

## Original Research Article

# Study the effect of osteopathic manipulation treatment in globus pharyngeus patients

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## ABSTRACT

**Background:** This study evaluates the outcome of osteopathic manipulation in the patients with globus pharyngeus.

**Methods:** The study comprised of 50 patients with globus pharyngeus. All cases were provided major body diaphragms release namely pelvic diaphragm, abdominal diaphragm, thoracic outlet release, hyoid release, gastroesophageal junction release and sphenoid basilar junction generalized release in some selected cases as per their symptoms. Patients were treated 2 times in a week for 3 weeks.

**Results:** Results were analyzed on the basis of patient's satisfaction and improvement in the symptoms on regular basis after 2 wks. Visual analogue score (VAS) and clinical assessment were used to see the quantum of satisfaction and overall symptoms. The mean VAS score of patients receiving OMT (MFR) with PPI was  $6.23 \pm 0.43$  and patient who required psychotherapy along with OMT (MFR) had the VAS score of  $3.78 \pm 0.17$  ( $p < 0.05$ ).

**Conclusions:** The patients required multidisciplinary approach hyoid bone release and other osteopathic manipulations, anti-reflux and antipsychotic treatment. The patients having psychological symptoms requiring antipsychotic drugs were found to be least respondent to the treatment. Patients having associated GERD showed a good response to the treatment and their dependency on drugs decreased following the OMT. The best response was seen in patients having no associated ailment and received OMT (MFR).

**Keywords:** Globus pharyngeus, Hyoid bone somatic disorder, OMT, Myofascial release, GERD

## INTRODUCTION

Globus pharyngeus is defined as sensation of a lump in the throat. The condition was described way back in the era of Hippocrates.<sup>1</sup> It was described as globus hystericus by him because of its association with female with psychiatric disorder like depression.<sup>2</sup> Later it was found that condition was present in both gender with slight female predominance and in normal individuals, so now it is known as globus pharyngeus.<sup>3</sup> Previous study suggested its co-existence with many condition e.g.

GERD, upper sphincter spasm, esophageal motor disorder, pharyngitis, tonsillitis, sinusitis, upper GI malignancy, hypertrophy of base tongue, retrovert epiglottis, thyroid diseases, cervical heterotropic gastric mucosa, laryngo-pharyngeal tumors, psychological factors and stress.<sup>4</sup>

Condition is clinically described by the patients differently. Symptoms are throat irritation, soreness, dryness, catarrh, constant throat clearing etc. Range of investigations were suggested by different authors to

correlate the condition with its different etiological factors e.g. Barium Swallow, naso-pharyngeal and laryngoscopy, upper GI endoscopy, videofluoroscopy, 24hr dual probe ambulatory pH monitoring, 24hr multichannel intraluminal impedance monitoring, manometry.<sup>5</sup> The condition may be confused with hyoid bone syndrome, Eagle's syndrome and Earnest Syndrome. No definitive treatment available till now. Treatment options are anti-reflux treatment, speech therapy, anti-depressant therapy and cognitive-behavioral therapy. In our study we believe that condition is related to the malfunctioning of the Hyoid diaphragm of our body. Most of the nerves, muscles and ligaments of our body pass through this diaphragm and tightness of these diaphragm leads to these somatic disorders. Globus is 4<sup>th</sup> most common somatic disorder and others are vomiting, aphonia and painful extremities. Osteopathic manipulative treatment includes release of these diaphragms of our body along with minimal drug treatment to the patient. This is a noble approach to the condition and the study is unique in its type and not reported till now in the literature for the globus pharyngeus and other nonspecific throat symptoms.

**Aims and objectives**

- 1) To know the incidence of different presenting symptoms and other associated symptoms in patients of Globus pharyngeus.
- 2) To evaluate the effect of osteopathic manipulation technique in Globus pharyngeus patients.

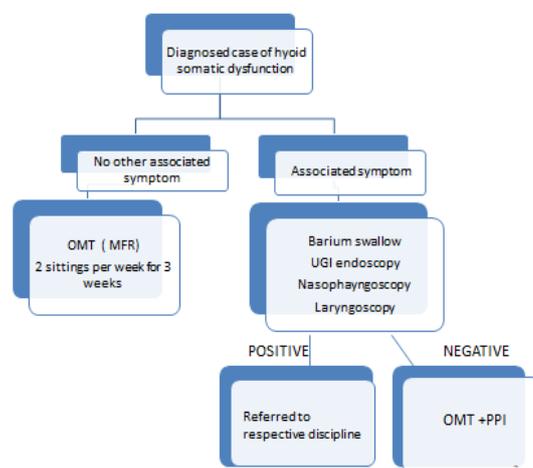
**METHODS**

The study was done in the department of ENT with collaboration of college of Physiotherapy and Psychiatry in MMIMSR, Mullana Ambala between the periods of April 2014 to March 2016. Study included 50 clinically diagnosed cases of Globus pharyngeus. The exclusion criteria are

