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Original Research

An Observational Study to Find the Prevalence of Thyroid Gland Abnormalities in Patients of Globus Pharyngeus

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Abstract

Introduction: Globus pharyngeus is a sensation of a lump or foreign body in the throat, often non-painful but chronic and distressing for patients. Though commonly linked to psychological factors, recent research highlights physical causes, particularly thyroid disorders. This study investigates the prevalence of thyroid abnormalities in patients presenting with globus pharyngeus. **Objective:** To evaluate the prevalence of thyroid abnormalities in globus pharyngeus patients using neck ultrasonography and thyroid function tests (TFT) and to assess the association between thyroid abnormalities and symptom severity. **Methods:** This observational study was conducted between September 2022 and February 2024 at the ENT outpatient department of UCMS and Guru Teg Bahadur Hospital, Delhi. One hundred patients aged 18-70 years with globus pharyngeus symptoms and normal routine ENT examinations were enrolled. Thyroid abnormalities were assessed using neck ultrasonography, thyroid function tests, and fine needle aspiration cytology (FNAC) for nodules ≥ 1 cm or with suspicious features. **Results:** Of the 100 patients, 89% were female and 80% were aged between 20 and 50 years. TFT results revealed that 65% were euthyroid, 32% were hypothyroid, and 3% were hyperthyroid. Ultrasonography identified thyroid abnormalities in 54% of patients, with solitary thyroid nodules being the most common finding (42.6%). FNAC results showed benign thyroid lesions in 75.9%, malignant findings in 17.2%, and atypical results in 6.9%. Significant associations were found between the severity of globus symptoms and abnormal thyroid function ($p=0.01$) as well as thyroid abnormalities on ultrasonography ($p=0.01$). **Conclusion:** The study highlights a strong association between thyroid dysfunction and the severity of globus pharyngeus symptoms. Ultrasonography and TFT should be routinely considered in the evaluation of globus pharyngeus patients to detect underlying thyroid abnormalities.

Keywords: globus pharyngeus; thyroid abnormalities; thyroid function tests; ultrasonography; hypothyroidism; FNAC; non-painful.

INTRODUCTION

Globus pharyngeus, often referred to as the sensation of a lump or foreign body in the throat, is a non-painful condition that can be intermittent or persistent. Though the sensation is generally relieved by eating, it is a chronic issue that can recur and prove challenging to manage [1]. Despite its benign nature, globus pharyngeus significantly affects the quality of life for many patients. It is a frequent cause for referral to ear, nose, and throat (ENT) specialists, accounting for about 4% of new patient consultations, with a high percentage of follow-up visits. The condition is distressing not only due to the physical sensation but also because of the uncertainty surrounding its cause, leading patients to seek repeated medical consultations [2].

Historically, globus pharyngeus was referred to as "globus hystericus," a term that emphasized its assumed psychological origins. At the time, it was considered a functional throat disorder, linked to emotional distress rather than physical causes [3]. However, as medical understanding has evolved, this terminology has been abandoned. Modern research has identified various organic factors contributing to the sensation, such as gastroesophageal reflux disease (GERD), upper esophageal sphincter dysfunction, cervical osteophytes, epiglottic lesions, and esophageal dysmotility [4]. Thyroid disorders and cervical heterotrophic gastric mucosa are also common underlying causes. Psychological factors may still play a role, but they are no longer considered the primary explanation for the condition [5].

Globus pharyngeus is now understood to be a multifactorial condition, with a combination of organic and psychological factors often at play. For example, GERD is frequently implicated, as acid reflux can irritate the throat and esophagus, creating a persistent sensation of something being stuck. Thyroid disorders, including thyroid nodules or goiters, can also press against the throat, leading to the sensation [6]. In rare instances, the condition can be an early indicator of malignancies, such as hypopharyngeal cancer. Studies suggest that in about 3% of cases, globus sensation may be the first symptom of hypopharyngeal cancer, making it critical for clinicians to thoroughly investigate persistent cases [7].

