AZIENDA OSPEDALIERA SAN PIO
BENEVENTO

LA FARINGO-LARINGITE DA REFLUSSO

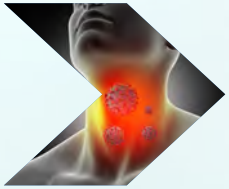
Domenico Di Maria

Direttore della U.O.C. di Otorinolaringoiatria

A.O.R.N. "San Pio" – Benevento

WHY DOES THE PATIENT TURN TO THE ENT?

Because he fears a cancer!



Because the quality of life is worsened by the symptoms...

... which are often associated with mood disorders

only 50% of patients also suffer from GERD

... but the treatment of GERD is often not that of LPR

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APT Alimentary Pharmacology & Therapeutics WILEY

Review article: Diagnosis and management of laryngopharyngeal reflux

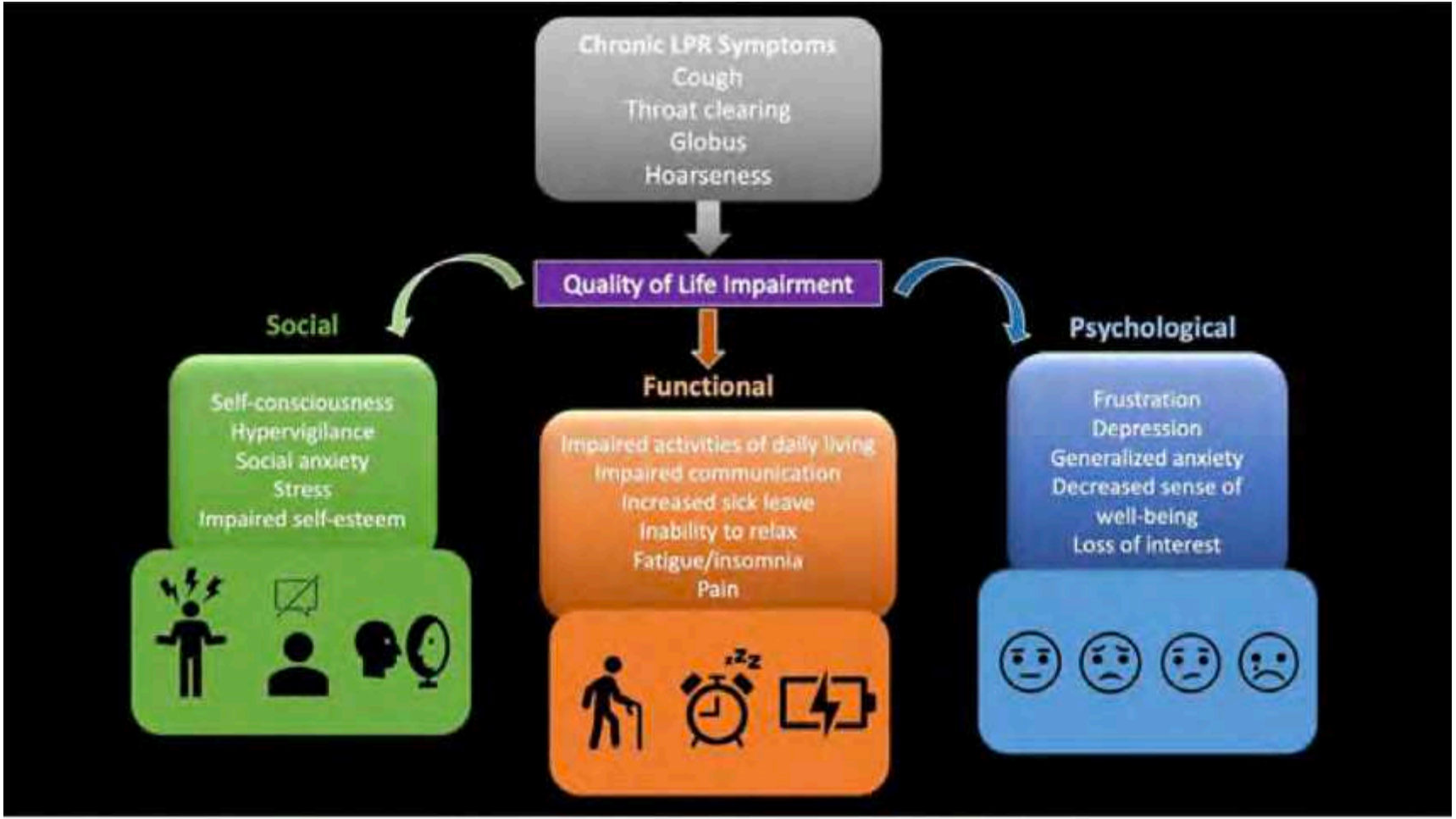
Amanda J. Krause | Rena Yadlapati

1. Lack of a diagnostic standard for LPR.
2. Definitions of LPR vary greatly between studies.
3. Patients with laryngeal symptoms require an average of 10 consultations.
4. Approximately 6 diagnostic procedures are required for symptom assessment.
5. The average annual cost is about $5438 per patient.
6. ALL THIS ALSO AFFECTS ANXIETY AND DEPRESSION

The "Costs" of an undiagnosed LPR?!?

