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Thyroidectomy does not cause globus pattern symptoms

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Abstract

Post-thyroidectomy patients often complain of globus pharyngeus type symptoms. One of the organic pathologies recognized as causing globus pattern symptoms is goitre. We conducted a prospective questionnaire-based study in the thyroid clinic at Hull Royal Infirmary to examine the relationship between goitre, thyroidectomy and globus pattern symptoms by using the Glasgow–Edinburgh Throat Scale. A questionnaire-based study in which 41 consecutive patients due to undergo thyroidectomy prospectively completed the questionnaire pre-operatively and 12 months post-operatively. A subset of 25 randomly selected patients also completed the questionnaire three months post-operatively. Globus symptoms were not worsened by thyroidectomy at three or 12 months. Indeed two of the questioned parameters were significantly improved at three months, and six at one year ($p < 0.023$). In conclusion, thyroidectomy does not exacerbate globus pharyngeus symptoms. Indeed, in the absence of other clinical causes, when a patient has a World Health Organization (WHO) 2 goitre or greater, thyroidectomy may improve them.

Key words: Thyroidectomy; Deglutition Disorders; Pharynx; Questionnaires

Introduction

Globus pharyngeus is a diagnosis of exclusion, as its cause has not been definitively identified thus far. Globus, derived from the Latin word for a ball, is classically taken to mean 'a feeling of a lump in the throat'. This psychosomatic syndrome most frequently occurs in middle-aged women in the absence of other symptoms suggestive of an upper aerodigestive tract tumour. In 1707 John Purcell coined the term globus hystericus, and it was a recognized presenting symptom of hysteria in the eighteenth century.[1] It is a syndrome common enough to account for 4 per cent of all referrals to general ENT departments in the UK.[2] When this group of symptoms presents it is vital to exclude any sinister pathology prior to making the diagnosis. One of the organic pathologies recognized as causing globus pattern symptoms is a goitre.[3] Indeed in some units thyroidectomy is advocated for globus in the presence of goitre.[4] However, in the absence of retrosternal extension it is hard to understand how an enlarged thyroid gland can cause significant pharyngoesophageal compression, if indeed this is the organic cause of the symptom. In addition, post-thyroidectomy patients often complain of globus pattern symptoms, although these symptoms frequently settle with time.

Recognizing the globus symptom as a psychosomatic disorder that presents in clinics dealing with organic pathologies, Deary *et al.* developed the Glasgow–Edinburgh Throat Scale.[5] This is a questionnaire containing 10 questions directly relating to individual throat symptoms and two further questions aimed at quantifying the degree of somatic distress, or overall anxiety, these symptoms cause (Table I). The respondent gives a score for each question ranging from 0 to 7, where 0 equates to being totally unaffected by the symptom and 7 equates to being unbearably affected by it. The purpose of this instrument is to characterize the nature and severity of the globus sensation and enable observers to assess response of the symptom to differing treatment modalities.

The aim of this study was to examine the relationship of globus to goitre and thyroidectomy. By using thyroidectomy patients as their own controls, we have employed the Glasgow–Edinburgh Throat Scale to see whether the operation worsens globus symptoms.

Materials and methods

After obtaining ethical approval from the Hull and East Yorkshire Research and Ethics Committee, 41 verbally-consented patients were prospectively recruited prior to undergoing thyroidectomy (see Table II for pathologies and thyroid function at

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TABLE I

GLASGOW–EDINBURGH THROAT SCALE QUESTIONNAIRE SHOWING IMPROVEMENT OF THE SYMPTOMS OF GLOBUS PHARYNGEUS AT THREE MONTHS AND 12 MONTHS POST-OPERATIVELY, COMPARED WITH PRE-OPERATIVE SCORES