The primary challenge in diagnosing globus pharyngeus lies in the limitations of routine ENT examinations. Standard evaluations typically focus on the mucosal surfaces of the oral cavity, pharynx, and larynx, often overlooking deeper structures such as the thyroid gland, salivary glands, and esophagus [8]. As a result, many patients experience frustration when their symptoms persist despite repeated examinations. This diagnostic gap can contribute to feelings of unease, as patients are left without a clear explanation for their symptoms, even after multiple clinical visits. For these individuals, the uncertainty surrounding the cause of their condition can be as distressing as the symptoms themselves [9].

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In recent years, high-resolution ultrasonography has become a valuable tool for addressing these diagnostic challenges. Ultrasonography is a non-invasive imaging technique that provides real-time, detailed images of the neck's internal structures, including the thyroid gland, salivary glands, and surrounding soft tissues [10]. Given the association between thyroid disorders and globus sensation, neck ultrasonography is particularly useful in identifying thyroid nodules, cysts, or other abnormalities. This technology offers several advantages: it is non-invasive, relatively inexpensive, and does not expose patients to radiation. It also allows clinicians to assess the movement and function of tissues dynamically, which can be beneficial in identifying structural causes of the sensation [11].

A multidisciplinary approach is often necessary when managing globus pharyngeus, given its complex and multifactorial nature. While ENT specialists are usually the first point of contact for patients, collaboration with gastroenterologists, endocrinologists, and psychologists can provide a more comprehensive assessment [12]. For instance, patients whose globus sensation is linked to GERD may benefit from medical treatments like proton pump inhibitors or lifestyle modifications. Similarly, thyroid-related cases might require further evaluation through hormone tests or fine-needle aspiration biopsies to rule out malignancy. In instances where psychological factors contribute to the condition, counseling or stress management strategies may be helpful [13].

Despite advancements in diagnostic tools like ultrasonography, many cases of globus pharyngeus remain idiopathic, meaning the exact cause cannot be identified. This lack of a definitive diagnosis can be frustrating for both patients and clinicians [14]. However, with a multidisciplinary approach that combines thorough investigation, patient education, and reassurance, it is possible to manage the condition effectively and improve patient outcomes. While treatment may not always eliminate the sensation entirely, addressing both physical and psychological factors can help reduce the frequency and severity of symptoms, enhancing the patient's quality of life [15].

This study aims to investigate the prevalence of thyroid gland abnormalities as a cause of globus pharyngeus, focusing on patients presenting to the ENT outpatient department. Using neck ultrasonography, the primary objective is to evaluate thyroid abnormalities in these patients to identify potential etiologies of the lump sensation in the throat. Additionally, the study seeks to assess the clinical and demographic profiles of patients with globus pharyngeus, analyzing factors such as age, gender, and medical history, to better understand the characteristics of those affected and provide insights into more effective diagnostic and treatment strategies.

MATERIALS AND METHODS

This observational study, conducted from September 2022 to February 2024 at the Department of Otorhinolaryngology and Radiodiagnosis, UCMS, and Guru Teg Bahadur Hospital, Delhi, focused on patients aged 18-70 with globus pharyngeus symptoms. Patients were evaluated using the GETS score, with no abnormalities found during routine ENT examinations. Exclusion criteria included those with pre-existing oral or neck malignancy, a history of neck surgery or radiotherapy, psychiatric disorders, sore throat, pharyngitis, unintentional weight loss, and unexplained iron deficiency anemia, ensuring a focused evaluation of thyroid abnormalities in globus pharyngeus cases.

RESULTS

Among the 100 patients studied, 2% were under 20 years, 22% were aged 21-30 years, 35% were 31-40 years, 23% were 41-50 years, 9% were 51-60 years, and 9% were 61-70 years. The majority (80%) were between 20 and 50 years of age. Gender distribution showed that 89% of the patients were female, while 11% were male, indicating a significantly higher prevalence of globus pharyngeus among females. These findings suggest that globus pharyngeus is more common in females and predominantly affects individuals between the ages of 20 and 50.

Table 1: Association of severity of globus symptoms with TFT (Thyroid Function Test)

Severity of globus symptoms using GETS score	Normal	abnormal	p value
Mildly symptomatic (n=11)	9	2 (18.2%)	0.01
Symptomatic (n=58)	42	16 (27.6%)	
Strongly symptomatic (n=31)	14	17 (54.8%)	

The severity of globus symptoms, as measured by the GETS score, was compared between patients with normal and abnormal thyroid function tests (TFT). A Chi-square test was applied to assess the association between globus symptom severity and abnormal TFT results. The analysis revealed a significant association, with a p-value of 0.01, indicating that patients with abnormal TFT were more likely to experience severe globus symptoms. This suggests a strong link between thyroid dysfunction and the severity of globus pharyngeus, highlighting the importance of thyroid evaluation in patients with persistent globus symptoms.

