

The osteopath, as an indispensable collaborator in a combined case study of orthodontics and orthognathic surgery

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BEFORE ORTHODONTICS AND SURGERY AFTER ORTHOGNATHIC SURGERY

BACKGROUND

- ✓ 1.5-2 million individuals seem to be affected by developmental dentofacial deformities in the USA and are potential candidates for orthognathic surgery.(1)
- ✓ Irradiating and persistent pain is common.(2)
- ✓ Classic treatment options are painkillers, in addition with prophylactic antibiotics and post-operative self-care instructions such as all-liquid diet.
- ✓ Physiotherapy and myofunctional rehabilitation are also used.(3)

OBJECTIVE

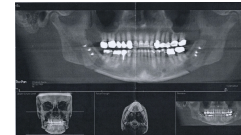
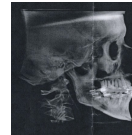
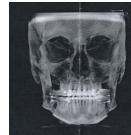
- ✓ The objective of this case study is to document the effects of complementary cranial osteopathic treatments on the postoperative symptoms in a 53-year-old male.

METHODS

- ✓ The patient complained of tinnitus, and tension headaches. He mentioned a loss of sensation in the chin, pain in the right temporomandibular joint (TMJ), limited jaw opening (22 mm), and pain during functional activities such as chewing, yawning and speaking.
- ✓ Associated conditions: this patient has had a major car accident in the past (whiplash).
- ✓ Orthodontic treatment for two and a half years, commencing one and a half years before the advanced mandibular surgery (9 mm) (Nov. 2014). Braces were finally removed 9 months after the surgery.
- ✓ Osteopathic assessment and treatment: Cranial assessment and 8 cranial osteopathic treatments over a six-month period, beginning 2 months after surgery.
- ✓ Assessment and treatment:
 - ✓ Hard tissues: bones of the skull, crano cervical articulation, both TMJ, facial bones,
 - ✓ Soft tissues: mouth floor, masticatory muscles, intraoral scars, perioral muscles, pharyngobasilar fascia and cervical fascias,
 - ✓ Cranio sacral membranes: dura mater.



XRAY BEFORE SURGERY (1) AFTER SURGERY (2-3-4)



OSTEOPATHIC TREATMENT

This surgery has changed the relationship of patient's facial bones.
An osteopathic intervention permits verification of soft tissues so they can better adapt to the new morphology.



RESULTS

- ✓ Osteopathic procedures favoured the freedom of movement of the bones constituting the TMJ and freed the muscular tension of the total masticatory apparatus.
- ✓ An increase in mandibular range of motion (jaw opening finally increased to 45mm after treatment) and reduced tinnitus (100% on the left side and 85% on the right one) and headaches, from the third treatment onwards.

DISCUSSION

- ✓ Orthodontic bracing associated with a history of whiplash contributed to the reduction of the cranial motion, particularly affecting the cranial membranes, directly linked by the insertion of the tentorium cerebellum with the temporal bones and TMJ.
- ✓ In this case, Osteopathic Manipulative Treatment (OMT) seems to improve mandibular kinematics of temporomandibular dysfunction, affecting both, hard and soft tissues.
- ✓ OMT allows evaluation of structures such as tissues in the oral area and offers tools to treat restrictions of movement.
- ✓ Functional movements are mainly governed by the trigeminal nerve, which could contribute to pain and muscle tension.
- ✓ This shows how it is possible to help patients by connecting the relationship between structure and functions of all the facial and masticatory apparatus.

CONCLUSION

- ✓ The results of this case study suggest that cranial osteopathy treatments, including membranous approach, can induce improvements of specific postoperative symptoms in orthognathic surgery.
- ✓ Complementary cranial osteopathic treatments helped the patient regain fundamental functions related to TMJ problems.
- ✓ More studies on the effects of cranial osteopathic treatment on postoperative orthognathic surgeries are needed.

(1) Patel, PK. & al <http://emedicine.medscape.com>

(2) Renton, T. 2011. Persistent pain after dental surgery, British Journal Of Pain, 5(1), 8-17.

(3) Gallerano, G. & al. 2012. Myofunctional and speech rehabilitation after orthodontic-surgical treatment of dento-maxillofacial dysgnathia, Prog Orthod, 13(1), 57-68.



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