# Case Report / 증례

# A Case of Globus Hystericus caused by psychological, digestive disorder

Hyun-Woo Lee · You-Jin Chang · Seung-Ug Hong

Department of Korean Medical Ophthalmology & Otolaryngology & Dermatology,

College of Korean Medicine, Dongguk University

# 정신과적, 소화기성 원인으로 유발된 Globus Hystericus 치험 1례

*이현우 · 장유진 · 홍승욱* 동국대학교 한의과대학 안이비인후피부과학교실

# **Abstract**

Objectives : 본 연구를 통해 정신과적, 소화기성으로 유발된 히스테리성 구를 반하백출천마당과 자음건비당으로 치료한 1례를 보고하려 한다.

Methods : 오심, 불면, 이명, 소화불량, 초조, 두통, 매핵기를 주소로 하는 23세 여성 환자를 대상으로 약 4개월 동안 침구, 반하백출천마탕과 자음건비탕으로 치료하였다.

Results & Conclusions: 4개월 동안의 치료 후, 히스테리성 구와 다른 증상들이 소실되었다. 이 논문에서는, 소화기계 장애와 정신 질환 치료를 위해 오랫동안 사용되어온 반하백출천마탕과 자음건비탕을 히스테리성 구 치료에 이용하였다. 결론적으로, 본 연구는 히스테리성 구와 소화기계 장애가 밀접한 관련이 있음과 히스테리성 구에 대한 한의학적 치료의 중요성을 제시하였다.

Key words: Globus hystericus; Banhabaekchulchunma-tang, Jaumgunbi-tang

© 2013 the Society of Korean Medical Ophthalmology & Otolaryngology & Dermatology

This is an Open Access journal distributed under the terms of the Creative Commons Attribution Non-Commercial License (http://creativeccommons.org/license/by-nc/3,0/) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

# I. Introduction

Globus hystericus is the symptom which is the feeling of something obstruction in your throat and cannot be spat or swallowed. It is caused by the accumulation of phlegm due to the growing heat by excessive joy and anger<sup>1)</sup>. In the Western medicine, globus hystericus, also known as pharynx neurosis, is a subjective symptom in the throat caused by abnormal sensation<sup>2)</sup>. It is a feeling that something is stuck in the throat but actually no lump exists when the throat is examined. The most well-known causes are hysterical character and psychological stress.

In the field of medical science, concerning the feeling of obstruction in the throat, there is a research going on to find out the relevance between pharynx neurosis and gastroesophageal reflux disease (GERD). Han showed that the reason and pathology of foreign sensation in the pharyngo-esophageal region are related to the upper esophageal sphincter<sup>3)</sup>. Kim showed that out of 50 patients who were diagnosed as pharvnx neurosis, 24% patients were diagnosed as GERD<sup>4</sup>. Hong demonstrated that out of 73 patients with pharynx neurosis, 43,8% patients have GERD). Although many patients with globus hystericus are treated with Oriental medicine, there is little research work on the shape medical consideration<sup>6</sup>. Therefore, this study is focused on the

correlation between GERD and globus hystericus and reports a therapeutic effect on globus hystericus patients having emotional stress with GERD.

# II. Case

A. Name/ Gender/ Age
OO Lee/ F/ 23

# B. Onset/ Motive

Traumatic family event in April, 2005

# C. Chief complaint

Globus hystericus, dizziness, headache, heaviness of the head, tinnitus, nausea, indigestion, insomnia, dreamfulness, shortness of breath, oppressed feeling in the chest, dyspnea, continuous violent palpitation, nervousness, anxiety, constipation, tenderness (T4~T7)

# D. Inspection of the abdomen and tongue, pulse

Although abdomen was generally weak and had no specific solid point, there was slight tenderness in gastric region, middle part of the stomach and so on. Reddened tongue and slippery pulse.