Social

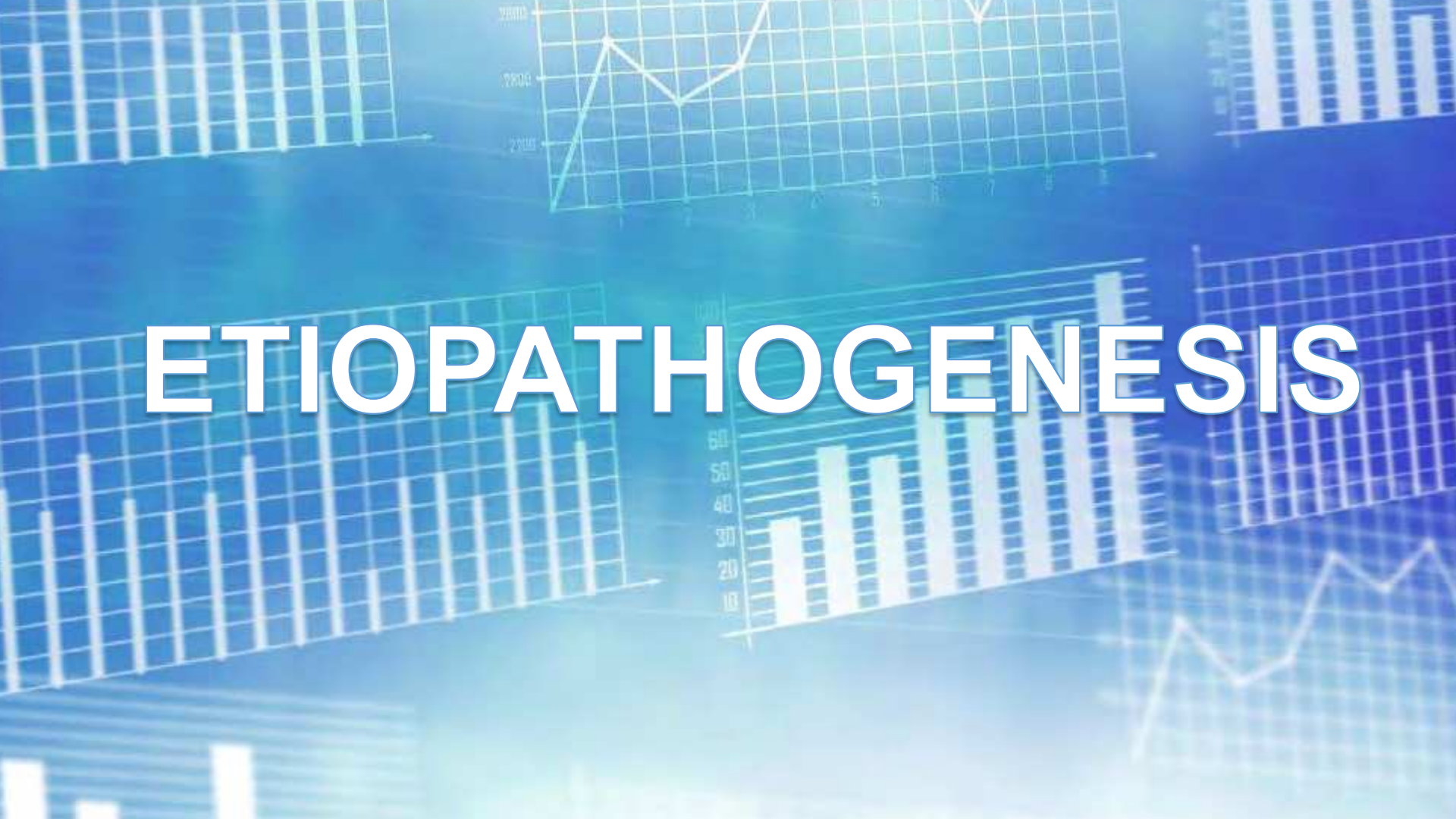
Health Care


Chronic LPR Symptoms
Cough
Throat clearing
Globus
Hoarseness
Quality of Life Impairment
Social
Self-consciousness
Hypervigilance
Social anxiety
Stress
Impaired self-esteem
Functional
Impaired activities of daily living
Impaired communication
Increased sick leave
Inability to relax
Fatigue/insomnia
Pain
Psychological
Frustration
Depression
Generalized anxiety
Decreased sense of well-being
Loss of interest

