

Globus Pharyngeus - The Total Burden at a Tertiary Hospital in Gangtok, East Sikkim, North East India

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ABSTRACT

BACKGROUND

Globus Pharyngeus, previously known as Globus hystericus, is a persistent or intermittent non-painful sensation of a lump or foreign body in the throat of indeterminate origin. It is a commonly encountered clinical condition seen in ear, nose and throat Outpatient Department (ENT OPD). It is usually long-lasting, difficult to treat and has a tendency to recur. It is a common disorder and constitutes about 4 - 5 % of all new ENT referrals with a slight female preponderance. Sikkim is second smallest state in India with a total population of 6.1 lakhs. It is a mountainous region with subtropical climate. Central Referral Hospital is the only Medical College in the state and takes care of the patients from all over the state. This study was conducted to determine the prevalence of globus pharyngeus among patients attending ENT OPD.

METHODS

This was a descriptive cross-sectional study done in the ENT Outpatient Department (OPD) of Central Referral Hospital, Gangtok, Sikkim among patients attending directly or referred from the government health sectors with complaints of globus symptoms in the throat. Data was entered in Microsoft Excel 16.4 version and used for statistical purposes.

RESULTS

The total burden of the disease was found to be 0.6 % with 73.77 % of the patients with globus positive for *H. pylori* infection and 36 % of them positive for laryngopharyngeal reflex (LPR).

CONCLUSIONS

The number of globus cases found in this study (0.6 %) was comparatively less as compared to various studies done globally (4 - 5 %). The low number of cases determined in this study may be due to the bias of selection of the study population from the only available private tertiary care centre in the state.

KEYWORDS

Globus Pharyngeus, Foreign Body Throat

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BACKGROUND

The term globus hystericus, was first used by Purcell in 1707 due to its assumed association of the psychological aspect in its aetiology.¹ The term "Globus" in Latin means ball, which explains the sensation of persistent or intermittent non-painful sensation of a lump or foreign body in the throat of indeterminate origin in the condition.² In 1968 Malcom suggested new term Globus Pharyngeus for 'globus hystericus'.³ Usually globus worsens on dry swallowing and is relieved on ingestion of liquids and solids. It is frequently seen more in general population as most of the people with globus pharyngeus do not present in the hospital considering it to be a minor problem. The various symptoms associated with globus includes; dryness of throat along with irritation and soreness with constant efforts to clear the throat.

Globus hystericus has following features:

- A persistent or intermittent sensation of a foreign body or a lump present in the throat usually lasting for a period of minimum 12 weeks.
- Persistence of abnormal sensation in the throat mainly in between meals.
- No difficulty in swallowing (dysphagia) or no any kind of painful episodes on swallowing (odynophagia) food or liquids.
- Gastroesophageal reflux disease (GERD), achalasia and other motility disorder with a pathological basis like scleroderma of the oesophagus are usually absent.⁴

Various studies done globally showed that about 4 – 5 % of all new ENT referrals complained of globus. It is a commonly encountered clinical condition with a long-standing history with no fixed treatment protocol. It has a tendency to recur.⁵ One of the most important and common factors causing inflammation in the pharynx is due to laryngopharyngeal reflux (LPR) which is a vagally mediated reflex and *H. pylori* infection. In LPR, there is backward or retrograde flow of the gastric juices (acid, pepsin and bile) in the larynx and pharynx from the stomach which comes in contact with the mucosa of the upper aerodigestive tract.⁶ The acid perfusion in the distal oesophagus leads to rise of the upper oesophageal sphincter pressure thus leading to globus sensation.⁷

Sikkim is one of the least populated states in India. The total population according to the last census showed it to be approximately 6.1 lakhs (accounting for only 0.05 % of the total country's population). The state is notable for its biodiversity and the people living in this state belong to diverse religions, as in the mainland of India. The climate is notably subtropical in nature but ranges from extreme cold in the north to hotter areas in the south where it is bordered by West Bengal. Very limited literature is available on this particular topic of globus pharyngeus in India as well as globally. Among the North East Indian states, Sikkim is a beginner as far as health-related studies are considered. No study on this particular topic has ever been done in this state. This study was undertaken to determine the prevalence of globus pharyngeus in patients attending ENT OPD of Central Referral Hospital, Gangtok, Sikkim.