#### E. Treatment period

April 24, 2006~ August 3, 2006

- F. History of illness
- 1. PH- Allergic rhinitis
- 2. FH- mother, Qi deficiency pattern
- 3. PI- In April 2005, in the wake of psychological

Correspondence to : Seung-ug Hong, Dept, of Korean Medical
Ophthalmology & Otolaryngology & Dermatology,
Dongguk university Ilsan hospital, Siksa-Dong 814,
Ilsandong-Gu, Goyang-Si, Kyunggi-Do, Republic of
Korea,

<sup>(</sup>Tel: 031-961-9085, E-mail: heenthsu@duih.org) • 접수 2013/4/7 • 수정 2013/5/4 • 채택 2013/5/11

trauma, this patient felt something pressing on her chest, dizziness and nausea when she was concerned about something and she couldn't breathe well when she sighed, and couldn't swallow well because of the feeling of obstruction in her throat. In November 2011, her symptoms got worse and especially when she was in a narrow place such as bus or elevator crowded with people, and even when the place was large, if it was packed with people then she had a problem in breathing and feeling of stuffiness in her chest. It happened three times that her symptoms were too severe, so she fainted in the streets and was delivered to a clinic by an ambulance. After that, brain CT and blood test were conducted at a nearby general hospital but there was no particular abnormality found and esophageal manometry was negative and through Ph monitoring, GERD was observed. Also, organic lesion was not found by otolaryngology physical examination from western medicine, Recently, transferred to a nearby neuropsychiatry, she was diagnosed as panic disorder. Not long ago before she visited our clinic, her symptoms got worse. Even an outing made her have dizzness, nausea, globus hystericus, chest distress, and made her being afraid of going out and just stay at home. Also, it was hard for her to swallow foods because she felt something stuck in her throat so she decided to visit our clinic.

### G. Treatment

- Acupuncture and moxibustion visiting a clinic twice a week
  - a, Sakwan (四關, LI4, LR3), Ganseungkuk (肝勝

- 格 LR4, LU8 reinforcing method LR2, HT8 reducing method), *Damseungkuk* (膽勝格 GB44, LI1 reinforcing method GB38, SI5 reducing method) ect.: performance by turns
- b. SP3 reducing method, ST36 reinforcing method: for the cure of hyperacidity<sup>7)</sup>
- c. ST9: electro-acupuncture
- d. Bloodletting in region of headache
- e, CV12: Indirect moxibustion
- f. BL15, BL20, BL21: Cupping therapy

#### 2. Herbal medicine

a. Jaumgunbi-tang (滋陰健脾湯)<sup>1)</sup> (Table 1)

Table 1. Components of Jaumgunbi-tang

Herbal name	Scientific Name	Dose(g)
Baekchul (白朮)	Atractylodis Macrocephalae Rhizoma	6
<i>Jinpi</i> (陳皮)	Citri Pericarpium	4
<i>Banha</i> (半夏)	Pinelliae Rhizoma	4
Baekbokryung (白茯笭)	Poria	4
<i>Danggui</i> (當歸)	Angelicae Gigantis Radix	3
<i>Baekjakyak</i> (白芍藥)	Paeoniae Radix Alba	3
Saenggunjihwang (生乾地黃)	Rehmannia glutinosa	3
<i>Insam</i> (人蔘)	Ginseng Radix	2
<i>Baekbokshin</i> (白茯神)	Poria cocos Wolff	2
Maekmundong (麥門冬)	Liriopis Tuber	2
Wonji (遠志)	Polygalae Radix	2
Chungung (川賞)	Cnidii Rhizoma	1.2
<i>Gamcho</i> (甘草)	Glycyrrhizae Radix	1.2
Saenggang (生薑)	Zingiberis Rhizoma Recens	3 (tablet)
<i>Daejo</i> (大棗)	Jujubae Fructus	2 (tablet)

# b. *Banhabaekchulchunma-tang* (半夏白朮天麻湯)<sup>1)</sup> (Table 2)

Table 2. Components of Banhabaekchulchunma-tang

Herbal name	Scientific Name	Dose (g)
Banha (半夏)	Pinelliae Rhizoma	6
Jinpi (陳皮)	Citri Pericarpium	6
Maeka (麥芽)	Hordei Fructus Germiniatus	6
Baekchul (白朮)	Atractylodis Macrocephalae Rhizoma	4
Sinkok (stir-bake) (神曲)	Massa Medicata Fermentata	4
Changchul (蒼朮)	Atractylodis Rhizoma	2
Insam (人蔘)	Ginseng Radix	2
Hwanggui (黃芪)	Astragali Radix	2
Chunma (天麻)	Gastrodiae Rhizoma	2
Baekbokryung (白茯苓)	Poria	2
Taeksa (澤瀉)	Alismatis Rhizoma	2
Kungang (乾薑)	Zingiberis Rhizoma	1,2
Hwangbaek (cleanse with liquor) (黃柏)	Phellodendri Cortex	0.8
Saenggang (生薑)	Zingiberis Rhizoma Recens	5 (tablet)