Would you deny "a priori" the diagnosis of LPR?

LPR IS A DISEASE IN ITS OWN RIGHT!!

- ETIOPATHOGENESIS
- CLINIC
- INSTRUMENTAL DIAGNOSTICS
- THERAPY


ETIOPATHOGENESIS

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IOS Press

Review Article

Spotlight on: Nature, assessment, and management of laryngopharyngeal reflux

Ciarán Kenny*
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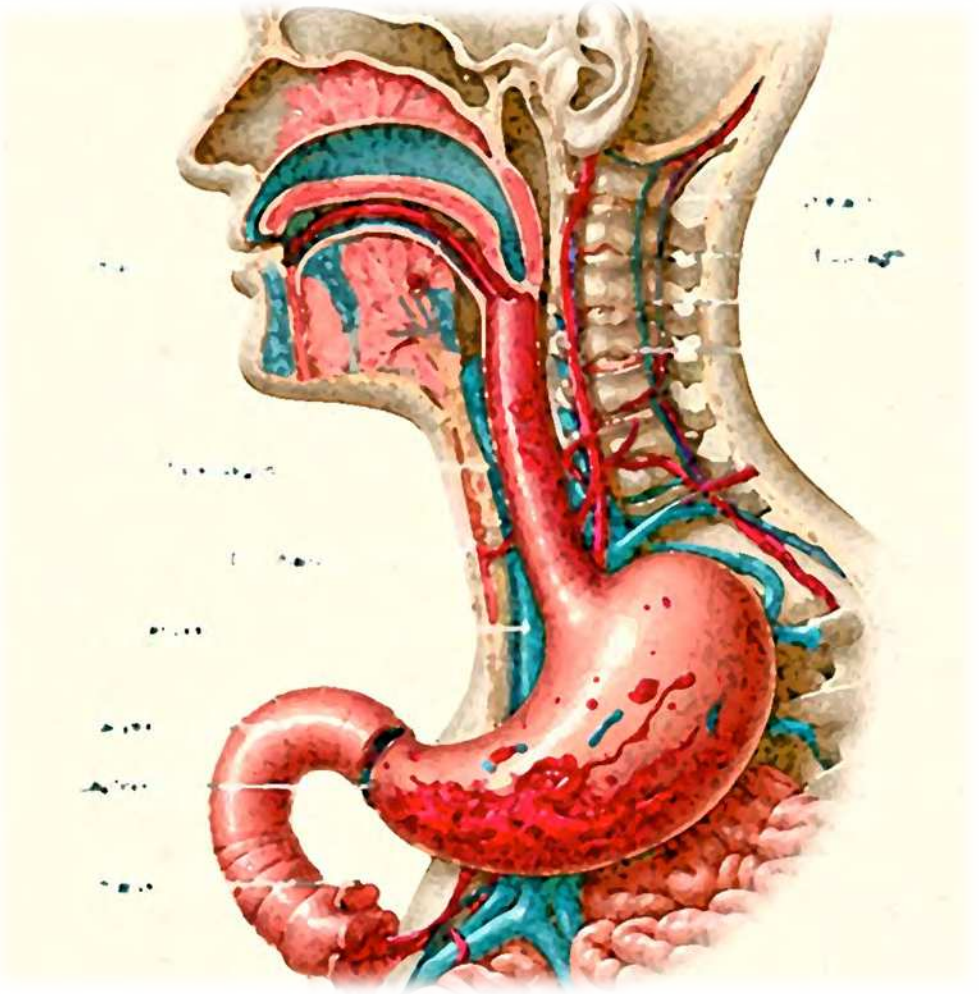
Accepted 5 November 2023