METHODS

The study was done in the Department of ENT, Sikkim Manipal Institute of Medical Sciences (SMIMS), Central Referral Hospital (CRH), 5th mile, Tadong, Gangtok, Sikkim. This was a descriptive cross-sectional hospital-based study. The study was conducted over a duration of 2 calendar years, from 1st October 2018 to 1st Oct 2020. All patients attending directly or referred from the government health sectors with complaints of globus symptoms in the throat to the Department of ENT at SMIMS, CRH, Tadong, Sikkim were included in the study (total enumeration). All patients complaining of foreign body sensation in the throat (globus sensation in throat) in ENT were included in the study.

Exclusion Criteria

Non-consenting individuals, post radiation patient for any head and neck malignancy, patients with thyroid swelling or history of thyroiditis, patients with any clinically detected neck swellings, patients with any condition resulting in impaired salivation, patients with complaints of foreign body sensation diagnosed with a foreign body via x-ray or local examination.

Data Collection Procedure

After obtaining informed consent from the patients with complaints of globus sensation in the throat, a questionnaire was filled followed by general and local examination. Then, a 90 degree or fiber optic laryngoscopy and *H. pylori* IgG test was conducted. For LPR diagnosis, reflux symptom index score was filled. It was a score, which was filled in by the patients themselves according to the severity of their symptoms. It was given to the patient in the form of a questionnaire. All Individuals with reflux symptom index (RSI) score of 13 or more were considered to have features of laryngopharyngeal reflux.⁸

The various features of the reflux symptom index score were as follows -

Within the last month, how did the problem affect you?

0 = No problem, 5 = Severe problem, Total score = (minimum 0, maximum 45), Reflux symptom index > 13 = abnormal / features of LPR present

Symptoms	Score					
	0	1	2	3	4	5
Hoarseness or problem with your voice						
Clearing your throat						
Excess throat mucus or post nasal drip						
Difficulty swallowing food, liquid or pills						
Cough after you ate or after lying down						
Breathing difficulties and choking episodes						
Troublesome or annoying cough						
Sensation of something in your throat						
Heartburn, chest burn, indigestion / stomach acid coming up						
Reflux Symptom Index						

All the patients involved in the study were subjected to a nine-step questionnaire to find out reflux symptom index (RSI) which was used to assess laryngopharyngeal reflux (LPR). Each item was to be given a score between 0 to 5 with a minimum score of 0 (that is no symptoms) and a

maximum score of 45 (involves all possible features).

All individuals with reflux symptom index (RSI) score of 13 or more were considered to have features of laryngopharyngeal reflux.

Statistical Analysis

The collected data was tabulated and analyzed by using the Statistical Package of Social Sciences (SPSS) version 16.0 for windows. Finding were expressed in terms of percentages and depicted in form of Tables.

RESULTS

This study showed that very few number of patients with globus sensation throat presented to the ENT OPD at Central Referral Hospital during the entire study period. The total number of patients who attended the ENT department in CRH, Sikkim Manipal Institute of Medical Sciences during the entire study period were 14800. Among those presenting with complaints of foreign body sensation, 89 of them were diagnosed as suffering from globus pharyngeus, and among them 61 of them agreed to participate and undergo various tests required and were included in the study.

The total number of globus pharyngeus cases were found to be 0.6 %. $89 / 14800 \times 100 = 0.6 \%$

Although, Central Referral Hospital, the place of study, is located in the capital of the state, 43 % of the study participants had come to the hospital with the complaint from surrounding rural areas. Majority of the study participants who were diagnosed as cases of globus were females (67 %) and majority of them were middle age-group graduates belonging to the upper lower socioeconomic class as seen in Table 1.