# 3. Progress (Table 3)

Table 3. Progress Note

Date	Progress	Herbal medicine
4/24	Having difficulty in swallowing due to continuous globus hystericus.  Nausea, dizziness, palpitation, insomnia, nervousness, reflux, tenderness in back.	Jaumgunbi-tang
5/15	She could swallow food slightly because of 30% decrease in globus hystericus. Severe dizziness, tenderness in back.	Banhabaekchulchunma-tang
5/29	50% decrease in globus hystericus. She breathed short and rapid in the crowded place.	Banhabaekchulchunma-tang
7/20	Occurrence of constricting neck and chest one to three times a day.	Jaumgunbi-tang
8/3	There was no symptom of globus hystericus and chest tightness during the recent one week.	
8/9	There was no palpitation, heat feeling, globus hystericus, tenderness in back.	

At the first visit to clinic, the patient was having a problem in swallowing food and drinking due to the serious symptoms and stuffiness in her chest. She was in condition such as palpitation, continuous violent palpitation, insomnia, nausea, dizziness, nervousness and anxiety and she hardly went out following the third faint. She said about globus hystericus as follows, "It seems that the throat becomes narrow and stuffy and foods are caught in the throat when I eat." There was no specific problem in endoscopy performed by ENT. We thought that the top priority in treatment was recovery of excessive physical weakness and psychological instability through having food and drink.

She had started to take herbal medicine, Jaumgunbi-tang since 25<sup>th</sup> April 2006 (The quantity was 1.5 times more than the required amount). On the 1st of May, she said, "I could slightly swallow food." There was no change in other symptoms. On the 4th of May, she said that the ability to digest foods was improved but she panted for breath. Five days later since taking Jaumgunbi-tang, she still felt dizziness when she went out. Even though globus hystericus seemed to respond slightly to Jaumgunbi-tang, the retention of phlegm and fluid was so severe that we changed herbal medicine to Banhabaekchulchunmatang and she took the medicine after the 15<sup>th</sup> of May, On that day, she said "I felt nausea and it seemed that the ground moved up and down." "Everything turned black and I heard sound 'bbi~' when lying." "I was awaken two times when sleeping in better sleeping condition but I still had globus hystericus symptom" On the 25th of May, after one month of treatment, she complained about bad conditions, "Yesterday when I went out, my heart beat fast and I felt dizziness, everything turned black so I had to sit on the ground." The symptom globus hystericus was maintained in a state of 30% decrease. She took herbal medicine Banhabaekchulchunma-tang again from 29<sup>th</sup> May. On the 7<sup>th</sup> of July, she said that globus hystericus symptom was declined by 50% and there had been no palpitation and dizzeness during the recent week. On the 20th of July, she had symptoms such as narrowing throat, palpitation and tight chest one to three times a day. There were much improved symptoms compared to initial ones. Finally she was told to take the 4th herbal medicine Jaumgunbi-tang. On the 3<sup>rd</sup> of August, she said that she didn't have globus hystericus symptoms and constriction in the chest for the recent week. On the 9<sup>th</sup> of August, she said, "I was not sick anymore." There were no any symptoms like palpitation, heat feeling in the upper part of body, globus hystericus and backache, and therefore we finished primary remedy. Since then, she sometimes visited our clinic because of indigestion and wanted continuous acupuncture and moxibustion therapy for the fear of recurrence. According to progress, she visited our clinic mostly such as suffocation which make her being fainted because of indigestion and headache, and did not complain of globus hystericus and there was no symptom that she was so stuff that she was fainted. Although she sometimes complained of palpitation, her condition became much better that she could get a job and started working in December. Until March in 2007, three to eight times a month, she visited clinic for relieving indigestion and neck stiffness.

# III. Discussion & Result

The disease, such as globus hystericus, which makes you feel like there is some object stuck in your throat is occurred by localized chronic inflammation, cancer and cervical dislocation in local body, by autonomic dysfunction, diabetics and drug's side effect in entire body and by nervosity, neurosis and mental disorder in psychology<sup>6</sup>.

