

## Dose the shape of epiglottis have a role in the globus pharynges?

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### المخلص

ان globus pharynges هي حالة احساس بورم او شدة في البلعوم ، وتمثل 4% من مرضى عيادات الأذن والاذن والحنجرة. هناك عدة تفسيرات لهذه الحالة أشهرها هو الصعود العكسي لحموضة المعدة او اضطرابات حركة المريء. الهدف من الدراسة تحديد نسبة واثـر انطواء قمة لسان المزمار وطعجها لقاعدة اللسان. المجموعة أ (40 مريض) تم اختيارهم من بين عدد من مرضى (الجلوبس) وفقاً لمعايير محددة مسبقاً، ومن ثم اجري لهم فحص ناظور البلعوم والحنجرة المرن وتم تحديد المرضى الذين عندهم انطواء قمة لسان المزمار و اثرطعجها لقاعدة اللسان ومن بعدها تم رش المنطقة المحددة بمخدر موضعي وبعد دقائق استفهم المريض عن بقاء او اختفاء حالة الجلوبس. في المجموعة ب (40 مريض) والذين اجري لهم فحص الناظور لاسباب غير حالة الجلوبس ، ايضاً تم تحديد المرضى الذين عندهم انطواء قمة لسان المزمار و اثرطعجها لقاعدة اللسان. النتائج والمناقشة: في مجموعة أ (26 مريض اي 65%) وجد عندهم قمة لسان المزمار تطعج قاعدة اللسان ، منهم (23 مريض اي 88.5%) اظهروا اختفاء حالة الجلوبس موقتاً بعد رش المخدر وهذا قد يعني زوال اثر ضغط لسان المزمار عن قاعدة اللسان موقتاً. بينما في المجموعة ب وجد (3 مرضى فقط اي 7.5%) عندهم حالة قمة لسان المزمار تطعج قاعدة اللسان وهذا قد يعني انها حالة شائعة عند مرضى الجلوبس اكثر من غيرهم. حالة قمة لسان المزمار التي تطعج قاعدة اللسان قد تكون سبب حالة الجلوبس عند غياب الاسباب الاخرى للحالة.

### Abstract

**Back ground:** globus pharyngeus is a sensation of a lump or tightness in the throat, it accounts for about 4% of otolaryngological referrals.

A wide variety of explanations have been done; gastroesophageal reflux or esophageal dysmotility are the most popular organic explanations.

**Objective:** To evaluate the incidence and the role of the curled epiglottic tip touching and indenting the tongue base in patients with globus pharyngeus.

**Patients and method:** Two group were selected; group A (40 patients) selected according to selection criteria from a number of patients diagnosed as globus pharyngeus patients , a flexible nasopharyngoscopy was done searching for the incidence of an epiglottic tip touching and indenting the base of the tongue, for instillation of a few drops 10% xylocain done and the disappearance of the globus sensation was reevaluated again. Group B (40 patients) selected randomly from patients examined for non-globus complaint, and again searching for the incidence of an epiglottic tip touching and indenting the base of the tongue where studied.

**Results and Discussion:** Group A: In 65% (26 patients), the epiglottis touching and indenting the tongue base, 88.5 % (23 patients) out of these 26 patients showed positive response to local anesthesia; so globus sensation temporarily disappeared. (P value < 0.01) was highly significant, and this might mean: pressure effect of curled epiglottic tip which had been temporarily eliminated. Group B: only 7.5%

(3 patients) had an epiglottic tip touching and indenting the tongue base, while 37 patients had the epiglottis not touching the tongue base in both resting and the protrusion position. (*p*-value > 0.1) was not significant; so this might mean that the curled epiglottic tip touching the tongue base is not a common finding in people or patients other than patients with globus pharyngeus.

**Conclusion:** A curled epiglottic tip indenting the tongue base may be a cause of the globus sensation when there is no other pathology found.

## **Introduction**

Globus (globus pharyngeus, globus pharyngis) is a feeling of some thing stuck or a sensation of a lump or tightness in the throat. The term comes from the Latin *globus*, a ball. Globus is a well-defined, clinical symptom that is persistent, difficult to treat and has a tendency to recur. Globus is considered functional when no organic explanation is detected.

Globus accounts for about 4% of otolaryngological referrals. Up to 45% of population have a mild, intermittent symptoms resembling globus in their lives. The peak incidence of the symptom is in middle age, the globus symptom is very uncommon before the age of 20 years.\*[1]

The most important predictor of hospital attendance was the severity of the globus sensation, and three out of four who are seeking medical advice were women. *Deary et al.*\*[2]

A wide variety of explanations, physical and psychological, have been proposed. Some popular theories of the past include; strap muscle spasm, hypertrophy of lingual tonsils, sinusitis, anterior cervical osteophytes, over closure of the bite, granular pharyngitis tonsillitis and thyroid nodules.\*[1]

Globus pharyngeus is a specific form of conversion disorders. Psychological problems lead to the physical sensation of a lump in the throat that causes difficulty or discomfort in swallowing\*[3]

In the past 50 years the most popular organic explanations for symptoms pertain to the fact that globus can be an atypical manifestation of silent gastroesophageal reflux or caused by esophageal dysmotility\*[1]

Because there are many organic conditions in the differential diagnosis of globus pharyngeus, diagnostic errors are not uncommon, with rates as high as 25%. Errors may result in the lack of treatment

of the missed physiologic abnormality or unnecessary treatment of presumed conversion disorder.