understanding of this condition, its precise incidence and prevalence are unknown. An estimated 1–10% of the general population have LPR symptoms, while symptoms are present in up to 30% of patients attending ENT (Lechien, 2023). Risk factors include alcohol consumption, hiatal hernia, high body mass index (BMI), and tobacco use (Saruç et al., 2012; Spantideas et al., 2015). Identification of risk factors is problematic, because some risk factors may

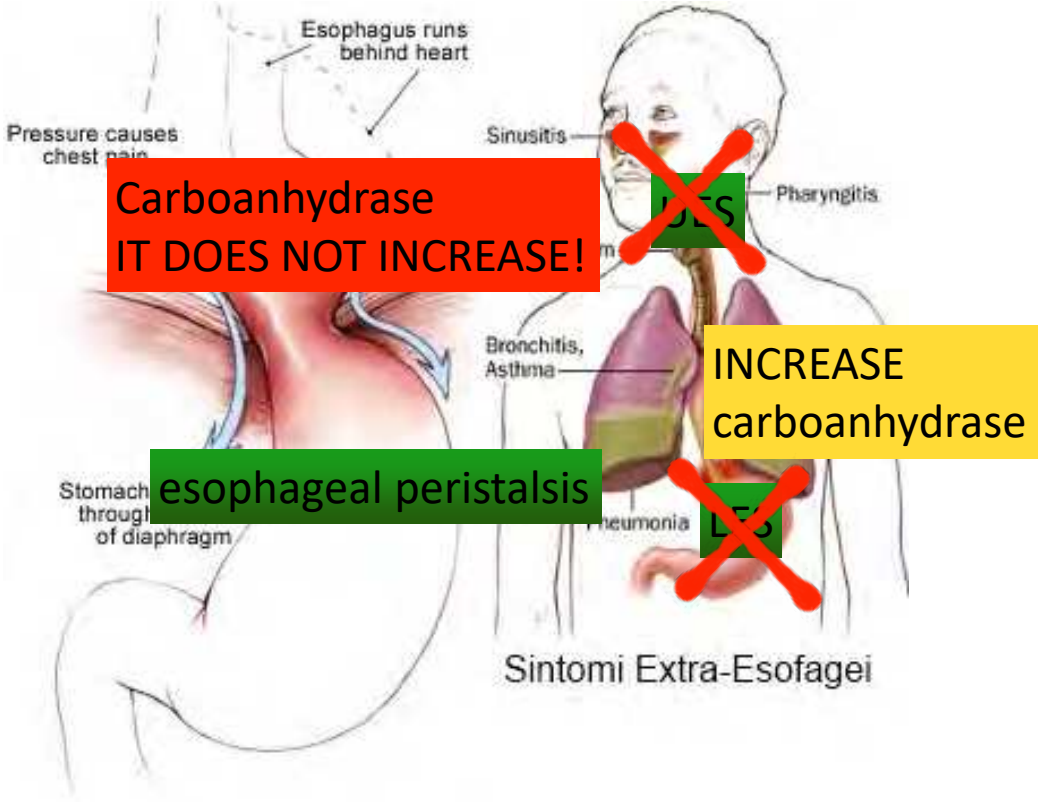
Gastroesophageal reflux (GERD) consists of the passage of gastric material into the esophageal lumen and represents a common physiological event in both children and adults.