In 〈Naegyeong〉, globus hystericus is stated as "形苦志苦 病生咽嗌" and caused by physical tiredness and mental stress<sup>8)</sup>, and in 〈Geumgweyoryak-Diagnosis and Treatment of the Woman Various Diseases〉 Han Dynasty, Jang stated that globus hystericus is "婦人咽中如有灸變 半夏厚朴湯主之", and is highly likely to occur to women who are relatively mentally sensitive and they provide the treatment<sup>9)</sup>.

In \langle Dukhobang \rangle, Yuan dynasty, Wui stated that phlegm is product of Qi's condensation by seven emotions. He said when this is in the solar plexus and obstructs throat, Sachil-tang is used \(^{1}\). In \langle Gogeum-uigam \rangle, Ming Dynasty, Gong said

that globus hystericus is congregation of phlegm which is made when heat is gathered and condensed due to excessive joy and anger and for this disease *Gamisachil-tang* and *Gamiijin-tang* can be used<sup>11)</sup>.

In \(\lambda Geumgweyoryak\)- Study of the Woman Various Diseases\(\rangle\), Kim mentioned that women feel like a lump of meat which cannot be spat or swallowed and is just an obstacle when they are eating. Seven emotions are congregated and \(\rangle i\) is also assembled and body fluids can not circulate well so the phlegm goes up to the neck and is stuck in the throat. The treatment which enhances \(\rangle i\) circulate and disassemble the phlegm is required and \(\rangle Banhahubak\)-tang can be used\(^{12}\).

As mentioned above, in Oriental medicine papers, there are two representative concepts, seven emotions and phlegm which cause globus hystericus. Seven emotions are an excessive emotional stimulations and this implies the aspect of psychosomatic disease, which breaks down emotional balances and this mental disorder can be developed into physical symptoms. Also, phlegm means that body fluid becomes lump, when it is not circulated well and regarded as a pathological substance and this is mostly caused by digestive system disorders. Therefore, when it comes to principles of treatment, it is required to improve digestive system and make patients mentally and emotionally stable. Hence, it is very appropriate to select treatment descriptions based on the principles of treatment for promotion of digestion, regulation of Qi, transformation of phlegm, calmming of spirit and augmentation of will and we chose Jaumgunbi-tang and Banhabaekchulchunmatang uaccording to these principles.

In the medical field, there was a research to find out the cause and pathology of abnormal condition and foreign sense in the throat through esophageal manometry. Neck complaint is common in patients and this is anatomically related to pharynx or upper esophagus. Upper esophagus sphincter pressure is maintained by musculature of pharynx<sup>13,14)</sup>.

Henderson categorized the causes of motor disturbance in upper esophagus sphincter into three types. The first type is nervous system lesion which dominates muscles or sphincter muscle which is arisen from myasthenia gravis, muscular atrophy, stroke and bulbar poliomyelitis ect. The second type is, influenced by gastroesophageal reflux, corrosive esophagus burn and operation of mouth and larynx, the secondary occurrence of disorder in the movement of sphincter. The third type is that the cause of motor disturbance is obscure 15,16). In category by Henderson, foreign sense in pharvnx and upper esophagus is fallen into the category of upper esophagus sphincter motor disturbance of unknown cause. Watson and Sullivan<sup>17)</sup> said patients tend to complain of feeling of obstruction substance in same part when gastrointestinal track locally cramped in abdomen so there is a possibility that cricopharyngeal achalasia is likely to cause, Freedman<sup>18)</sup>, who put emphasis on the treatment of removal of psychological factor which he called globus hystericus and presumably induces this symptom, said that since spasm, reflux and inflammation in esophagus are often found among these kinds of patients, if organic lesion is found in throat, then it would be effective to treat the organic lesion along with mental treatment at the same time.