	3/12 post-operation (n = 25)	One yr post-operation (n = 41)
Feeling of something stuck in the throat	NS	**0.012**
Pain in the throat	NS	NS
Discomfort/irritation in the throat	**0.010**	**0.009**
Difficulty in swallowing food	NS	NS
Throat closes off	NS	NS
Swelling in the throat	NS	**0.023**
Catarrh in the throat	NS	NS
Can't empty throat when swallowing	NS	NS
Wanting to swallow all the time	NS	**0.016**
Food sticking when swallowing	NS	NS
How much time do you spend thinking about your throat?	**0.009**	**0.001**
At present, how annoying do you find your throat sensation?	NS	**0.024**

NS = not significant, p > 0.05. No patients had a deterioration of any of their pre-operative symptoms following surgery. Somatic distress symptoms are marked in **bold.**

presentation). The only exclusion criterion was that the patient was unwilling to complete the questionnaire. All patients had at least a WHO 2 thyroid goitre.[6] From the WHO classification this means a visible thyroid goitre when the neck is in the neutral position. No patient had any other obvious cause for globus symptoms, and all patients underwent a pre-operative laryngeal and pharyngeal examination to exclude any other pathology. No patient was found to have T_4 cancer intra-operatively, and no thyroid was clinically retrosternal. Pre-operatively each patient completed the Glasgow–Edinburgh Throat Scale to quantify his or her degree of symptomatology. This questionnaire was completed again at one year post-operatively and the two sets of data were compared statistically. Because a subset of thyroidectomy patients complain of globus symptoms transiently post-operatively, a subset of 25 of the 41 patients were randomly selected by coin toss and contacted to complete the questionnaire three months post-operatively as well.

Statistics

Statistical analysis on the 12 questions was carried out comparing responses prior to surgery with those at three and 12 months post-surgery, the working null hypothesis being that thyroidectomy does not worsen globus pharyngeus symptoms.

The data were analysed using the SPSS software package. As the data were non-parametric, the Wilcoxon matched pairs signed rank sum test was used to compare pre-operative scores to scores at three months and one year. The data were also analysed for differences in outcome comparing hemithyroidectomy with total thyroidectomy and pre-operative thyrotoxicosis with pre-operative euthyroidism using the Mann–Whitney test.

Results

The study included 29 women and 12 men with an average age of 48 years (men 43 years, women 50 years). One patient failed to return the completed questionnaire at three months and these results were therefore not included. The results collected showed that there was no significant worsening of globus symptoms either at three months or at one year post-operatively. Indeed, at three months one of the 10 throat specific symptoms and one of the two somatic distress symptoms were significantly improved. This pattern was further improved at one year, as four of the 10 throat symptoms and two of the somatic distress symptoms were significantly improved (Table II). Whilst there was a trend for all questions to be improved at both three months and one year, six of the 12 parameters of the scale failed to reach statistical significance.

Further study of the data revealed that the symptom that was most troublesome overall pre-operatively was the feeling of 'catarrh down the throat'. The overall greatest improvement in mean symptom score with surgery was the symptom of 'swelling in the throat' ($p < 0.023$ at one year).

There was no significant difference in outcome at three months or one year between the hemithyroidectomy and total thyroidectomy groups or between the thyrotoxic and euthyroid patients.

TABLE II

ILLUSTRATING PATHOLOGICAL SUBTYPE/THYROID FUNCTION AT PRESENTATION, AND EXTENT OF RESECTION IN THE 41 PATIENTS STUDIED

Pathology	Thyroid function at presentation (euthyroid/toxic)	Extent of resection (hemithyroidectomy/total)
Benign goitre (18)	13/5	11/7
Papillary carcinoma (8)	8/0	0/8
Graves disease (10)	0/10	0/10
Thyroiditis (2)	2/0	2/0
Adenoma (3)	3/0	3/0

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Discussion

Globus pharyngeus is generally viewed as a diagnosis of exclusion of which the aetiology is unclear. The term is used to describe a symptom complex that is frequently related to a wide range of organic pathologies, of which goitre is one. However, thyroidectomy may also increase the likelihood of a patient developing the symptom complex as it will lead to a degree of post-operative scarring that will effectively tether the strap muscles and skin to the trachea. This will lead to a pulling sensation on swallowing. As the thyroidectomy operation is sometimes done for the alleviation of the symptoms of globus, it is natural that we should express concern if there is a possibility that the operation could exacerbate the symptoms.