		N	%
Gender	Male	20	33
	Female	41	67
Age	11 - 20	3	4.92
	21 - 30	13	21.31
	31 - 40	23	37.7
	41 - 50	15	24.59
	51 - 60	6	9.84
	61 - 70	1	1.64
Education	Primary school	2	3.28
	Secondary school	3	4.92
	Higher secondary school	9	14.75
	Graduate	44	72.13
	Post graduate	3	4.92
SES	Upper	0	0
	Upper middle	13	21
	Lower middle	16	26
	Upper lower	32	53
	Lower	0	0

Table 1. Sociodemographic Parameters of the Study Subjects with Globus Pharyngeus (N = 61)

SES = Socioeconomic status

Socioeconomic status (SES) was assessed using Modified Kuppuswamy Scale (for classification of socio-economic status Feb 2019).

Among the 61 enrolled patients with globus pharyngeus, the most common symptom seen along with globus pharyngeus were: sore throat in 34 % cases, hoarseness of voice in 20 % cases, cough in 18 % cases, excess mucus in throat 12 % cases and 16 % of them had no additional

symptoms. Most of the patients had history of intake of pan / betel nut, alcohol or smoking with 23 % of the study participants with no history of intake of any intoxicating products.

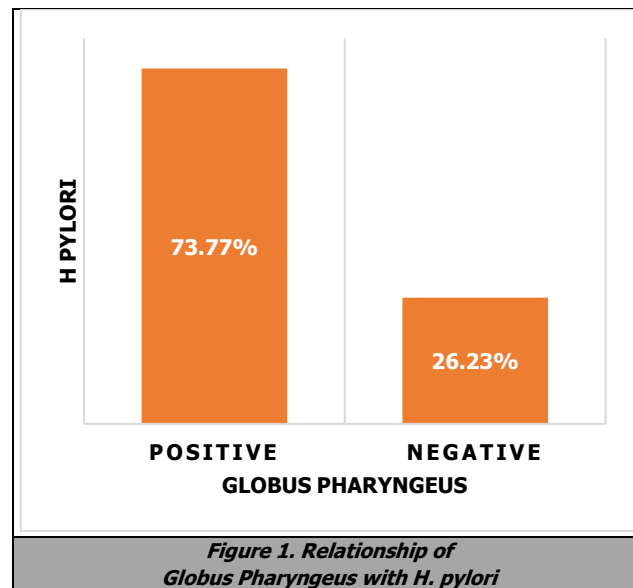


Figure 1. Relationship of Globus Pharyngeus with H. pylori

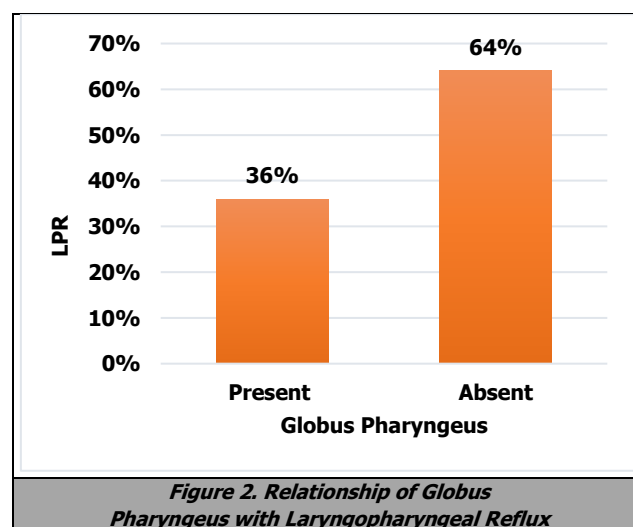


Figure 2. Relationship of Globus Pharyngeus with Laryngopharyngeal Reflux

26.2 % of the study participants were positive for both *H. pylori* and laryngopharyngeal reflux disease and 16.4 % of them negative for both *H. pylori* and laryngopharyngeal reflux disease.

DISCUSSION

Globus pharyngeus is commonly seen worldwide, and it has been estimated to have been experienced by up to 46 % of the apparently healthy individuals.¹ It is one of the most persistent or intermittent cause of non-painful sensation of a foreign body in the throat commonly seen, but due to its uncertain aetiology, it is difficult to diagnose its cause and treat it and therefore recurrence is seen frequently.¹ Several studies have been done on globus pharyngeus, its association with laryngopharyngeal reflux and *H. pylori* in several countries of the world as well as in India but limited

studies were available on it in North East India including Sikkim. At present, there is no data available about globus pharyngeus in Sikkim. Central Referral Hospital is the only private tertiary care hospital located at Sikkim, and this study was undertaken to determine the prevalence of globus pharyngeus in the patients attending ENT OPD. The lifestyle and dietary habits along with the varied climatic conditions ranging from Himalayan regions to hot climatic zones at the base of the mountainous terrains, may be one of the reasons for globus pharyngeus in Sikkim. However, no published documents are available on the same subject matter. Thus, we believe to the best of our knowledge that this study was the first of its kind carried out in the region of Sikkim, where we have tried to find the link between globus pharyngeus and factors like laryngopharyngeal reflux and *H. pylori* infection.