Also, as a result of conduction of one through type esophageal manometry, upper esophagus sphincter pressure has been significently decreased in patient group. In terms of the speed of esophageal peristaltic motility pressure wave<sup>3)</sup>, the result of each group of patients in upper and middle esophageal is reduced. And as a result of research on comparing two groups, which are a group of 50 patients who are diagnosed as pharynx neurosis and a normal control group with exclusion of organic lesion causes from both groups, there was a relevance among the number of reflex of each lying on their back and standing in 24 hour pH test, when the pH is below 4, when it is continued more than five minutes, and the longest time of reflux. The 24% of the total 50 pharynx neurosis patients have shown that the reflux of gastroesophageal is a critical cause for pharynx neurosis 4)

Meanwhile, according to Hong<sup>5)</sup>, the reflux of gastroesophageal has been observed in the 43% of the 73 pharynx neurosis patients and along with esophageal manometry, 24 hour pH test can contribute to the better choice of treatment and to the enhancement of therapeutic rate,

Likewise, in the western medicine, they regard it as a psychological symptom as they call it 'globus hystericus' but recently a research is mainly conducted to figure out the relevance with gastroesophageal disease. This tendency of research reveals that in Oriental medicine, the formation of phlegm which is one of the causes of globus hystericus has reasonable similarity with the weakness of the function of digestion and transformation.

This patient had symptoms of globus hyster-

icus, oppressed feeling in the chest, tenderness (T4~T7), dizziness, headache, heaviness of the head, tinnitus, nausea, indigestion, insomnia, dreamfulness, shortness of breath, dyspnea, continuous violent palpitation, nervousness, anxiety and constipation ect. Through the overall analysis of these symptoms we made a decision that the main symptom arises together with digestive symptom and psychological symptom and as we see the medical history, mental trauma causes the malfunction of digestion and this malfunction formed phlegm, which later goes up to the chest and throat and created globus hystericus. This phlegm blocks the function of heart and again it causes insomnia, dreamfulness, nervousness and anxiety, so there exists a vicious cycle. We thought that this is related to the main causes of phlegm which are phlegm and the seven emotions thus, globus hystericus is occurred by digestive cause and psychological cause so we started the treatment bv choosing *Iaumgunbi-tang* to strengthen the stomach function, transform phlegm and reinforce vital energy and replenish blood, Jaumgunbi-tang is prescribed for patients who have dizziness caused by phlegm which is led by lack of vital energy and blood and Jaumgunbi-tang can strengthen the digestion function and stabilize mentality at the same time<sup>1)</sup>.

Considering the fact that there was reflux of gastroesophageal, gastroesophageal symptom was a significant indicator for the causes of globus hystericus and the feeling of obstruction in the upper chest

In Banhabaekchulchunma-tang<sup>1)</sup>, Pinelliae Rhizoma (牛夏) make moist dry, send down ab-

normally ascending Oi, and prevent vomiting. Atractylodis Macrocephalae Rhizoma (白朮) and Poria (茯苓) invigorate the digestive system to resolve dampness. Ginseng Radix (人蔘), Astragali Radix (黄芪), Atractylodis Rhizoma (蒼朮) and Alismatis Rhizoma (澤瀉) invigorate Oi and resolve dampness. Hordei Fructus Germiniatus (麥 芽) and Massa Medicata Fermentata (神曲) promote digestion, Zingiberis Rhizoma (乾薑) makes digestive system and Yanggi warm and tonifying. Phellodendri Cortex (黃柏) clears away heat and transforms damp. In general, this herbal medicine treats phlegm caused by deficiency of digestive system's Qi. The fact that the test result of gastroesophageal reflux was positive could be a main indicator that showed gastoesophageal desease is a cause for globus hystericus and the feeling of obstruction in upper part of chest.

When treating reflux of gastroesophageal symptom, it is effective to use treatment which is also used to cure globus hystericus and dries out the dampness from phlegm. When dampness increases in digestive organs, then hyperacidity happens. Digestive organs play an important role of delivering body fluids to the upper part of the body and if there are excessive amount of body fluids, it refluxed and when it gets worse, patients feel dysaesthesia up along the throat from esophagus. Also, stomach dries out the dampness from digestive organs and delivers the body fluid to the lower part of the body, but when the stomach function is weakened then gastric acid can be refluxed.

In the case of this patient, it was evident that she had heart related symptoms such as stuffiness in her chest, severe palpitation, palpitation, and digestive phlegm symptoms such as dizziness and nausea and considering that she complaint about the feeling of blockade in her chest, psychological factors were predominant and mixed symptoms such as claustrophobia and panic disorder existed extensively. Also, organic lesion was not found by otolaryngology physical examination from western medicine, so we could call it globus hystericus, Caused by the mental trauma, the mixture of emotions was repressed, and this leads to the disorder of digestive system and it formed phlegm and she had the feeling of obstruction in her throat. We used the treatment for mental stability, circulating Qi, and transforming phlegm, Focusing on the relevance with gastroesophageal reflux of stomach, we chose to use Jaumgunbitang and Banhabaekchulchunma-tang because we believed that despite of the psychological factors, it would be more effective to cure globus hystericus by controlling the transforming and circulating function of digestion organs and reinforcing the function of stomach which controls the gastro-oesophageal reflux.