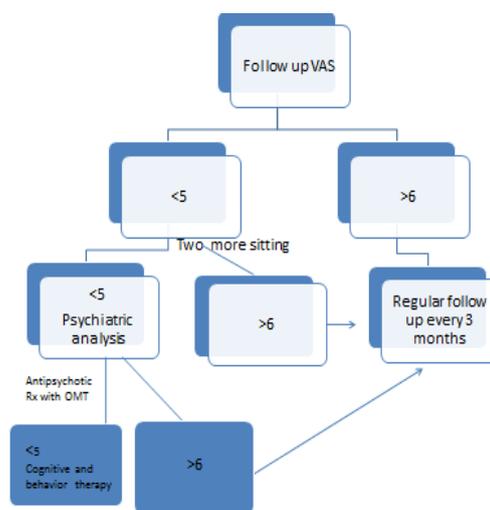
- 1) Cases with dysphagia and positive finding in Barium swallow or upper GI endoscopy.
- 2) Cases with neck swelling.
- 3) Neck trauma.
- 4) History of any head and neck surgery.

Detailed history was taken along with thorough ENT and Head and Neck examinations were done. If the condition was associated with dysphagia, change in voice, hypo or hyperthyroid symptoms, retrosternal burning sensation or features of anemia than the subject was undergone specific investigations like CBC, barium swallow, upper GI endoscopy, USG Neck and Nasopharyngology (Figure 1). Hyoid bone somatic dysfunction was diagnosed by TART (Tenderness, asymmetry, restriction and tissue texture changes) at the anterior neck particularly in the location of hyoid bone. Myo-facial release (MFR) treatment was given to the patient to all the major diaphragm of the body (Hyoid bone, abdominal

and pelvic). MFR is one of the methods of osteopathic manipulation treatment (OMT). It is a type of physiotherapy given to the patient with somatic disorder. Patients with Earache, eye ache and toothache were requiring additional cranio-sacral and temporal fascia release and occipital-atalantal release. OMT (MFR) was given to the patient with 2 sitting per week for 3 weeks. Results were evaluated by Visual analogue Score (VAS) at the end of 3 weeks for every individual symptom. VAS scale ranges from 1-10. If score was 5 or more than that then we considered it as a satisfactory result and if less than 5 than took psychiatric help to keep patient on antipsychotic treatment along with MFR for 3 weeks than re-evaluate the patient. If after 3 weeks score remain <5 than patient is subjected to long term psychiatric treatment along with behavior therapy and if >5 than we do regular follow up every 3 month (Figure 2). One way ANOVA was used to compare the four treatment groups and the difference was statistically significant (p<0.05).



**Figure 1: Flow diagram showing the study design.**



**Figure 2: Flow chart showing the follow-up results on the basis of VAS.**

## RESULTS

Study included 50 subjects for the study. Incidence of the condition was more common in female (55%) than male (45%) (Table 1). It was common in 4<sup>th</sup> decade of life between 31-40 years (44%) followed by 41-50 (24%), 21-30 (16%), 51-60 (14%) and 2% between 10-20 years of age (Table 2). Sensation of a lump in throat was the most common (72%) presenting symptoms followed by throat irritation (10%), soreness (10%), throat pain (4%) and frequent throat clearing (4%) (Table 3). GERD and its related symptoms (70%) were the most common associated symptoms followed by features of anxiety, stress (28%) and hypothyroidism (2%) (Table 4). Maximum no of patient 35 (70%) received MFR along with Proton pump inhibitor and life style changes. 14 (28%) patient received antidepressant and other psychiatric treatment along with MFR and 1 (2%) received MFR along with cranio-sacral release (Table 5). The mean VAS score of patients receiving OMT (MFR) with PPI was 6.23±0.43 and patient who required psychotherapy along with OMT (MFR) had the VAS score of 3.78±0.17. One way ANOVA was used to compare the four treatment groups and the difference was statistically significant ( $p < 0.05$ ). The patients having psychological symptoms requiring antipsychotic drugs were found to be mild response to the treatment. Patients having associated GERD showed a good response to the treatment and their dependency on drugs decreased following the OMT. The best response was seen in patients having symptom of lump in the throat with OMT (MFR).

