REFLUX AND VOICE DISORDERS

a critical review

Lorna Gamberini, MA(Hons), BSc

Lorna Gamberini is a Speech and Language Therapist with the Morecambe Bay Primary Care Trust. In this article she describes the possible links between dysphonia and reflux symptoms. It has been 'received wisdom' in her profession that there is an aetiological link, but this is a matter of debate with the medical profession. As part of her MSc in Advanced Clinical Studies (Dysphonia) at Newcastle University she has set out to look at the evidence base to support the concept of a link.

INTRODUCTION

Voice disorders (dysphonia) are largely multifactorial in nature, and the history that I gather at the initial assessment of a dysphonic patient necessitates asking about many different aspects of the patient's life – physical, environmental and emotional. One question that often draws quizzical looks from the patient is, 'Do you suffer from reflux?' It is a question I have always asked voice patients, as voice textbooks state as 'fact' that reflux causes laryngeal irritation and concomitant voice problems. If there is a history of reflux but with no ongoing medication, I have often advised patients to talk to general practitioners (GP) about the possibility of appropriate medication to settle the symptoms of the reflux and review whether or not the dysphonia improves with the medication.

There is a wealth of literature available, much of it stemming from Koufman's comprehensive study in 1991⁽¹⁾, which examines the evidence for this stated causal link from many different perspectives. It is apparent from searching the literature that there is no current consensus to back up this 'fact' due to the many difficulties in researching this area, some of which are discussed below.

GASTRO-OESOPHAGEAL REFLUX (GOR) OR LARYNGOPHARYNGEAL REFLUX (LPR)?

To explore whether or not reflux is the cause of voice problems, we need to be clear about what is meant by 'reflux'. (LPR appears to be the most common terminology used for 'extraoesophageal reflux' but labels such as gastropharyngeal reflux are also used in the literature.)

A number of papers state confidently that GOR (or GERD in America) and LPR are distinct entities^(2,3), whereas other studies acknowledge LPR as an entity but then go on to use the terms interchangeably. In doing so it is difficult to tease out exactly what is being measured or treated in these studies^(4,5).

The authors for whom GOR and LPR are distinct entities are in general agreement as to the difference between the two – the diagnostic sine qua non of GOR is oesophagitis and

heartburn, with reflux occurring mostly at night with the subject in a supine position. In LPR fewer than 50% of subjects complain of heartburn, and reflux appears to occur during the day with subjects in an upright position. If LPR is a distinct entity, this is important clinically as it implies that reflux is occult in a majority of subjects and there may therefore be a delay in diagnosing and treating it. It may also explain why some of the patients I ask about reflux deny any symptoms of 'heartburn' while displaying apparent symptoms of laryngeal irritation. Conversely, there is a danger that in assuming occult reflux from laryngeal findings, patients may be sent down the route of investigations and treatment for LPR unnecessarily⁽⁴⁾.

Key to determining the difference, or not, between GOR and LPR and any causal link to laryngeal problems is effective diagnosis. However, there is controversy surrounding the diagnostic measures available.

Diagnostic measures

Two main diagnostic measures are used in the papers reviewed. Ambulatory 24 hour double-probe pH monitoring is stated to be the 'gold standard' for the diagnosis of GOR and/or LPR by a number of studies^(2,6). Other authors express doubts as to its usefulness – there are concerns about its limitations due to the intermittent nature of reflux^(3,7) and the procedure's high intra-subject variability⁽⁸⁾. It is also felt to be time-consuming⁽⁵⁾ and not cost-effective⁽⁷⁾.

The other main tool reported on for diagnosis is fibreoptic nasendoscopy, to look at the laryngological symptoms. A number of concerns are expressed about its limitations as an assessment tool. Accurate assessment is dependent on equipment with good fibreoptics and an adequate light source, and interpretation of the results is 'operator dependent'⁽⁵⁾. Even with the optimum equipment, there is no agreement in the literature about the laryngoscopic findings. Cherry and Margulies⁽⁹⁾ were the first to establish a link between laryngeal irritation and reflux in their paper on contact ulcers in 1968, and there is some agreement in the literature on the effects of severe reflux disease, with many studies citing the incidence of ulceration^(7,10), subglottic stenosis⁽⁶⁾ and even carcinoma⁽⁶⁾.

Disagreement as to the pertinent findings revolves around the more subtle laryngoscopic findings attributable to reflux. Some authors are clear that LPR results in posterior laryngitis and erythema of the posterior wall of the larynx⁽¹⁰⁾, while others are equally as clear that the main marker is not erythema, but oedema⁽²⁾. Belafsky et al⁽³⁾ feel that the entire larynx must be assessed when evaluating the effects of GOR or LPR and have developed the Reflux Finding Score (RFS)⁽³⁾ to help standardise the clinical findings of LPR. It is described as a 'clinical scale of laryngeal inflammation'. The individual items of the RFS are described in Table 1. Some

ENT colleagues on the MSc course have already adopted the RFS as a tool for assessing reflux. Again, the diagnostic equipment available potentially limits its use and the authors themselves admit that other sources of laryngeal irritation (infection, allergy, environmental toxins) can result in an abnormal RFS.

Condition	RFS
Subglottic oedema	0 = absent 2 = present
Ventricular obliteration	0 = none 2 = partial 4 = complete
Erythema/hyperemia	0 = none 2 = arytenoids only 4 = diffuse
Vocal cord oedema	0 = none 1 = mild 2 = moderate 3 = severe 4 = polypoid
Diffuse laryngeal oedema	0 = none 1 = mild 2 = moderate 3 = severe 4 = obstructing
Posterior commissure hypertrophy	0 = none 1 = mild 2 = moderate

Table 1 Reflux Finding Score (RFS)

CONCLUSION

Even one of the most ardent supporters of the hypothesis, Koufman, admits that, due to the epidemiological nature of studies, they do not prove a causal relationship between LPR (or GOR) and laryngeal pathology⁽²⁾. A proven causal link is likely to come about only when diagnostic tools are available to better assess the incidence of reflux and assess the specificity of laryngeal findings secondary to that reflux.

Given this, will I still be asking patients the question about reflux? Yes, I will, for the following reasons. Despite the limitations of the studies reviewed, there appears to be a common consensus in the literature that there is some link between 'reflux' and laryngeal problems. In addition, there appears to be some consensus as to the symptoms which are felt to be a result of reflux, with 75% of the papers reviewed reporting hoarseness, globus, throat clearing persistent cough, sore throat, dysphagia and post-nasal drip as common symptoms of reflux (occurring in over 50% of cases)^(2,5,7,10).

It is evident from the literature that, due to its very nature, reflux is difficult to diagnose, and this would be particularly true of LPR as so many patients are asymptomatic. The 'reflux question' alone would not determine that reflux is a

component of these patients' dysphonia, but careful history taking may elicit enough information to raise suspicions that reflux is involved. As a clinician, I need to take these suspicions seriously – if reflux is a factor, there is potential for the patient (and therapist!) to become frustrated by lack of success with therapy techniques when the prescribing of appropriate medication may quickly restore their voice to 'normal'.

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