With no symptoms, signs and complications no need for treatment!

On the other hand, a picture of gastroesophageal reflux disease (GERD) occurs when GERD is the cause of esophageal (typical GERD) or extra-esophageal (atypical GERD) signs, symptoms and complications.



WE KNOW THAT…

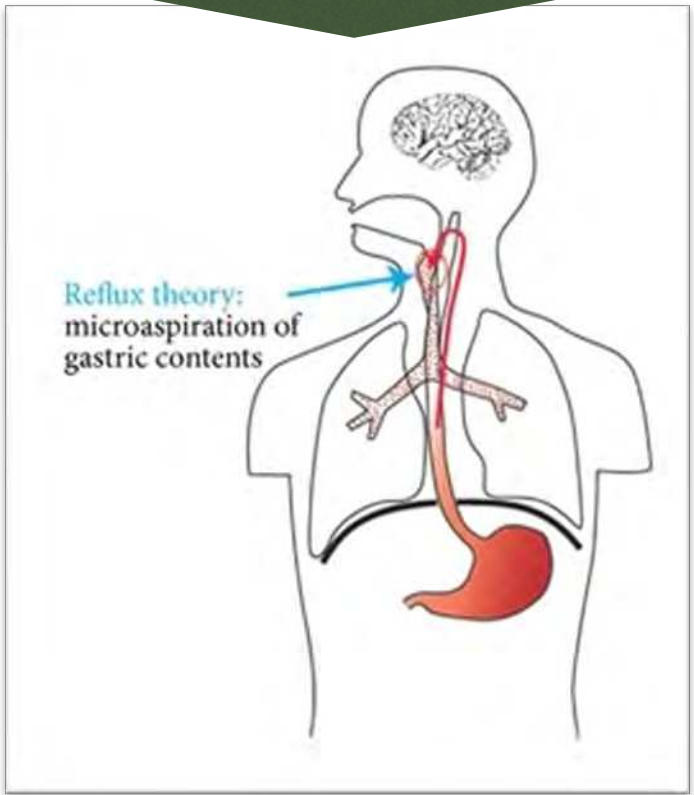


Some authors show us that the esophageal mucosa is able to resist about 50 episodes of physiological reflux per day without damage, while the pharyngo-laryngeal mucosa can suffer damage already after a single episode (Posma et al. 2001).

It now seems certain that a period of time of up to six months may be necessary for an "restitution ad integrum" of the damage to the laryngo-pharyngeal mucosa (Belafsky et al. 2001)

