

The Role of Liquid Alginate Suspension (Gaviscon Advance®) in the Management of Laryngopharyngeal Reflux (LPR)

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INTRODUCTION

Laryngopharyngeal Reflux (LPR) refers to the backflow of stomach contents into the laryngeal and pharyngeal region. Increasing evidence has demonstrated that LPR is a contributing factor in some cases of hoarseness, voice fatigue, voice breaks, cough, globus and throat clearing. However, several randomised placebo-controlled trials of proton pump inhibitors (PPIs) in the treatment of LPR have been reported with the majority showing no significant benefit in symptom scores over placebo.¹⁻⁵

AIM

The aim of this study was to investigate the improvement in symptom score and clinical findings in LPR achieved with liquid alginate suspension (Gaviscon Advance) compared with control (no treatment).

METHODS

Patients presenting to the Otorhinolaryngology outpatient department at the Queen's Medical Centre, Nottingham, UK, with symptoms of LPR were considered eligible if they had a Reflux Symptom Index (RSI) >10 and Reflux Finding Score (RFS) >5.

In this open, parallel group study, all participants received vocal hygiene advice (see below) plus or minus treatment (Gaviscon Advance, Reckitt Benckiser Healthcare (UK) Ltd).

The study was approved by an independent ethics committee and informed consent was obtained from all patients.

Vocal Hygiene Advice

- Explanation of voice mechanism & dysphonia
- Hydration, review of medication
- Diet & dietary habits
- Avoidance of irritants
- Lifestyle
- Smoking & alcohol
- Voice use & abuse/throat clearing
- Exercise, posture, breathing
- Stress, anxiety, anger management & relaxation

Patient Groups

49 Caucasian LPR patients were randomised into the open, parallel group study of vocal hygiene advice +/- treatment. All patients had RSI and RFS assessed pre-treatment and at 2, 4, and 6 months post-treatment.

Treatment Group

24 patients (15 male, 9 female) mean age 50.8 years (SD 12.7) received 10ml Gaviscon Advance 4 times daily (after meals and at bedtime).

Control Group

25 patients (13 male, 12 female) mean age 58.1 (SD 11.6) received no further treatment.

CONCLUSION

- Gaviscon Advance was well tolerated in LPR patients.
- Gaviscon Advance statistically significantly improved both symptom scores and clinical findings compared with the control group.
- Gaviscon Advance warrants further evaluation for the management of patients with LPR.

RESULTS

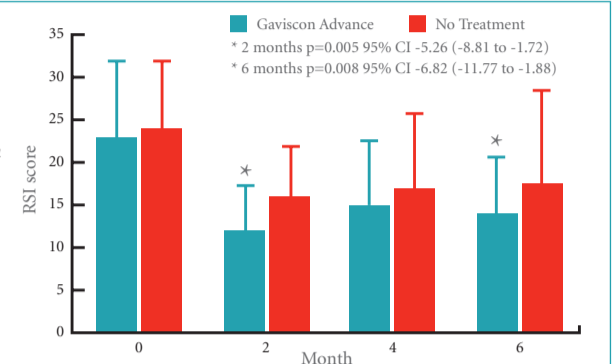
Reflux Symptom Index (RSI)

Validated self-completed questionnaire.⁸

Maximum score 45.

Within the last MONTH, how did the following problems affect you? Circle the appropriate response	0 = No problem 5 = Severe problem					
Hoarseness or a problem with your voice	0	1	2	3	4	5
Clearing your throat	0	1	2	3	4	5
Excess throat or postnasal drip	0	1	2	3	4	5
Difficulty swallowing food, liquids or pills	0	1	2	3	4	5
Coughing after you ate or after lying down	0	1	2	3	4	5
Breathing difficulties or choking episodes	0	1	2	3	4	5
Troublesome or annoying cough	0	1	2	3	4	5
Sensations or something sticking in your throat or a lump in your throat	0	1	2	3	4	5
Heartburn, chest pain, indigestion, or stomach acid coming up	0	1	2	3	4	5

There was a significant improvement in the RSI by GA at 2 months and 6 months compared with control.



