CASE REPORT

Osteopathic Manipulative Treatment in Improving Health Related Quality of Life in a Patient with Gastroesophageal Reflux Disease: A Case Report

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Abstract

The case report presents a 30-year-old female, diagnosed as GERD, and presented with the complaints of pain and burning feeling behind the breastbone, and a wave of burning heat travelling momentarily from epigastric. OMT was given once/week for 4 weeks. Health-related quality of life scale for gastroesophageal reflux disease (HRQL-GERD), quality of life scale (QS-GERD) Symptom score, 24 hr. esophageal pH metry, DeMeester was measured at baseline, 4th week post OMT and 2nd week follow-up. The application of OMT reduced the symptoms and improved, 24 hr. esophageal pH metry, DeMeester score and HRQL-GERD and QS-GERD Symptom score.

Key Words

Reflux, Functional dyspepsia, Osteopathy, Manual therapy

Background

Gastroesophageal reflux disease (GERD) is the mucosal damage caused by abnormal reflux of the gastric contents in the esophagus or beyond into the oral cavity. It is manifested in various symptoms grouped into typical (heartburn, acid regurgitation), atypical (epigastric fullness, burping, epigastric pain) and extra esophageal (chronic cough, globus, wheezing, bronchospasm etc.) respectively (1). Based on the endoscopy findings it can categorized into either non erosive GERD or erosive GERD. It compromises the activities of daily living of a sufferer due to alteration in the eating habits and disturbing the sleep pattern (2). The quality of life scale (QS-GERD) that comprises of questions regarding quality of life helps determine the treatment effect (2). The purpose of the present case study was to explore the efficacy of osteopathic manipulative treatment (OMT) in patient to improve the symptoms and the quality of life.

Case Study

The author reported a 30 years old female case who presented with the complaints of pain, frequent burping and burning feeling behind the breastbone which increases on lying down and turning to the left in bed, for the last couple of months. The patient reported no weight loss, any other past significant medical history. The upper gastrointestinal endoscopy revealed no esophagitis. The 24-hr. pH metry reported pH= 5.2 and DeMeeste score of 32. The HRQL-GERD scale, QS-GERD Symptom score reported score of 52 and 43. The physician diagnosed it as a case of non-erosive GERD. She had

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been taking proton pump inhibitor (pantoprazole 40 mg) one tablet empty stomach in the morning and modifying the eating habits and posture since her diagnosis was made. She was referred to the physiotherapy department for further assessment and management.

Osteopathic palpatory examination revealed somatic dysfunction at T6-T7 with restriction in flexion, side bending and rotation towards right and tenderness along the region T6-T7. Tissue congestion was palpated in the epigastric region with the reduced abdominal diaphragm excursion. Sternal motion examination revealed torsional strain that could lead to tenderness present below the clavicle on the right side in the thoracic inlet region. Tenderness and restriction were also noted along the Linea Alba. Hypo-mobility was also present at upper lumbar spine (L1-L3) as diagnosed by passive physiological and accessory intervertebral movements. Her sacral diagnosis revealed left on left sacral torsion, with stiffness presented at occipital atlantal (OA) junction. Local listening findings noted were restriction at gastroesophageal (GE) junction, pyloric sphincter (PS), sphincter of Oddi (SO) and poor motility at stomach and gall bladder. All the findings noted contributed to the disturbance of primary respiratory mechanism (PRM).

The osteopathic treatment protocol focused on treating the somatic dysfunctions, restrictions noted and restoring the motility for once a week for 4 weeks. The techniques included were muscle energy technique (MET) to treat T6 – T7 somatic dysfunction (*Figure 1*), normalize the sacral torsional dysfunction, upper lumbar hypo-mobility. Myofascial release techniques (indirect and direct, both) were applied to balance the abdominal (*Figure 2*) and thoracic inlet diaphragms', respectively. Linea Alba release was incorporated to address the respective dysfunctions. The sphincter normalization by recoil techniques was utilized to relax the sphincters. The QS-GERD, HRQL-GERD, pH metry, and DeMeester score assessment was done for the disease at baseline, 4 weeks, and 2 weeks after the fourth session (follow-up).

Figure 1: Muscle Energy Technique to T6-T7

Figure 2: Myofascial Release Techniques to Abdominal Diaphragm

Discussion

The results procured after 4 sessions and 2 weeks follow up of OMT revealed improvement in the pH score, reduction in reflux symptoms and improvement in quality of life after the follow up of 2 weeks (*Table 1*).

Table 1: Pre and Post and Follow-up Osteopathic Manipulative Treatment (OMT) Approach Changes in Patient with Gastroesophageal Reflux Disease (GERD)

S. No.	Variables	Baseline	Post OMT (4th week)	Follow-up OMT (2nd week)
1.	pH	5.2	4.2	3.8
2.	DeMeester Score	32	15	12
3.	HRQL-GERD	52	14	12
4.	QS-GERD Symptom Score	43	08	05

OMT: Osteopathic Manipulative Treatment; HRQL-GERD: Health-related quality of life scale for gastroesophageal reflux disease; QS-GERD: Quality of life scale Symptom score

We obtained a change score of 38 points from the baseline in the HRQL-GERD questionnaire after the 4 sessions of OMT. Eguaras *et al*. (3) noted an improvement of 37% after application of 1 session of visceral osteopathy of 5 mins. Another study by Martinez–Hurtado *et al*. (4) obtained 14 points (102 to 116) improvement over 4 weeks, through the application of two 25 min sessions of a myofascial release protocol. The results of these studies are similar to our study, signifying the benefits of OMT treatment in GERD. Moreover, the QS-GERD score also reported improvement in the quality of life (43 to 5) and level of "satisfaction" at 2 weeks of follow up. These results are very similar to Leonardo Rios Diniz *et al*. (2) who used similar techniques for 3 sessions and reported a score of 5 and level of satisfaction as "satisfied" at QS-GERD after 2 weeks of follow up.

Diaphragm and the oesophagus play an important role in maintaining the antireflux barrier in addition to the viscerosomatic reflex at the thoracic or cervical spine (2,5). Addressing these causes, in the current study we have applied the techniques of MFR at diaphragm and MET at T6-7 and upper lumbar spine to provide relaxation of LES. It is believed that, these techniques lead to the reduction in the excitability of the celiac ganglion and vagal stimulation via inhibition of the motor neurons of the LES and hence resulted in the relaxation of the LES and reduction in the symptoms of non-erosive GERD (6,7,8). This relation is also been previously considered by Eguaras *et al*. (3) in their study done on patients with non-erosive GERD where they also administered PPIs. In the current study, the patient was not administered with any dose of PPI, hence, the improvement is believed to be a result of the OMT protocol.

Lumbar hypomobility, and sacral torsion dysfunction was addressed by MET. Previous studies have shown that lumbar stiffness increases the intrabdominal pressure (3,8,9), therefore modifying the pressure gradients by removing the physiological constraints improved the symptoms of GERD.

Practically the results of the present study had the positive outcomes of OMT application in GERD patients, but the results obtained from a single case report cannot be generalized to a larger population. Moreover, the patient in our study, was suffering with non-erosive GERD, more research is needed to understand the role of osteopathy in the multidisciplinary management of erosive-GERD, with severe symptoms.

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Conflicts of Interest
There are no conflicts of interest.

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