The diagnosis of globus sensation is rarely difficult to the experienced clinician .A combination of a detailed history, examination and minimal investigations together with a high index of suspicion is required.\*[1]

Regarding the management of globus pharyngeus ,it is important to identify secondary causes and treat them adequately. Many cases initially labeled 'globus' have subsequently been found to have treatable pathology.\*[4]. One study on 111 patients found that 73.9% of the sample had demonstrable functional abnormality on video-fluorography\*[5]

The prognosis is generally good. One series of 80 patients was showed that 25% had no symptoms at an average follow up assessment at 27 months (range 21 to 42 months), whilst a further 35% had considerable improvement in symptoms. Factors influencing prognosis included duration of symptoms at time of diagnosis, gender and associated throat symptoms.\*[6]

### **Aim of study**

The research aims to evaluate the incidence and the role of the curled epiglottic tip touching and indenting the tongue base in a patients with globus pharyngeus.

### **Patients and Methods**

A large number of patients visited the out patient ENT department in Al-Karama General Hospital complaining from the typical sensation of a lump in the throat without true sensation of dysphagia.

All Patients underwent complete clinical histories, careful otolaryngological examination and had Lateral XR of the soft tissue of the neck, Chest XR and flexible nasopharyngoscopy was done(Figures 1 and 2 ); computed tomography and magnetic resonance imaging were done for some of them(Figure 3). When no pathology was found, the patient was diagnosed with a globus pharyngeus.

During the period from August(2005) till August(2008), we selected 40 patients of those patients (patients with globus pharyngeus), according to the following criteria:



1. His/her complaint was for one year or more (as many persons sometimes suffered from globus symptoms during an upper respiratory infection, with the majority disappearing spontaneously).

2. He/she consulted many physicians, received many types of treatment including antacid and proton pump inhibitors drugs (to be sure about the chronicity of the illness and to be sure of failure of medical treatment generally and of hyperacidity and

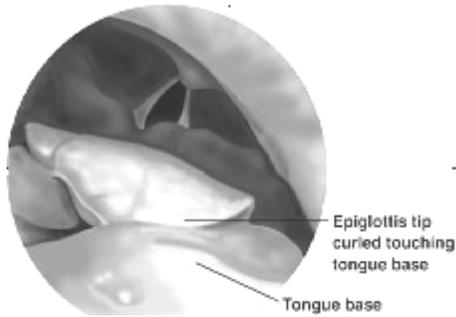
gastro-esophageal reflux GER specially, so that we would not repeat the empirical courses of medical treatment; in addition to the lack of the 24-h pH monitoring facility).

3. He/she has no chronic psychological illness (mainly to exclude patients with conversion disorder)

After that time the 40 patients (30 females and 10 males, aging between 27 years to 76 years), were reevaluated as follows, (we name this as group A):

A Flexible nasopharyngoscopy was done when the tongue was in its resting position (inside oral cavity) and when it is protruded forward, then when we found that the tip of epiglottis touching and indenting the base of the tongue (Figure 1), we sprayed few drops of 10% xylocain (with out adrenaline) fluid through the side way channel of the flexible nasopharyngoscop to the tip of epiglottis that was touching the base of the tongue. After that we ask the patient to wait for about 10 minutes, and then we asked the patient about his previous sensation of the lump in his throat whether it was the same or it disappeared?

On the other hand another group (Group B) of patients was examined, by a flexible nasopharyngoscop for nasal and Para nasal sinus problems (non globus pharyngeus complaint); randomly we selected 40 patient (23 female and 17 males aging between 20 years to 60 years) of them and the shape of epiglottis and its relation with tongue base in both resting and protrusion position were studied also.



**Figure (1) and figure (2) flexible nasopharyngoscopy picture showing the curved epiglottic tip touching & indenting the tongue base.**

**Table (1): Results.**



	No. of patients	Patients with curled epiglottic Tip	Patients with positive response to xylocain
Group A	40	(65%) 26	23 (88.5%)
Group B	40	(7.5%) 3	

**Figure (3) : MRI sagittal section of head & neck showing the anteriorly curved epiglottic tip & touching the tongue base.**

**Results**

**Group A :**In 26 patients, the epiglottis touching and indenting the tongue base in both resting and protrusion position , other 14 patients appeared slight touch and only in one position . 23 out of these 26 showed appeared positive response to local anesthesia so they answer by: Yes, my sensation of the lump in the throat now disappeared(after xylocain instillation), which was just temporarily along the time of local anesthesia.