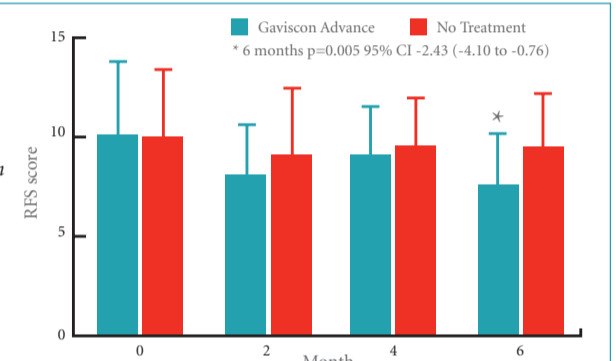
Reflux Finding Score (RFS)

Fibreoptic examination of the larynx with scores for the following features and their extent.⁹

Maximum score 26.

Pseudosulcus / Subglottic Oedema	2 Present			
Ventricular Obliteration	2 Partial		4 Complete	
Erythema/Hyperaemia	2 Arytenoids (only) 4 Diffuse			
Vocal Cord Oedema	1 Mild	2 Moderate	3 Severe	4 Polypoid
Diffuse Laryngeal Oedema	1 Mild	2 Moderate	3 Severe	4 Obstructing
Posterior Commissure Hypertrophy	1 Mild	2 Moderate	3 Severe	4 Obstructing
Granuloma/Granulation	2 Present			
Thick mucus	2 Present			

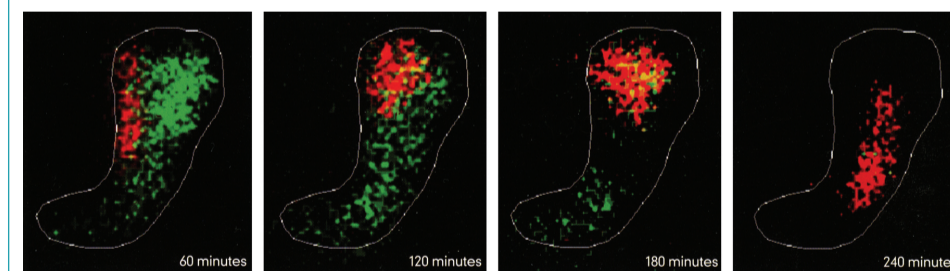
There was a significant improvement in the RFS by GA at 6 months compared with control.



Background Information on Alginates (Gaviscon Brands)

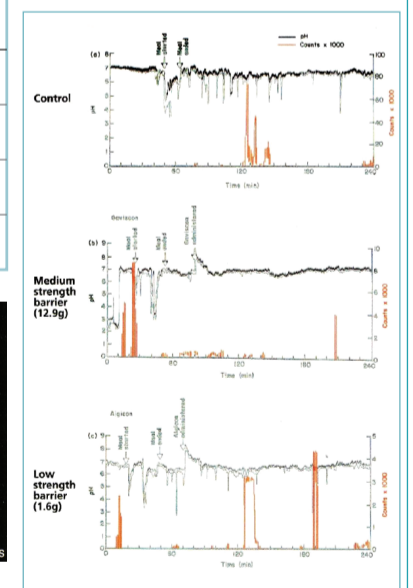
Raft strength, weight and volume of liquid alginate suspension products.⁶

PRODUCT	Raft strength g. (CV%)	Raft weight g. (CV%)	Raft volume ml. (CV%)
Gaviscon Advance (UK)	16.5 (21.2)	18.6 (8.6)	25.8 (21.1)
Gaviscon Liquid (UK)	12.9 (22.6)	53.5 (10.3)	88.7 (15.6)
Gaviscon Regular Strength (USA)	1.8 (32.6)	3.4 (110)	5.8 (163)
Gaviscon Extra Strength (USA)	1.1 (34.0)	6.8 (26.5)	10.4 (60.5)



Scintigraph sequence showing Gaviscon Advance raft (red) above the meal (green) in the stomach. Times shown are post meal administration.⁷ This shows that GA remains in the stomach for 4 hours and until the meal has emptied.

Suppression of food and acid reflux in alginates with differing barrier strengths



References

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