Considering the patient load in the ENT department of Sikkim Manipal Institute of Medical Sciences, Central Referral Hospital located at Sikkim, the prevalence of globus pharyngeus was found to be comparatively low (0.6 %) as compared to other studies.⁵ A study done by Moloy PJ et al. in 1982⁵ and Drossman DA et al. in 1993⁹ found that globus sensation throat is a common condition accounting for approximately 4 % of referrals to the ENT clinics. This low number maybe due to the hilly terrain of the city and the population of around only 6 lakhs in the whole state.

Globus sensation of throat is equally prevalent in both males and females. However, since women are more likely to seek health care for these symptoms, the number of reported cases are usually more in females compared to the males.⁷ Our study too showed similar results where 67 % of patients with globus sensation were females and 33 % were males. Similarly, in a study done by Batch AJ in 1988, it was seen that females reported cases of globus sensation were far more than that compared to males.¹⁰ However, in another study done by Joan Mangussi-Gomes et al. in 2013, it was found that there was not much difference in gender in relation to globus sensation and both males and females were equally affected.¹¹ Almost 46 % of the study subjects with globus pharyngeus belonged to the middle age group who were otherwise healthy individuals as seen in other studies.^{4,12}

In our study, it was seen that out of the total 61 patients, 45 of them (73.77 %) of patients of globus were positive for *H. pylori* infection. Whereas in a study done by Hazan Alazouke in 2009, it was seen that out of 68 patients, 16 (23.5 %) of them with globus pharyngeus were positive for *H. pylori* infection.¹³

A study was done by Sani Penovic et al. on globus pharyngeus to see the association between globus pharyngeus and laryngopharyngeal reflux in 2018. In their study, they concluded that the incidence of globus pharyngeus was not a definite indication of laryngopharyngeal reflux¹⁴ or vice versa. Similarly, in our study majority of them (64 %) did not have laryngopharyngeal reflux.

Other studies¹⁰ showed that majority of the patients who come with complaints of globus sensation throat have some or the other symptoms associated with them. Our study also showed that only 16 % cases of globus sensation throat

were asymptomatic while the remaining 84 % had different associated symptoms as mentioned above and none of them had history of any kind of malignancies. In another study done by Rowley H et al. in 1995, on patients with globus sensation throat, he found that 55 % of them were asymptomatic and only 45 % presented with symptoms and none of the patients had any history of aerodigestive malignancies.¹⁵

CONCLUSIONS

The number of globus sensation throat cases was extremely low, being just 0.6 % of the entire ENT cases visiting the OPD during the study period. This may have been because of underdiagnosis due to patients not coming in for the management of globus because of the unawareness of the condition among the general population and the health professionals due to the little known and available literature on this topic regarding diagnosis and management. It may also be because of the mountainous terrain in this region, due to which the people with this particular condition do not come to the tertiary care centres for diagnosis and management and rather just assume it to be of manageable discomfort and stay at home.

Our study was limited by the small number of cases of globus presenting to the OPD and also selection bias may have occurred, since it was a hospital-based study done in a private tertiary care centre and with a government tertiary care centre in the same State. The option to include patients by collecting data by going to the government sector was ruled out and only referred cases from these centres were included.

Ethical Clearance

The Protocol was submitted to the institutional review board (IRB) and institutional ethics committee (IEC) of Sikkim Manipal Institute of Medical Sciences (SMIMS) and clearance obtained.

Data sharing statement provided by the authors is available with the full text of this article at jebmh.com.

Financial or other competing interests: None.

Disclosure forms provided by the authors are available with the full text of this article at jebmh.com.

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