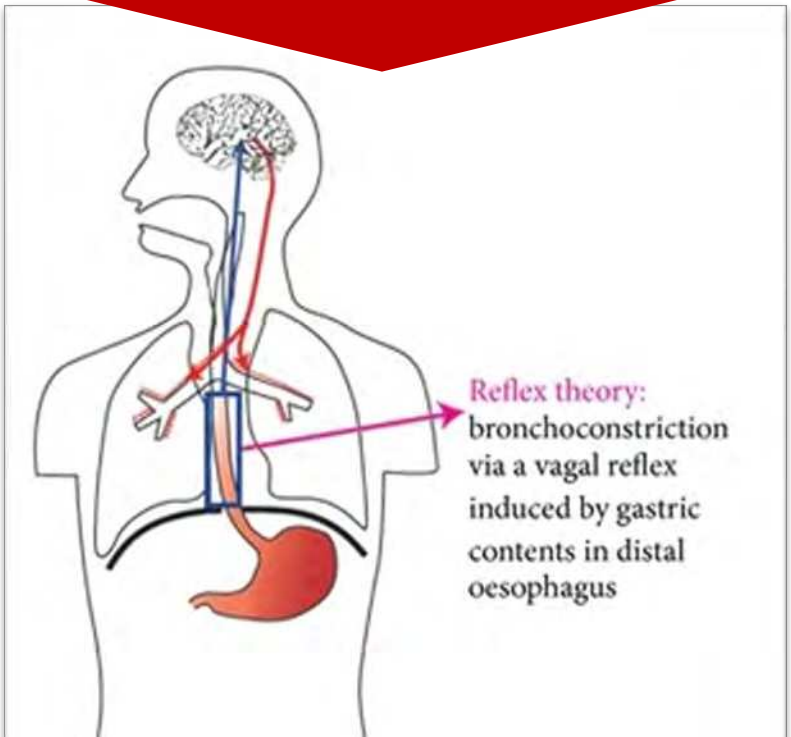
PROXIMAL MECHANISM

Direct HCl and pepsin damage in the pharynx and larynx



DISTAL MECHANISM

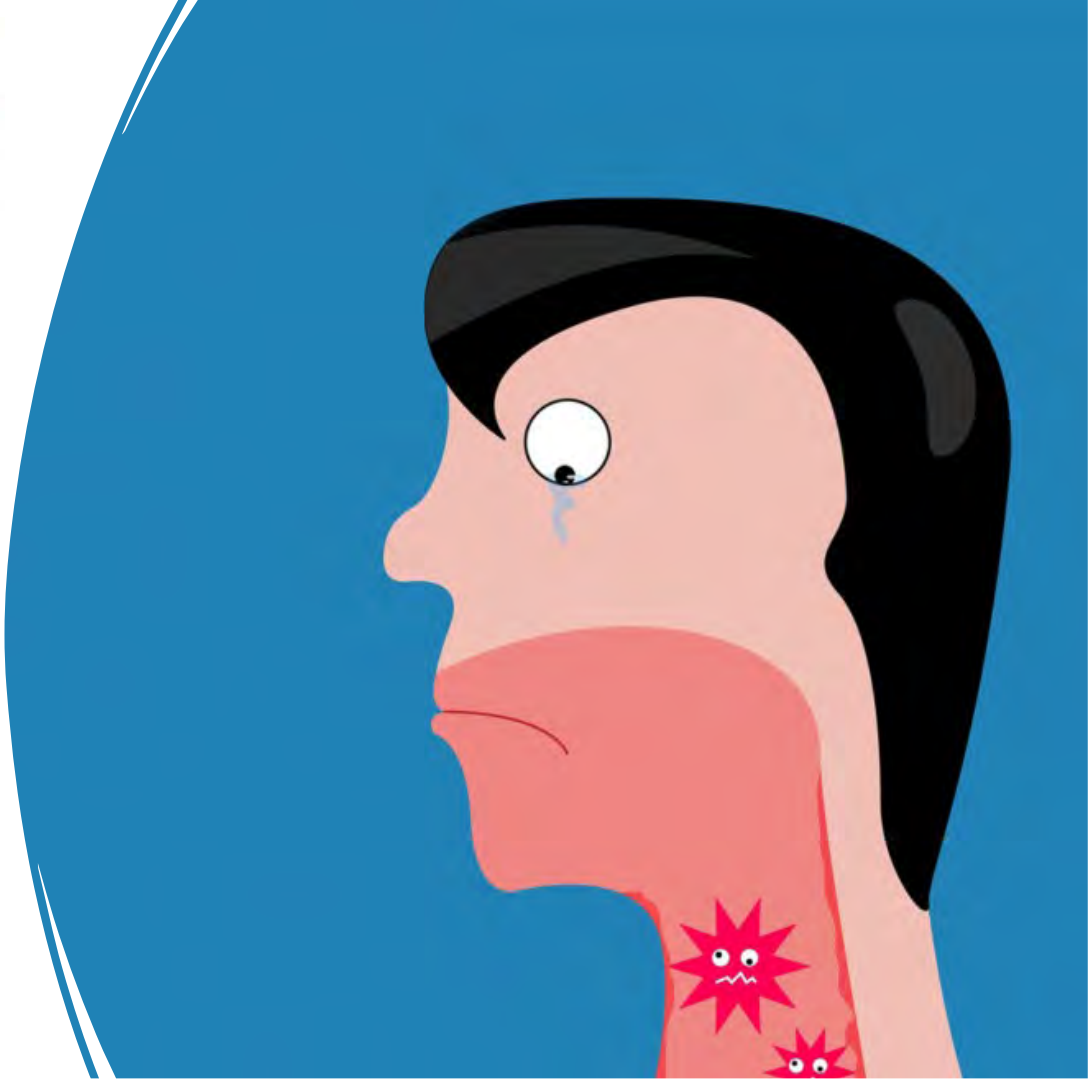
Distal esophageal acid exposure with release of takinins (substance P and neurokinin A) -> vagus-mediated reflexes -> symptoms such as cough



