

# Barium Swallow Findings In Patients With Pharyngeal Symptoms

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## Citation

D Wynne, J Dempster. *Barium Swallow Findings In Patients With Pharyngeal Symptoms*. The Internet Journal of Otorhinolaryngology. 2007 Volume 7 Number 2.

## Abstract

### Objective

To audit the value of barium swallow investigation in patients with pharyngeal symptoms.

### Study Design

Retrospective case note review.

### Setting

District general Hospital.

### Method

One year of barium swallow requests were audited and correlated to patient symptoms.

### Results

Forty two patients barium swallow results and indications were studied. Thirty three percent demonstrated positive radiological findings for the group as a whole. If globus symptoms are removed this increases to 64% and if patients with suspected reflux are also removed this increases again to 76%.

### Discussion

The usefulness of barium swallow as an investigation of pharyngeal symptoms increases if this is performed on select sub groups. If there are "hard" symptoms then the predictive value will increase and it is still of use clinically.

## INTRODUCTION

Altered sensation in the throat and disorders of the swallowing mechanism are common reasons for patients to attend for consultation with an Otolaryngologist. Globus pharyngeus itself may affect up to 6% of the population with a female predominance.<sup>1,2</sup>

The aims of this study were to characterise those presenting symptoms most likely to yield a positive result on barium swallow.

The symptoms that were of interest to us were: globus; dysphagia; dyspepsia; reflux; regurgitation; aspiration; dysphonia; pain and weight loss. Dysphagia was defined as a difficulty in swallowing e.g. "food sticking" rather than a pharyngeal awareness.

## METHOD

Forty two patients were identified as having a barium swallow request within the previous year (January 2006 - January 2007). The results of these were obtained along with the case notes. On case note review attention was paid to the

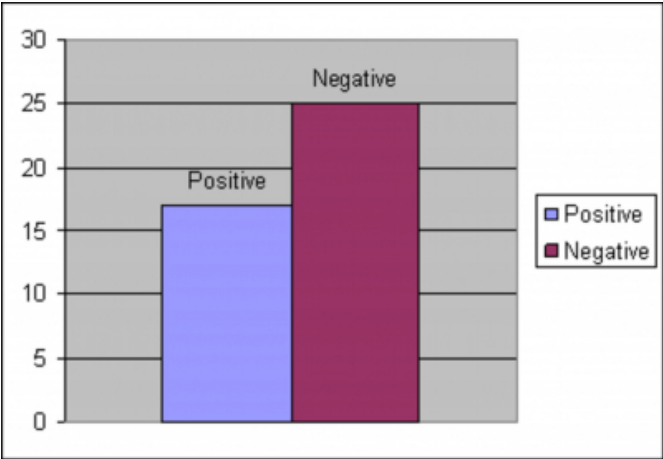
presenting symptoms and what the clinician felt the likely diagnosis may be. Any high risk factors that were recorded were noted e.g. smoker, high alcohol intake and weight loss<sup>3,4</sup>. These were mainly used to prioritise the urgency for further investigation.

RESULTS AND ANALYSIS

Forty two results and indications were analysed. The total number of positive results from barium swallow was 17 (40%), negative swallows occurred in 25 (60%) patients. (Fig 1) Seventeen (40%) patients were male and 25 (60%) were female.

Figure 1

Figure 1: Total Results



The most common indication that resulted in a positive swallow was dysphagia. Globus symptoms had the highest numbers of negative results. Other symptoms that correlated with a higher incidence of positive results included a presumed pharyngeal pouch, oesophageal spasm and choking. Patients with oropharyngeal dysphagia had a high incidence of negative findings on barium swallow. (Table 1) These patients were defined as having difficulty with the oral phase of swallowing or a “high dysphagia”.

