

## Is Globus Hystericus?

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Forty-six patients, 9 male, 37 female, presenting to an ear, nose and throat department with a principal complaint of globus sensation were investigated by radiology, manometry, endoscopy and prolonged ambulatory pH monitoring to exclude a physical basis for their symptoms. Patients also underwent assessment by the Eysenck Personality Inventory (EPI) and General Health Questionnaire (GHQ). The only organic abnormalities detected were an abnormal degree of oesophageal acid exposure (seven patients) and oesophageal spasm (one patient). Female patients were neurotic introverts on EPI testing; males were stable ambiverts. High GHQ scores were present in 13 females (35%) and one male and there was a significant correlation between N scores (in the EPI) and GHQ scores. We propose that globus is a useful, single-symptom model for the study of conversion disorders.

Globus, the sensation of a lump in the throat, is a very common response to emotional stimuli in the general population, with an incidence of up to 45% in young and middle-aged subjects of both sexes (Thomson & Heaton, 1982). Less common are the severe, or what are perceived to be severe, forms which account for 4% of ear, nose and throat (ENT) referrals and have a female:male ratio of 3:1 (Moloy & Charter, 1982).

In the seventeenth century globus was known as 'suffocation of the mother' – the definitive hysterical symptom (Brain, 1963; Merskey, 1986). Ferenczi (1926) proposed that it resulted from peripheral 'materialisation' of a repressed idea, claiming that a palpable muscular ball was induced in globus patients due to a subconscious desire for oral sexual practices. Today the condition is seldom seen in psychiatric practice as patients are generally referred for ENT assessment, following which they are discharged and seem rarely to re-present for psychiatric evaluation. Clinically, globus is often recognisable after a few minutes' consultation, but there is no diagnostic investigation and many patients undergo barium meal examination, laryngoscopy and oesophagoscopy to exclude one of the many structural pathological lesions which are reported to produce the symptom on occasion (Cohen, 1973). Such lesions, however, are extremely rare and almost always produce other significant symptoms. When globus occurs in isolation, the incidence of positive findings is extremely low (Wilson *et al.*, 1987a).

There have been many attempts by otolaryngologists to define associated organic pathology. Iron deficiency, anaemia, sinusitis, lingual tonsillitis, spondylitis and myxoedema have all been studied. None has withstood close examination (Mair *et al.*,

1974; Solyom & Sookman, 1980). Following the radiological investigations by Malcolmson (1966), it was claimed that globus was associated with gastroesophageal reflux in up to 90% of patients. Our own recent studies using the most accurate method currently available for assessing oesophageal acid exposure – prolonged ambulatory pH monitoring – indicate that abnormal degrees of reflux are present in only 15% of globus patients (Wilson *et al.*, 1987b).

There has been no adequate psychological study of globus patients. This is an important omission, since in a recent study globus was the fourth most discriminating symptom of somatisation disorder after vomiting, aphonia, and painful extremities (Othmer & DeSousa, 1985). Globus appears to fulfil the criteria of the Diagnostic and Statistical Manual (American Psychiatric Association, 1980) for conversion disorder: the patient with globus has alteration in swallowing (and sometimes speaking), may volunteer a psychological event at the onset of the symptom, and derives opportunity for support (hospital attendance, often with a companion) from the condition.

The clinically consistent single sensory symptom makes globus an attractive potential model for study of other somatisation or hysterical conditions, previous investigations of which have used patients who have had a variety of severe major associated illnesses and whose heterogeneous symptoms (motor/sensory/epileptic, etc.) have been life-intrusive variables in their own right (Ziegler *et al.*, 1960; Slater, 1965; Lewis, 1975; Wilson-Barnet & Trimble, 1985; British Medical Journal, 1986b). This paper presents the preliminary results of the use of psychological inventories in globus patients.