This study is important as it shows that thyroidectomy does not exacerbate, and indeed could improve, globus symptoms. This is of particular importance clinically as it provides the first data giving patients prospective reassurance that a thyroidectomy is not going to make globus pattern symptoms worse. Furthermore, it suggests that any new throat-related symptoms following thyroidectomy should be considered to be unusual and may warrant early ENT appraisal. Although the study is encouraging, and throat specific symptoms seem to be improved at three months post-operatively, patients should still be warned that a foreign body sensation in the throat post-thyroidectomy is common but that this symptom will settle.

The study, however, may have areas of bias. Firstly, although we excluded patients with extracapsular thyroid cancer and retrosternal goitre, we did not differentiate further for other pathologies; indeed there are no data available suggesting that certain thyroid pathologies are more likely to exacerbate globus. Secondly, we did not discriminate between the sizes of goitre resected. Although all patients were pre-operatively assessed as having at least a WHO 2 goitre, we did not look at whether the actual weight of tissue resected was significant. Finally the study would have been improved if it had included a control group of patients undergoing similar neck surgery without the removal of goitrous tissue, such as a parathyroidectomy, as globus symptoms may be exacerbated by the anxiety of contemplating an operation soon to be undertaken. As the surgeon involved in the study annually carries out approximately 70 parathyroidectomies, this refinement is planned in future work.

Overall, although the study cannot conclude that the removal of small goitres is recommended for the management of globus pharyngeus, it can be used to reassure patients that post-operative globus symptoms will improve. The management of globus pharyngeus should still consist of conservative measures as first-line treatment. This normally entails improved hydration, improved upper aerodigestive tract hygiene (smoking cessation, maximizing of dental care, etc.), the avoidance of dry swallowing and forced throat clearing, and reflux avoidance strategies.

We believe that the study provides strong evidence that globus pharyngeus, in the presence of goitre and in the absence of any other causative pathology, may be improved by thyroidectomy, and that thyroidectomy does not cause or exacerbate the syndrome.

- **This patient questionnaire study investigates globus pharyngeus symptoms in patients before and after thyroidectomy**
- **The presence of globus pharyngeus symptoms was evaluated by using the Glasgow–Edinburgh Throat Scale in 41 patients undergoing thyroidectomy**
- **Thyroidectomy was found not to be associated with worsening of globus pharyngeus symptoms**

References

1 Purcell J. *A Treatise of Vapours or Hysterick Fits,* 2nd edn. London: Edward Place, 1707
2 Moloy PJ, Charter R. The globus symptom. *Arch Otol* 1982;**108**:740–4
3 Marshall JN, McGann G, Cook JA, Taub NA. Prospective controlled study of high-resolution thyroid ultrasound in patients with globus pharyngeus. *Clin Otol* 1996;**21**:228–31
4 Moser G, Wenzel-Abatzi TA, Stelzeneder M, Wenzel T, Weber U, Wiesnagrotzki S, *et al.* Globus sensation: pharyngoesophageal function, psychometric and psychiatric findings, and follow-up in 88 patients. *Arch Intern Med* 1998;**158**:1365–73
5 Deary IJ, Wilson JA, Harris MB, MacDougall G. Globus pharynges: development of a symptom assessment scale. *J Psych Res* 1995;**39**:203–13
6 Randolph GW. *World Health Organization (WHO) Goiter Grading System. Surgery of the Thyroid and Parathyroid Glands.* Philadelphia: Saunders, 2003;65

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