**Group B :** 37 patients had an epiglottis not touching the tongue base in both resting and protrusion position (10 patients had an infantile type epiglottis ;omega shape which is small vertically oriented epiglottis) , the other 3 patients had epiglottis touching and indenting the tongue base in both resting and protrusion position, but no one appeared to have a globus sensation.

**Discussion**

In group A there was 65% ( 26 patients ) of the selected patients with globus pharyngeus had an epiglottis touching the tongue base which is a high percent age, when 88.5 % ( 23 patients ) of them presented a positive response to local xylocain ,(P value < 0.01. ) which is highly significant ,& this might mean that the pressure effect or the indenting effect of curled tip of epiglottis had been temporarily eliminated .

The sensory nerve supply of mucous membrane covering the epiglottis is the same of the mucous membrane of the posterior one third of the tongue ( tongue base ) \*[7], and here we may explain the globus sensation on a neurological basis ,that the neuralgia of the glossopharyngeal nerve due to pressure effect on the sensitive tongue base ,this may be similar to the Anterior Ethmoidal Nerve Syndrome which is due to pressure effect and touching of the deviated nasal septum to the lateral nasal wall which will cause referred trigeminal pain and chronic headache .\*[8]

In group B; Only 7.5% ( 3 patients ) out of the 40 patients examined for a complaint other than globus pharyngeus showed an epiglottic tip touching the tongue base( *p- value* > 0.1 ) which is not significant , so this might mean that a curled epiglottis touching the tongue base is not a common finding in the people or patients other than patients with globus pharyngeus and this might support the results gained from group A.

The gastroesophageal reflux is currently the most accepted theory to explain globus pharyngeus \*[9 ,10] but it has actually occurred in a variable number of patients, ranging from 35% to 70% of the patients \*[11,12,13].( *Mar shall et al* ). found a 72% incidence of abnormalities of the thyroid gland in patients experiencing globus symptoms[14]. Postmortem studies have revealed that about 50% of the thyroid glands have some abnormalities \*[15]. While( *Ezzat et al* ) used ultrasonography to demonstrate 67% incidence of thyroid abnormalities in asymptomatic subjects.\* [16]. It is difficult to determine how many patients with thyroid disease will experience globus pharyngeus.\*[14]

Although we were unable to find any published reports evaluating the percentage of the findings of such on epiglottic tip curled touching base of tongue, but: *Welin* suggested that the slow return of the epiglottis after deglutition can contribute to globus symptoms\*[17], and this was the only one of three references that we found, suggesting that the epiglottis can be the cause of the symptom. In addition to that, the 2<sup>nd</sup> paper was by *J. L. Quesada*,who suggested partial epiglottectomy as treatment for a globus pharyngeus when there was no pathology seen apart from the finding of curved epiglottic tip touching and indenting the tongue base in a 13 patient with such findings. One year after surgery 12 patients (92%) no longer complained of globus symptoms. Eleven patients had symptoms

disappeared the day after the surgery. The patient, who still had symptoms after surgery, was diagnosed later as having a thyroid nodule. \*[18]

The 3<sup>rd</sup> paper which is by F.O. Agada who described a series of four patients presenting with pharyngeal symptoms, who were found on endoscopy to have an abnormally shaped epiglottis indenting the tongue base. Following CO<sub>2</sub> laser partial epiglottectomy, all four patients experienced complete relief of symptoms. He suggested that, this abnormality may account for globus pharyngeus symptoms in a small proportion of patients\*[19].

The suggested things and findings in our research can agree with results of the above three papers, and can be supported by them.

Although various attempts have been made to treat globus, the absence of gastroesophageal reflux or psychological factors as cause, leaves little chance for resolving symptoms. *Molly* and *Charter* conclude in their study that 53% of patients will be cured if they receive an explanation of what they have and 26% more will be cured with therapy regardless of whether they have gastroesophageal reflux\* [20]or not.

### **Conclusions**

1. A curled epiglottic tip indenting the tongue base is a common finding in the patients with globus pharyngeus and on the other hand, it is uncommon in other patients.
2. A curled epiglottic tip indenting the tongue base might be a cause of the globus sensation when there is no any pathology found.

### **Recommendations**

1. Further studies are required to assess the role of curved epiglottic tip indenting the tongue base in the aetiology of globus pharyngeus.
2. Electronic study by galvanometer is necessary to decide which is the most sensitive area, is it the epiglottis or the tongue base? to specify exactly the target of the surgical resection
3. More randomized control trials need to evaluate the surgical treatment of globus pharyngeus by partial epiglottectomy or cricomyotomy.
4. Precise role of gastroesophageal reflux needs further researches.

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