DEFINITION

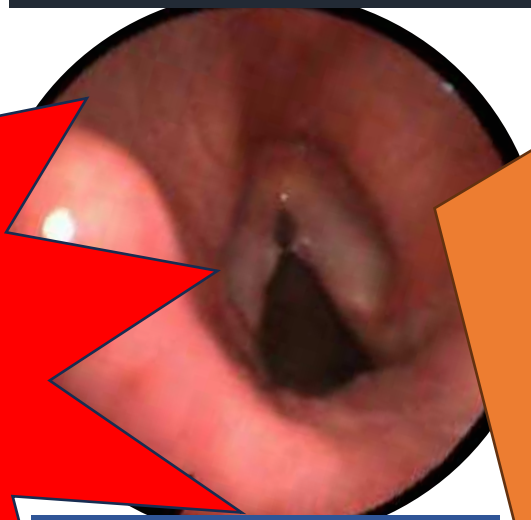
Laryngopharyngeal reflux (LPR) is an inflammatory condition caused by the backflow of gastroduodenal reflux into the upper aerodigestive tract

(Lechien, Akst, et al., 2019)



2.	LPR is a disease of the upper aerodigestive tract resulting from the direct and/or indirect effects of gastroduodenal content reflux, inducing morphological and/or neurological changes in the upper aerodigestive tract.	93 (1)	A
3.	LPR and GERD share some common pathophysiological mechanisms but may present with different clinical pictures.	91 (2)	A

WEAKLY ACIDIC OR BASIC REFLUX



PEPSIN

Remains *stable up to Ph 8*

Endocytosed *by laryngeal and pharyngeal cells*

Mitochondrial *and cellular damage*

Reactivation *if the PH is lowered*

UES vs LES INCONTINENCE

LARYNGEAL HYPERSENSITIVITY

DOI: 10.1111/nyas.15242

CONCISE REVIEW

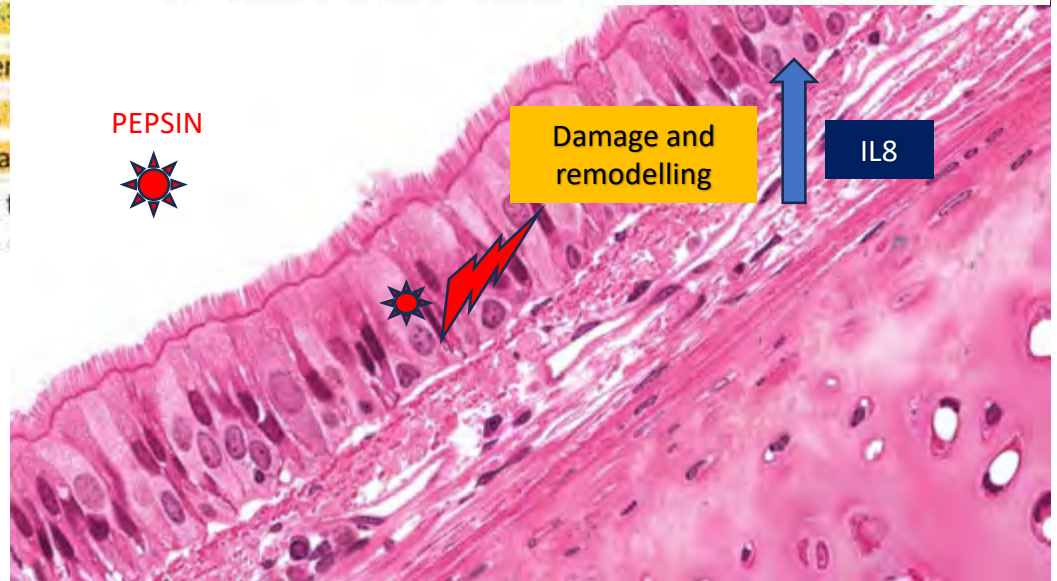
ANNALS OF THE NEW YORK ACADEMY OF SCIENCES