### Method

#### Subjects

Forty-six patients, 9 male, 37 female, aged 27–72 years, referred to the Ear, Nose and Throat Department, Royal Infirmary, Edinburgh, were studied. All had a clinical diagnosis of globus hystericus, the principal symptom being of a persistent feeling of something in the throat, and all were seen in a special clinic set up for the investigation of globus patients. Mean age of males was 43 years (s.d. 12) and of females 47 years (s.d. 11).

#### Procedure

All patients underwent physical examination including pharyngoscopy and indirect laryngoscopy to exclude structural abnormality. At initial consultation, patients were asked to complete the Eysenck Personality Inventory (EPI; Eysenck & Eysenck, 1964) and the General Health Questionnaire, 60-item version (GHQ; Goldberg, 1972). Video-recorded barium meal examination and X-rays of cervical spine and sinuses were also performed, followed by direct laryngoscopy and rigid oesophagoscopy under general anaesthesia. Estimations of full blood count and routine serum biochemistry, iron and B<sub>12</sub> levels were performed. Most patients underwent oesophageal manometry and 23-hour ambulatory pH monitoring (Fink & McCallum, 1984) to assess the extent of gastroesophageal reflux. Oesophageal acid exposure time (AET) is calculated as the total percentage time the intraoesophageal pH is less than 4 at the site of the probe (3 cm above the lower oesophageal sphincter).

### Results

The results of EPI testing are summarised in Table I. Compared with age- and sex-matched normals, female globus patients had significantly high N (neuroticism) scores ( $P < 0.001$ ), while male patients were low N. The mean N was 1.5 s.d. greater in female than in male patients, as compared with the expected 0.5 s.d. (Eysenck, 1960), and this difference was significant ( $P < 0.01$ ,  $t = 3.28$ ). E scores were similar in male globus patients and normals, but female

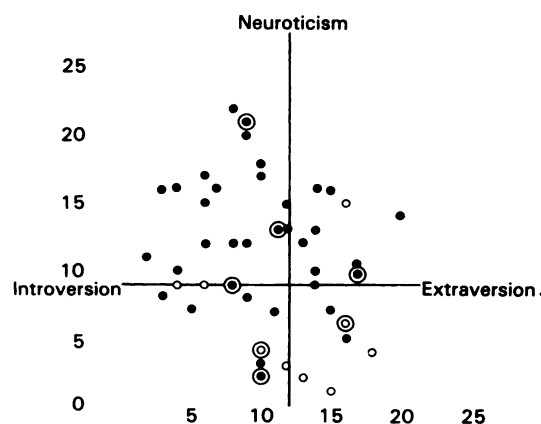


FIG. 1 Distribution of N and E scores in globus patients.  $\circ = M$ ,  $n = 9$ ;  $\bullet = F$ ,  $n = 36$ ;  $\odot = AET > \bar{x} + 2$  s.d. normal  $n = 7$ .

patients were significantly more introverted than controls ( $P < 0.01$ ). The higher L scores in female patients are attributable to their being older. L was positively correlated with age, as expected ( $r = 0.41$ ,  $P < 0.01$ ).

GHQ-60 questionnaires were scored by the GHQ scoring method, i.e. 0–0–1–1. On the basis of scores obtained by subjects attending a medical practitioner, a 'high' GHQ score ( $> 12$ ) is said to predict occult psychiatric morbidity, and 14 globus patients (one male, 13 female) obtained such scores. The scores in these patients ranged from 13 to 49 (mean 24.6, s.d. 11.8). Mean N in high GHQ scorers was 14.07 (s.d. 3.8), as compared with 9.6 (s.d. 5.4) in those with GHQ  $< 12$  ( $P < 0.01$ , Student's  $t$ ). Table II confirms the correlation of N and GHQ score, which was even stronger using Likert scoring (0–1–2–3) of the GHQ-60 ( $r = 0.53$ ,  $P < 0.001$ ).

