
- Further research is needed

Limitations

Conclusions regarding direct causality cannot be made and natural history could have biased the outcome.

Conclusion

This case highlights the possible relationships between negative cognitions, fear and pain provocative behaviors linked to sensitized spinal structures.