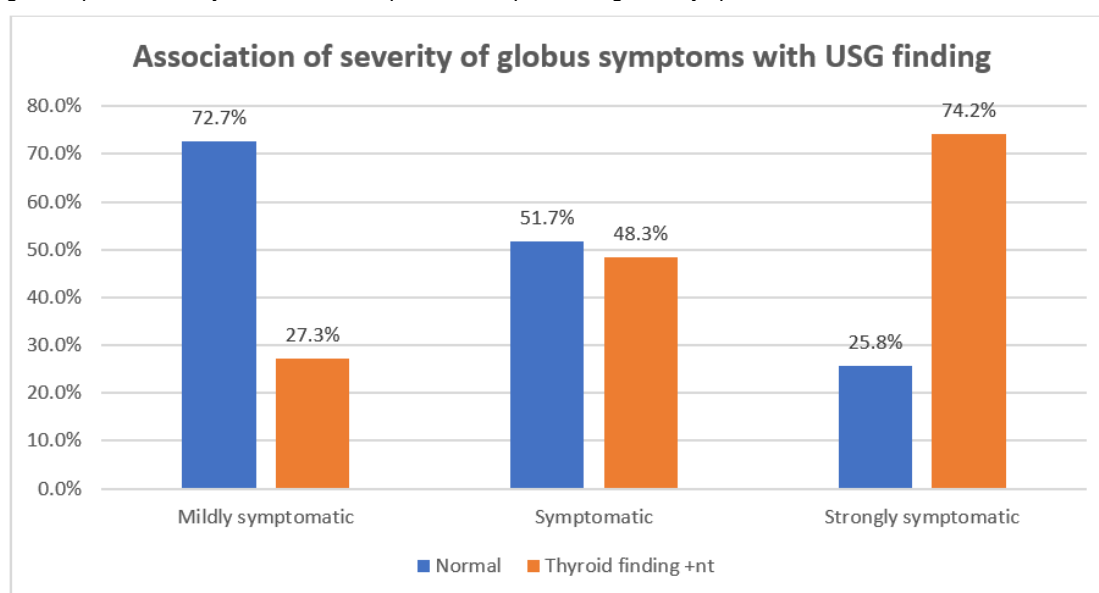


Figure 1: Association of severity of globus symptoms with USG finding

A comparison of GETS scores was made between patients with normal ultrasound (USG) findings and those with positive thyroid abnormalities on USG. The Chi-square test was applied to assess the association between the severity of globus symptoms, as measured by the GETS score, and the presence of thyroid abnormalities. The analysis showed a significant association, with a p-value of 0.01, indicating that patients with positive thyroid findings on USG experienced more severe globus symptoms. This highlights the strong link between thyroid abnormalities and the severity of globus pharyngeus symptoms, emphasizing the role of ultrasound in diagnosis.

Table 2: RFS (Reflux finding score) in study subjects (n=100)

