

CAN POSTURAL IMPROVEMENT OF A SCOLIOSIS FOLLOWING GLOBAL OSTEOPATHIC INTERVENTION HELP TMJ FUNCTION? A CASE STUDY

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INTRODUCTION

- Temporo-mandibular joint (TMJ) dysfunctions origins include musculo-skeletal and neuro-muscular disorders. The dysfunctions are often found in the general population after adolescence and more frequently in women. (2)
- 9 to 13% of the general population are affected by TMJ dysfunctions. (2) However, only 4 to 7% consult for this problem. Crepitus and crackling are the most common dysfunction. Although less frequent, reduced mandibular opening is very disabling, thus is a significant reason for consultation. (3)
- Conventional treatments consist of dentistry medicine and physiotherapy.
- TMJ functional or normal range is 35 to 40 mm. (4)

OBJECTIVE

The objective of this case study is to describe the effects of osteopathic global postural intervention on oral cavity, mastication apparatus and TMJ function.



Fig. 1 Scoliosis radiography

METHODOLOGY

25 years old student, right handed and physically active consulted in June 2013 for reduced mouth opening with cracking of the right TMJ. TMJ pain was radiating to the neck and right upper trapezius muscle.

Previous treatments received:

- Orthodontic care at the age of 12 and 22 years old
- Dentistry with occlusion splint with no improvement in mandibular opening and pain
- Posturologist, chiropractic and local TMJ manual osteopathic treatments with minimal results in pain relief and no change on mouth opening
- An X-ray showed a leg length discrepancy of 0,5 cm, the right being longer than the left

TMJ evaluation:

- Mandibular retraction
- TMJ opening at 23 mm, measured with a caliper

General evaluation:

- Double scoliosis with apex at D4 and D11. Left scoliosis from D10 to D12 and right scoliosis from D3 to D5,
- Anterior dysfunction of the right iliac
- Diaphragm tension at phrenic center and right crus.
- Several muscular tensions: both piriformis, right psoas, sub-occipital muscles, right upper trapezius, right SCOM
- Tensions in thoraco-lumbar fascia and deep and mid layer of cervical fascia
- Tension on spinal dura matter.



Fig 2. Caliper used for the measurement of TMJ opening

The patient received 5 osteopathic treatments

1st Treatment:

- Myofascial normalizations of the diaphragm, the right psoas, the thoraco-lumbar fascia and the deep and mid cervical fasciae
- Home program including soft tissue release of the back and leg muscles on foam roller and core

2nd Treatment:

- Myofascial release of the same structures, myotensive normalization of the right iliac
- Occipital spread

3rd to 5th Treatment

- Right psoas stretch
- Abdominal stabilization exercises
- Breathing exercises
- Stabilization and strengthening exercises

RESULTS

After 1st treatment:

- Reduced scoliosis appearance with residual tension in the right upper trapezius and psoas muscle
- Subjective improvement of the mandibular opening

After 2nd treatment:

- Reduced scoliosis appearance
- TMJ opening went from 23 to 36 mm, measured with a caliper

After 5 treatments:

- Reduced scoliosis without muscle and fasciae tensions
- Mandibular opening measured at 38 mm, no pain felt in the TMJ

DISCUSSION

Following unexpected outcome from parietal treatment of the spine and pelvis on mouth opening, we questioned ourselves on potential effects of postural chain correction on the TMJ. The treatment applied aimed relief of postural chain tensions with manual treatment combined with exercises for stretching and strengthening the pelvic girdle. TMJ range of motion was normal after 5 treatments without local TMJ treatment. Other studies document an interaction between TMJ and the spine (1,3). Patients with scoliosis also tend to have more orthodontic abnormalities (1). Therefore, there is a possibility that pelvic and spine treatment reduces TMJ dysfunction. A study, addressing similar TMJ cases, suggests starting manual intervention with normalization of lower limb, lumbar, pelvic, dorsal, thoracic, cervical, skull and then jaw dysfunction (3). This suggests that TMJ problems could benefit from a postural approach especially with patients who present with scoliosis.

CONCLUSION

Co-morbidity of postural troubles and TMJ dysfunction is frequent (1). This case highlights that a global approach to these problems including osteopathic evaluation and treatment could increase the efficiency of orthodontic treatments mainly for TMJ range of motion and pain reduction.



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