Figure 2

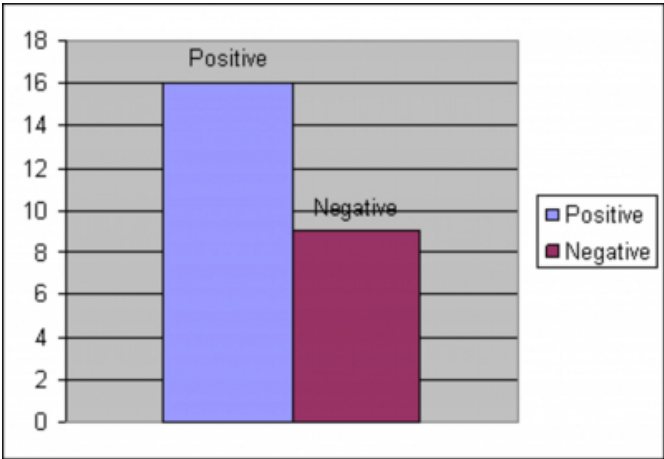
Table 1: Results of all swallows

MAIN INDICATION	+	-
Dysphagia	8	0
Globus	1	16
Reflux	3	5
Oesophageal spasm	1	0
Oropharyngeal dysphagia	0	3
? Pharyngeal pouch	3	0
Cough	0	1
Choking	1	0
TOTAL	17	25

If patients with globus symptoms are removed this results in a group of 25 patients, 16 (64%) had positive results and 9 (36%) negative results. Fig2.

Figure 3

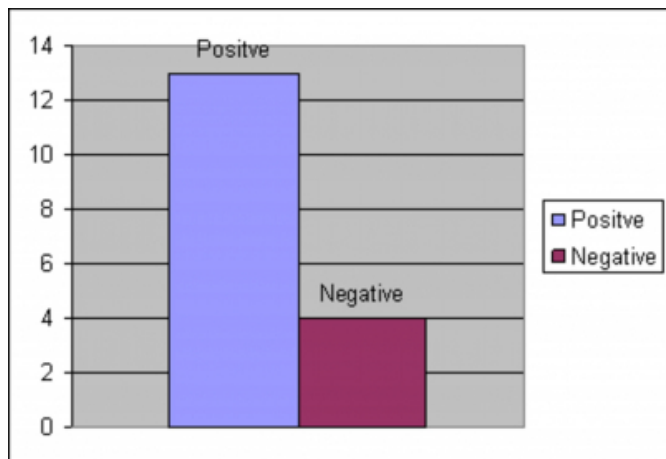
Figure 2: Results removing globus group



If presumed reflux patients are removed as well, this then changes to a group of 17 with 13 (76%) positive results and 4 (24%) negative. (Fig 3).

**Figure 4**

Figure 3: Results from Fig2 minus reflux group



In the dysphagia group the most common finding was a stricture or oesophageal web (50%), irregular mucosal lining / ulceration oesophagus (25%), aspiration (12.5%) and pharyngeal pouch (12.5%). In the group clinically suspected of having a pharyngeal pouch group 100% of barium swallows confirmed the suspected diagnosis.

## DISCUSSION

In our population, we found that the over all positive result of barium swallow investigation was 33%. When the group was subsequently broken down in to different presenting symptoms it was found that the value of barium swallow in certain groups rose while others declined. Namely the dysphagia group rose from 33% to 100% and globus patients from 33% to 6%. However when this was done the population in the later groups reduced to 25 and 17 respectively.

We found that those with “hard symptoms” such as dysphagia, regurgitation and aspiration had a higher positive predictive value than “soft symptoms” such as globus or reflux.

The most common finding in the globus group was reflux 6%. This result would be in keeping with other published studies. <sup>1</sup> When reflux was the primary suspected diagnosis 60% of barium swallows were positive.

Patient history would appear to be paramount in the assessment of a patient with pharyngeal symptoms <sup>5,6</sup>. Careful history will help to arrive at a differential diagnosis. Once this has been done then appropriate investigations can

be organised.

If oral or oropharyngeal symptoms dominate then we would not recommend barium swallow as an initial investigation, instead videofluoroscopy or speech and language assessment should be considered. <sup>6</sup>

Barium swallow has been shown to be effective for correctly diagnosing obstructive lesions of the oesophagus when compared to endoscopy <sup>7,8</sup>. This finding has been echoed in our series.

On the basis of this study we would not recommend barium swallow as the first line of investigation for presumed globus in a low risk patient. Barium swallow is still of value in patients who have “hard symptoms” as the incidence of the requirement for further intervention is increased. This probably reflects current opinion within Otolaryngology and would appear substantiated by this study.

## SUMMARY

- Pharyngeal symptoms are common
- BASW not first line investigation for globus
- BASW has good predictive power with hard symptoms

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