There was no significant correlation between GHQ score and AET, but the inverse relationship between N and AET suggests that in globus patients with more marked gastroesophageal reflux there may be a smaller psychological component. In the seven subjects (one male, six female) with AET above the upper limit of normal, mean N was 9.3, as compared with 12.4 in patients with normal AET.

TABLE I  
Results of EPI

	Male age-matched <sup>1</sup> normals (n = 93)		Male globus (n = 9)		Female age-matched normals (n = 24)		Female globus (n = 37)	
	x	s.d.	x	s.d.	x	s.d.	x	s.d.
E	11.3	4.6	12.2	4.8	12.2	4.8	10.1*	4.5
N	8.9	4.6	5.9*	4.4	7.9	5.4	12.3**	4.8
L	—	—	2.7	1.6	—	—	4.2	2.2

1. Eysenck & Eysenck, 1964.

\* $P < 0.01$ , Student's  $t$ ; \*\* $P < 0.001$  versus normals.

TABLE II  
Correlation of results (Pearson's *r*)

	<i>E</i>	<i>N</i>	<i>L</i>	<i>GHQ</i>	<i>AET</i>
<i>E</i>	—	-0.22	-0.07	-0.01	-0.24
<i>N</i>		—	-0.14	0.45*	-0.26
<i>L</i>			—	-0.01	-0.04
<i>GHQ</i>				—	-0.06

EPI data are displayed graphically in Fig. 1, which demonstrates the generally lower *N* in those with abnormal AET. Females are polarised to the *N*, *I* quadrant. This is the dysthymic quadrant, which includes phobic, obsessional, depressive and anxiety neuroses.

Physical investigations showed the expected mild changes of reflux oesophagitis in some of the seven patients with abnormal AET, but were otherwise normal except in the single male patient with high GHQ score who had a degree of oesophageal spasm on manometry.

### Discussion

Our preliminary findings in globus patients show a marked sex difference, with females emerging as neurotic introverts, while males are stable ambiverts. The two previous psychological studies of globus yield conflicting results. Lehtinen & Puhakka (1976), in a study of 20 globus patients, found depressive and obsessive characteristics in 11 females, while males were similar to controls; the results of this study, however, were impressionistic and were not based on statistical analysis. Pratt *et al* (1976) found males had a higher incidence of depression and hypochondriasis. There are no previous reports of EPI or GHQ testing in globus patients.

The numbers, particularly of male patients, reported in the present study are small, but show elevated GHQ scores (> 12) in 14 patients, 13 female (35%) and one male. Two patients scored 13, the rest 15–49. The GHQ detects patients whose otherwise inexplicable somatic symptoms are accompanied by an affective disturbance (principally affective neurosis) that they have not presented to the physician (Goldberg, 1972). An association of anxiety and total scores has been demonstrated in a scaled version (Goldberg & Hillier, 1979), and most of the globus patients studied above admitted to fear of throat cancer on direct questioning.

A higher threshold of positivity is recommended for the GHQ in the presence of physical illness (British Medical Journal, 1986a), and this might explain the high GHQ score in the single male with oesophageal spasm. As already stated, we do not agree with Merskey (1986) that most cases of globus have a physical basis, and feel a threshold of 12 is,

therefore, appropriate. Goldberg (1972) demonstrated that low GHQ scores associated with high *N* were found at subsequent psychiatric interview to be false negatives. In the present study, nine females (24%) who were low GHQ scorers had *N* scores of 13 or greater (possible false negative on GHQ-60), and the GHQ-*N* correlation was 0.45 ( $P < 0.01$ ). While it is possible that in some patients high *N* scores were due to changes in mood 'state' as a result of symptoms, our results favour the hypothesis that trait neuroticism predisposes to dysthymia. Globus patients with normal AET in our sample had higher *N* scores. We predict that following resolution of globus, female patients will remain high *N* and low *E* scorers, but we have no data to support this at present.