**Table 1: Gender distribution.**

S.no	Gender	No. of patients	% of the patient
1	Male	22	44
2	Female	28	56

**Table 2: Age distribution.**

S.no	Age group	No. of patients	% of the patients
1	10-20	1	2
2	21-30	8	16
3	31-40	22	44
4	41-50	12	24
5	51-60	7	14
<b>Total</b>		50	100

**Table 3: Presenting symptoms.**

S.no	Chief complaints	No of patients	% of the patients
1	Sensation of a lump	36	72
2	Throat irritation	5	10
3	Soreness	5	10
4	Throat pain	2	4
5	Frequent throat clearing	2	4

**Table 4: Associated symptoms.**

S.no	Associated symptoms	No of patients	% of the patients
1	GERD and its clinical symptoms	35	70
2	Stress and anxiety	14	28
3	Hypothyroidism	1	2

**Table 5: Treatment.**

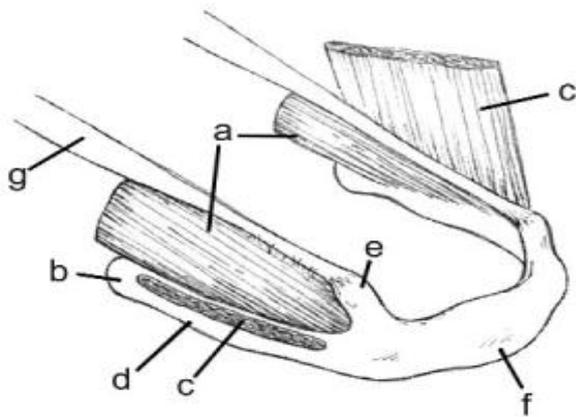
S.no	Treatment	No of Patients	VAS score (mean±SD)	% of the patients
1	OMT(MFR)+ PPI+life style changes	35	6.23±0.43	70%
2	Psychotherapy with OMT	14	3.78±0.17	28%
3	OMT (MFR)+ cranial manipulation	1	8	2%

## DISCUSSION

Globus pharyngeus is defined as a sensation of a throat lump without any pain and not associated with difficulty or painful swallowing.<sup>6</sup> Patients usually give long history and different mode of treatment. Condition has a tendency to recur in spite of long time intermittent treatment. The word globus pharyngeus was described by the Malcomson in the year of 1968 by noting that it had no relation with psychiatric condition.<sup>2</sup> The condition is common in middle age female than male as observed in our study which goes with previous study. The most common presenting symptom is lump in the throat (72%) followed by soreness (10%), throat irritation (10%), throat pain (4%) and frequent throat clearing (4%). Our results can be compare with other studies.<sup>6</sup> We found GERD (70%) is the most common etiology for the condition followed by stress, anxiety (28%) and hypothyroidism (2%). There is no universally accepted etiology for the condition but most of the researcher agreed for the GERD, abnormality of upper oesophageal sphincter, lingual tonsillar hypertrophy, cervical osteophytes, iron deficiency anemia, temporomandibular joint disorder, psychological and stress.<sup>7</sup> Burns found that one-third of patients with a thyroid mass complained of globus pattern symptoms.<sup>8</sup> Moreover post-thyroidectomy patients may also complain of globus pattern symptoms, although these symptoms frequently settle with time.<sup>9</sup> Ali and Wilson suggested that in 78% of patients presented to non-ENT clinics had globus type symptoms.<sup>10</sup> The Glasgow-Edinburgh Throat Scale (GETS) was used to measure the presence and severity of globus symptoms.<sup>11</sup> The GETS is a 10-items questionnaire, based on an 8 grade Likert scale, from 0 (absent) to 7 (unbearable). The total GETS score is computed summing the score of the 10 items, so the highest possible score is 70. Each item explores a different symptom in the domain of globus

pharyngeus. In its original form, the GETS showed a good reliability with a Cronbach alpha value of 0.83. Factor analysis revealed the presence of three subscales, grouping set of items: related to swallowing, related to globus sensation, related to painful throat. Two more items are present; whose score is not computed in the total GETS score but accounts for the somatic distress reaction to symptoms. (SDR score: how much time do you spend thinking about your throat? At present, how annoying does you find your throat sensation?). This scoring is not possible in our study as our patients were not educated enough to understand and intelligently give the score. Others scoring system were designed to know the severity of the different symptoms of the patients are reflux symptom index (RSI) and reflux finding score (RFS). RFS depends upon the Endoscopic changes in the larynx in laryngopharyngeal reflux cases.<sup>12</sup>