In conclusion, in order for the better choice of treatment and improvement of cure rate, further research on the correlationship between reflux esophagitis and globus hystericus is necessary in Oriental medicine demonstration. However, in this case the patient was in critical condition and to get prompt effect from the treatment, we used Banhabaekchulchunma-tang when the symptoms like nausea and dizziness were severe and used Jaumgunbi-tang when the symptoms related to seven emotions like palpitation and heat feeling were severe so we could not figure out exactly which treatment was more effective to treat

globus hystericus. Globus hystericus has been treated within the field of oriental medicine otolaryngology for a long time but it was hard to find related thesis so extensive clinical research is needed in the future.

We confirmed that there was relevance between the increase of the pressure of throat esophagus and reflux esophagitis in oriental medicine and through the case of one patient who had emotional disorder symptoms accompanied with mental stress, hysterical temperament, or past psychological trauma and the symptom of gastroesophageal reflux, we could report that we had a successful result after using the treatment which applies the correlationship between psychological and the digestive organ.

#### IV. Reference

- Heo J. Donguibogam [The Precious Mirror of Oriental Medicine]. Donguibogam-chulpansa, 2006;450,457,622-3.
- Kim SH. The Neuropsychiatry of Oriental Medicine. *Hangrim-chulpansa*, 1980:176.
- Han SS, Lee SH, Kim KT, Lee JT, Song WY. Esophageal manometry in the patients with foreign body sensation on the pharyngo-esopgageal region, The Korean Journal of Thoracic and Cardiovascular Surgery. 1984;17(2):280-5.
- Kim ST. The Relationship Between Esophageal Manometry and 24 Hour Double Prove pH-metry with Gastroesophageal Reflax in Pharyrngeal Neurosis Patients. Korean J Bronchoesophagol. 1996;2(1):88-96.

- Hong WP. Diagnostic inspection and clinical outcomes for pharynx-neurosis. Korean Society of Otorhinolaryngolgy-Head and Neck Surgery Conference. 1996:83.
- Jeong HS, Lee YT. Review on the Globus Hystericus in View of Hyungsang Medicine. Korean J. Oriental Physiology & Pathology. 2006;20(3):516-21.
- 7. Kim KH. Kim's therapy of *il-* acupuncture. *Daesung-munhwasa*, 2002:31.
- Bae BC. Hwangjenaegyeong-somun [the Plain Question of the Yellow Emperor's Internal Classics]. Seongbosa, 1994:258.
- Kim JB, Geumgweyoryak [Prescriptions from the Golden Chamber], Kunuimunhwasa, 2001:586.
- Yang SY. *Injaejikjibang* [Directly Indicating Prescriptions of Injae's]. *Shanghai-munseoruseokuk*, 1978:40.
- Gong S. Gogeum-uigam [A complete Work of Ancient and Modern Medicine]. Jungkukjunguichulpansa, 1999:289.
- Kim JC, Study on the woman various disease in Synopsis Golden Chamber, Thesis collection research institute of Korean medicine, 2004;13(2):11-33.
- 13. Watson WC, Suilivan SN. Hypertonicity of the cricopharyngeal sphincter: A cause of globus sensation, Lancet, 1974;2:1417.
- Hurwitze AL, Duranceau A, Haddad JK. Disorders of esophageal motility, Philadelphia, London, Toronto, W.B. Saunders company. 1979:24.
- Henderson RD, Motor disorder of the esophagus, Baltimore: Williams and willkins, 1976,

- 16. Bauman NM, Sandler AD. Respiratory Manifestation of Gastroesophageal Reflux Disease in Pediatric Patients. Ann Otol Rhinol Laryngol, 1996;105:23-32.
- Watson and Sullivan, Hypertonicity of the cricopharyngeal sphincter; A cause of globus sensation, Lancet, 1974;2:1417.
- Freedman AM, Kaplan HI, Sadock BJ. Modern synopsis of comprenhensive textbook of psychiatry. Baltimore: Williams and willkins. 1976:1030.