Our results in globus patients support the inclusion of conversion disorder with dysthymic disorders, i.e. those neuroses associated with high *N* and low *E* scores. Eysenck's (1944) original study of 700 neurotic soldiers suggested conversion hysteria to have a high extraversion loading, but the *E* factor used was unsatisfactory, and there were no normal controls. Hillebrand (1958) found conversion hysterics to be high scorers on a neuroticism dimension, but intermediate between normals and dysthymics on extraversion. Moss & McEvedy (1966) found small, inconsistent differences in *E* scores of schoolgirls with hysterical overbreathing. Other studies (Sigal *et al*, 1958; Eysenck, 1962; McGuire *et al*, 1963; Ingham & Robinson, 1964; McEvedy *et al*, 1966; Wilson-Barnet & Trimble, 1985) showed no significant *E* difference between hysterics and dysthymics, in agreement with the present study. In fact, there is little evidence for Eysenck's recent claim (Eysenck & Eysenck, 1985) that hysterics are neurotic ambiverts, except for one inadequately reported study (Bolardos, 1964).

Globus males in the present study appear to be very low *N*. We are investigating this finding in a larger sample, as there is some evidence that globus males may be more psychologically abnormal and refractory to treatment than females (Mair *et al*, 1974; Pratt *et al*, 1976).

Our study provides evidence which may help to resolve a debate concerning the nature of conversion disorder. There are two possibilities: either patients are reporting normal physiological stimuli as symptoms (the 'symptom monitoring' hypothesis); or they are converting emotional concerns into a physical manifestation (the 'materialisation' hypothesis). Gray (1983) postulated that minor pharyngeal irritation initiated globus sensation, with a subsequent increase in dry swallowing perpetuating a vicious cycle. Pennebaker (1982) provides much evidence that bodily sensations compete with external cues for a

person's attention and has indicated that self-focused attention may be one aspect of people he terms 'symptom reporters'. Thus globus may arise from a normal sensation, perceived abnormally. Kaplan & Evans (1978) describe anticipatory anxiety exacerbating a vicious cycle - 'fear of fear' - in a patient with functional dysphagia. A similar mechanism may also perpetuate globus sensation in susceptible (dysthymic) individuals.

Alternatively, is the sensory symptom of globus associated with demonstrable 'materialisation'? The likely site of materialisation is the cricopharyngeal sphincter, but to date we have failed to show convincing cricopharyngeal abnormality by manometric study in over 150 globus patients. We are currently assessing the symptom-monitoring versus materialisation hypotheses using a recently developed catheter-mounted transducer system for the measurement of pharyngoesophageal motility. Some support for the materialisation hypothesis may be derived from reports that abnormal oesophageal contractions have been shown to be produced by stress, affectively charged material and psychiatric disorder (Rubin *et al*, 1962; Clouse & Lustman, 1983). These contractions may, however, represent relatively normal stimuli that become a globus symptom only in pre-disposed individuals.

An omission in the above discussion is the psychodynamic symbolism of globus (oral, sexual, incorporation) which, although appealing, may be a further example of secondary elaboration (Glaser & Engel, 1977). The frequency of globus in the general population and in the hospital clinic suggests that the location of the symptom does not hold any mysterious significance. Rather globus may be a path of low resistance, a readily perceived (or generated) symptom in conditions of stress.

Many patients still complain of globus two years after initial presentation (Mair *et al*, 1974), and globus is obviously worthy of further study for this reason alone. Further, 20-25% of general hospital in-patients have at some time had a 'conversion reaction' (Lazare, 1981), but investigators have focused on rare and bizarre manifestations of hysteria (Ford & Folks, 1985). Globus may provide a single-symptom model by which to operationalise 'secondary gain', as the symptom, unlike paralyzes or convulsions, is not itself an intrusive life event. Our ongoing studies of globus patients and of a control medical group involve clinical and personality measurements for hysteria and investigation of precipitating life events and associated depression.

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