Globus is diagnosed on clinical basis and normally does not require any investigation. If it is associated with dysphagia, odynophagia, change in voice and sudden loss of weight than patients under goes certain investigations like barium swallow, upper GI endoscopy, fiber-optic laryngeal examination, pH monitoring etc.<sup>13</sup> Most of the cases in our study do not require any investigation. We make the diagnosis on the basis of history and clinical examinations. Retrospective study done by some author regarding the role of Barium swallow in these patients was found it noncontributory to the diagnosis.<sup>14</sup>



**Figure 3: Hyoid bone and its attachment.**

As there is no defined etiology of the condition so the treatment protocol is different for every clinician. It is subjected to the presenting symptoms of the patient. PPI is the standard treatment prescribed to the patient with variable doses whenever it is associated with GERD.<sup>15</sup> In our study 70% of our patients receive OMT along with PPI and life style changes because of its close association with GERD followed by psychiatric treatment for stress and anxiety (28%). Post treatment patients satisfaction level was accessed by VAS. We found patients with OMT (MFS) were the most satisfying results (VAS 6.23±0.43) as compare to the other groups. It was also observed with this combined treatment approach patients requirement

for the medicine was reduced significantly. Speech and language therapy were also tried by some of the author but without any benefit.<sup>16</sup> Hypnotically Assisted Relaxation (HAR) therapy has also been one of the methods to treat the condition by some authors.<sup>17</sup> Our concept of treating these patients based on the fact that most of our muscles, ligaments and nerves passes through major diaphragm of our body e.g. abdominal and pelvic. Hyoid bone is the most important structure for the globus and its associated somatic symptoms. Restricted or abnormal movement of the to the mandible (mylohyoid), tongue (hyoglossus), skull (stylohyoid), thyroid cartilage (thyrohyoid), sternum (sternohyoid), to the medial border of the scapular notch (omohyoid) and to the pharyngeal median raphe (MPCM ) (Figure 3).

Hyoid bone somatic disorder was diagnosed by TART (Tenderness, asymmetry, restriction and tissue texture changes) at the anterior neck particularly in the location of Hyoid bone. These patients undergo osteopathic manipulation treatment (OMT). It is a type of physiotherapy treatment given to the patients with somatic disorder.<sup>18</sup> Aim of the treatment is to restore the normal physiology of the body. It is based on the Principal 1) the person is a unit composed of body, mind, and spirit 2) the body is capable of homeostasis, self-healing, and health maintenance 3) structure and function are interrelated and 4) rational treatment is based on an understanding of the above principles.<sup>19</sup> Osteopathic physicians use different OMT techniques alone or in combination to resolve somatic dysfunction.

Treatments are either “direct,” in which the physician engages a patient’s restricted plane of motion, or “indirect,” in which the body is placed into a position of ease during treatment. OMT requiring a therapeutic correcting force is called an “active” treatment when provided by the physician and “passive” when provided by the patient.<sup>20</sup> There is different mode of giving OMT. These are - 1) high velocity low amplitude 2) Muscle energy 3) counter strain 4) Myo-fascial Release (MFR) 5) Cranio-sacral release 6) Lymphatic Treatment. Globus require MFR and occasionally cranio-sacral release in cases of earache, toothache and eye ache.

Myo-fascial release (MFR) - It is a technique that focuses on fascia and the surrounding muscles. Having found an area of myofascial strain, the physician applies compression or distraction forces to the somatic dysfunction using palpatory feedback to guide the strain to resolution. MFR techniques either directly or indirectly engage restrictive barriers depending on the physician’s perceived response of the fascia to palpation.<sup>21</sup>

## CONCLUSION

The study suggested that globus pharyngeus is not a single identity but it only represent one of the symptoms of the hyoid bone somatic disorder. GERD was the most common associated condition with globus. PPI is only

taking care oesophageal symptoms but for the extra-oesophageal symptoms we require OMT (MFR). It is one of the most effective and less expensive methods to treat the condition. Sensation of a lump in the throat was the symptoms which responded to treatment completely and just after 2-3 sitting of OMT. After full treatment patients requirement to PPI were reduced remarkably. Whenever there is a stress full situation in the life symptoms recur and require antipsychotic treatment along with OMT. The efficacy of the treatment for the Globus we require bigger sample size and multicenter involvement.

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