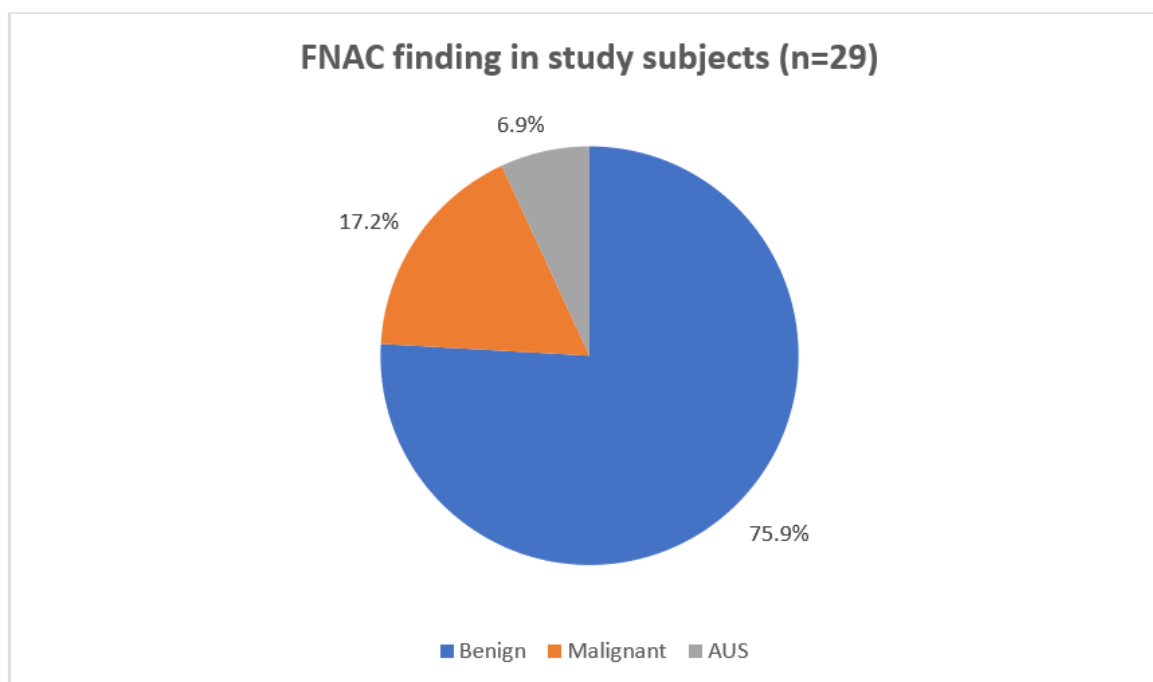
RFS score	No.	%
Upto 7	83	83.0
>7	17	17.0

The Reflux Finding Score (RFS), which ranges from 0 to 26, is used to document physical findings and assess the severity of laryngopharyngeal reflux (LPR) based on eight endolaryngeal signs. A score greater than 7 indicates a more than 95% probability of having LPR. In our study, 83% of the subjects had an RFS score below 7, while the remaining 17% had a score higher than 7, suggesting the presence of LPR in those individuals. This distribution highlights that a minority of patients exhibited signs consistent with significant LPR.

Table 3: Severity of globus symptoms using GETS score in study subjects (n=100)

Severity of globus symptoms using GETS score	No.	%
Mildly symptomatic	11	11.0
Symptomatic	58	58.0
Strongly symptomatic	31	31.0

In the distribution of GETS scores among the 100 study subjects, 58% were symptomatic, 31% were strongly symptomatic, and 11% were mildly symptomatic. This indicates that the majority of patients experienced significant globus symptoms, with nearly a third displaying strong symptoms, while a smaller portion had only mild symptoms. These findings reflect the varying severity of globus pharyngeus among the study population.

**Figure 2: FNAC finding in study subjects (n=29)**

As part of the routine workup, patients with thyroid nodules larger than 1 cm or showing suspicious features on ultrasonography were referred for Fine Needle Aspiration Cytology (FNAC). A total of 29 patients underwent FNAC. Of these, 22 (75.9%) had benign cytology, 5 (17.2%) were found to have malignant cytology, and 2 (6.9%) were diagnosed with Atypia of Undetermined Significance (AUS). This distribution highlights that the majority of thyroid nodules were benign, with a smaller proportion showing malignancy or atypical features requiring further evaluation.

Table 4: Types of FNAC finding seen in study subjects (n=29)

Types of FNAC finding	No.	%
ADENOMATOUS GOITRE	13	44.8%
AUS	2	6.9%
EPIDERMAL CYST	1	3.4%
GRAVE'S DISEASE	3	10.3%
LIPOMA	1	3.4%
LYMPHOCYTIC THYROIDITIS	4	13.8%
PAPILLARY CARCINOMA (MALIGNANCY)	5	17.2%

Out of the 29 patients who underwent FNAC, 13 (44.8%) were diagnosed with Adenomatous Goitre, 5 (17.2%) were found to have Papillary Carcinoma, and 2 (6.9%) had Atypia of Undetermined Significance (AUS). This indicates that Adenomatous Goitre was the most common finding, while a notable portion of patients had papillary carcinoma, reflecting the importance of FNAC in detecting both benign and malignant thyroid conditions.

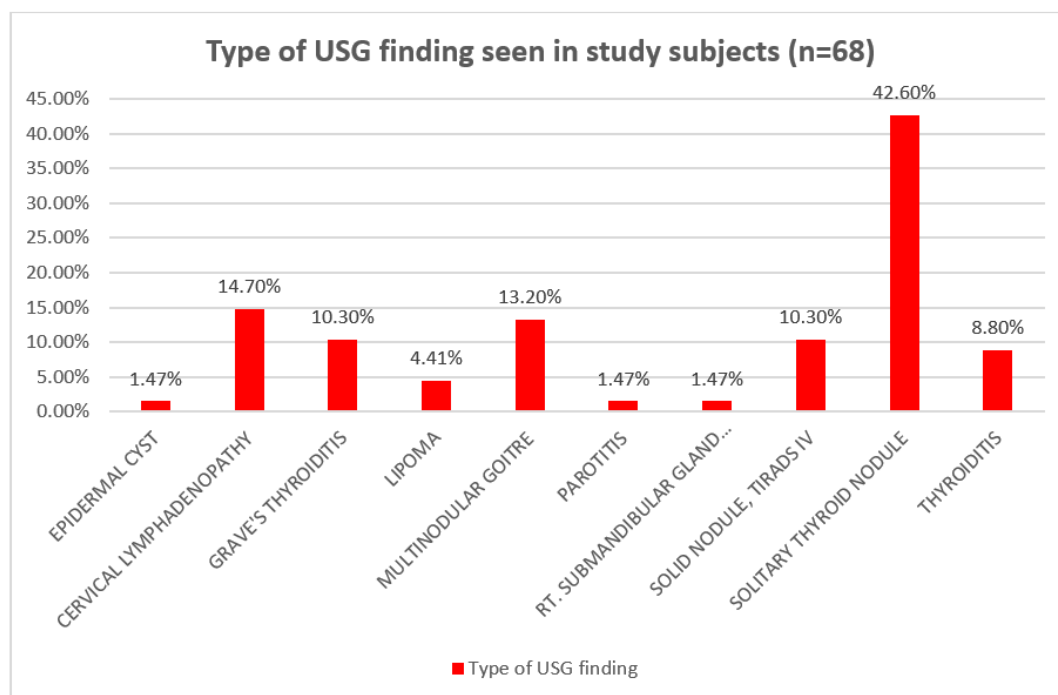


Figure 3: Type of USG finding seen in study subjects (n=68)

The ultrasonographic findings in the study revealed that the most common condition was a solitary thyroid nodule, found in 29 out of 68 patients (42.6%). This was followed by multinodular goitre in 13.2% of patients, solid nodule classified as TIRADS IV in 10.3%, thyroiditis in 8.8%, and Grave's thyroiditis in 4.41%. These findings indicate that solitary thyroid nodules were the predominant ultrasonographic abnormality, with a range of other thyroid conditions being less frequent among the patients.

Table 5: Thyroid function test finding in study subjects (n=100)

Thyroid function test (TSH)	No.	%
Normal (Euthyroid)	65	65.0
Increased (Hypothyroid)	32	32.0
Decreased (Hyperthyroid)	3	3.0

In this study, Thyroid Stimulating Hormone (TSH) was used as a representative measure for the Thyroid Function Test (TFT). The results showed that 65% of the subjects were euthyroid, indicating normal thyroid function. Additionally, 32% of the subjects were found to be hypothyroid, and 3% were hyperthyroid. These findings demonstrate that while the majority of patients had normal thyroid function, a significant portion had thyroid dysfunction, with hypothyroidism being more common than hyperthyroidism.

DISCUSSION

Globus pharyngeus is a condition in which there is an intermittent or persistent non-painful sensation in the throat that resembles a sensation which occurs due to a lump or foreign body. Globus pharyngeus is a common condition characterized by a non-painful, intermittent or persistent sensation of a lump or foreign body in the throat. It accounts for around 4% of new referrals to ENT clinics and a high number of follow-up cases, with up to 45% of the population reporting this sensation. While numerous studies have explored the condition's epidemiology, diagnosis, and management, most have focused on GERD or LPR, with few investigating thyroid abnormalities as a potential cause [16].

Globus pharyngeus commonly affects women more than men. In our study, 89% of the 100 subjects were female, aligning with Selleslagh et al., where the female-to-male ratio was 2:1, and Moloy PJ et al. (1982), who reported women being three times more commonly affected. However, Batch AJ (1988) noted equal prevalence in both genders, though women are more likely to seek care. Globus typically presents in middle age, with 80% of our patients aged 20-50, consistent with Bei Tang et al., who reported a peak at 35-54 years [17, 18, 19, 20].

Thyroid Function Test measures TSH and circulating hormones (T3, T4), with TSH being the key marker for thyroid dysfunction. In our study, 65% were euthyroid, 32% hypothyroid, and 3% hyperthyroid. While few studies link globus pharyngeus with thyroid dysfunction, Carlé A et al. (2014) found 29% of hypothyroid patients had difficulty swallowing, as noted by the American Thyroid Association [21].

Ultrasonography, a non-invasive, radiation-free imaging technique, is routine for detecting thyroid disease and metastatic lymph nodes in tertiary centers. In our study, 68% of globus patients had abnormal findings on neck ultrasonography, with 54 showing thyroid abnormalities, including solitary nodules (42.6%), multinodular goitre (13.2%), and thyroiditis. This aligns with Takahiro Fukuhara et al. (2021), where 41 of 74 globus patients had thyroid abnormalities. P Burns et al. (2007) found 80% of globus patients experienced symptom relief post-thyroid surgery, especially those with histological inflammation. The mechanism linking thyroid abnormalities to globus remains unclear [22, 23].

In our study, 29 patients with thyroid nodules >1 cm or suspicious ultrasound findings underwent FNAC. Of these, 22 (75.9%) had benign results, 5 (17.2%) had papillary carcinoma, and 2 (6.9%) had AUS. Among benign cases, 13 had adenomatous goitre. These findings are consistent with Takahiro Fukuhara et al. (2021), where 42 of 74 globus patients had thyroid abnormalities, including adenomatous goitre and thyroid malignancies [22].

The Glasgow-Edinburgh Throat Scale (GETS) assesses globus symptom severity through a 10-item questionnaire. In our study, 58 of 100 subjects were symptomatic, 31 strongly symptomatic, and 11 mildly symptomatic. The reliability of GETS has been confirmed by Nao Takahashi et al. (2018) in Japan and Muge Ozcelik Korkmaz et al. (2019) in Turkey, both demonstrating high validity and reliability across populations [24, 25].

The Reflux Finding Score (RFS), ranging from 0-26, documents the severity of laryngopharyngeal reflux (LPR), with scores above 7 indicating a 95% probability of LPR. In our study, 83% of subjects had RFS scores below 7, while 17% had scores above 7, suggesting LPR. Although LPR or GERD are common causes of globus, only 17% of our subjects had LPR. In comparison, J.A. Wilson et al. (1989) found GERD/LPR in 23% of globus patients, while J. Hill et al. (1997) reported 30.7% [26, 27].

In our study, Chi-square tests revealed a significant association between the severity of globus symptoms (GETS score) and thyroid abnormalities on USG ($p=0.01$). P Burns and C Timon (2007) also found a significant association in 200 thyroid surgery patients, with 80% of globus cases resolving post-surgery ($p\leq 0.0001$). We also found a significant association between globus severity and abnormal thyroid function ($p=0.01$). Thyroid evaluation, including USG, TFT, and FNAC, should be routine for globus patients to detect thyroid issues and reduce anxiety [23].

CONCLUSION

The study included 100 subjects, predominantly female (89%) with an age range of 18 to 70 years, with 35% of subjects in the 30-40 age group and 80% between 20-50 years. Neck palpation was normal in 98% of subjects, with only 2 having palpable thyroid nodules. Thyroid Function Tests showed that 65% were euthyroid, 32% hypothyroid, and 3% hyperthyroid. Neck ultrasonography revealed thyroid abnormalities in 54%, with 42.6% having solitary nodules. FNAC revealed benign findings in 75.9%, while 17.2% had papillary carcinoma. Significant associations were found between globus symptom severity and both thyroid abnormalities and thyroid function tests ($p=0.01$).

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