Advances in laryngopharyngeal reflux: Etiology, diagnosis, and management

Tina L. Samuels[1] | Jennifer Aoun[2] | Inna Husain[3] | Edgar Figueredo[4] | David Richards[5] | Nikki Johnston[1,6]

stituents promote injury. The gastric enzyme pepsin, which is present in all refluxate, is now understood to be endocytosed by aerodigestive tract epithelial cells and retained for at least 36 h after a reflux event.[32–34] Pepsin endocytosis initiates inflammatory signalin Inflammatory signaling can contribute to nociceptor activation,[30,35,] producing symptoms that may be delayed. Peptic insult also weake epithelial barrier integrity and drives epithelial remodeling. These, turn, may promote persistent hypersensitivity,[35,37–39] which in the la ynx has been referred to as "irritable larynx syndrome."[40] Failure address hypersensitivity alongside reflux management can result

elucidated.[6,34,60–64] Among these, interleukin 8 (IL-8), the neutrophil chemoattractant and growth factor, in particular appears to play an important role in peptic injury. IL-8 is required for the development of erosive lesions in GERD, a biomarker of GERD severity, and associated with progression from Barrett's esophagus to adenocarcinoma.[65,66] Similarly, IL-8 expression is induced by nonacid pepsin in the larynx and expression of the two are correlated with laryngeal cancer.[60] Inhibition of IL-8 interaction with its receptor attenuates many forms of peptic injury (e.g., hyperproliferation, cell migration, EMT marker expression), consistent with the cytokine-mediated injury model of reflux disease.[60]



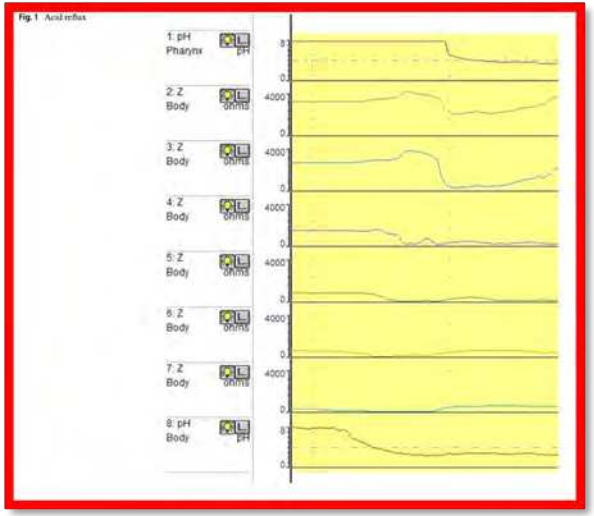
European Archives of Oto-Rhino-Laryngology
https://doi.org/10.1007/s00405-020-06015-6

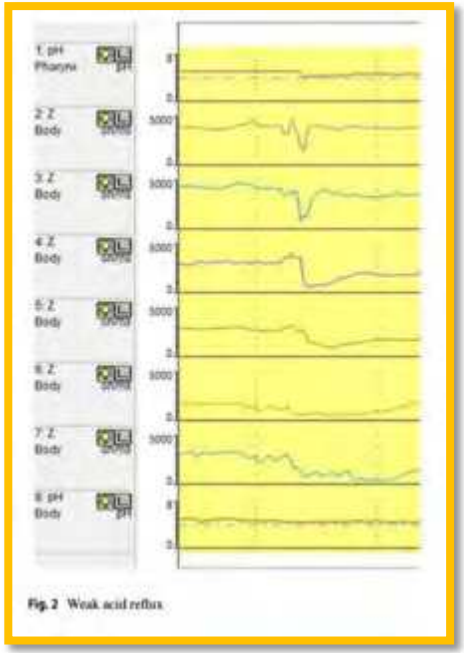
LARYNGOLOGY

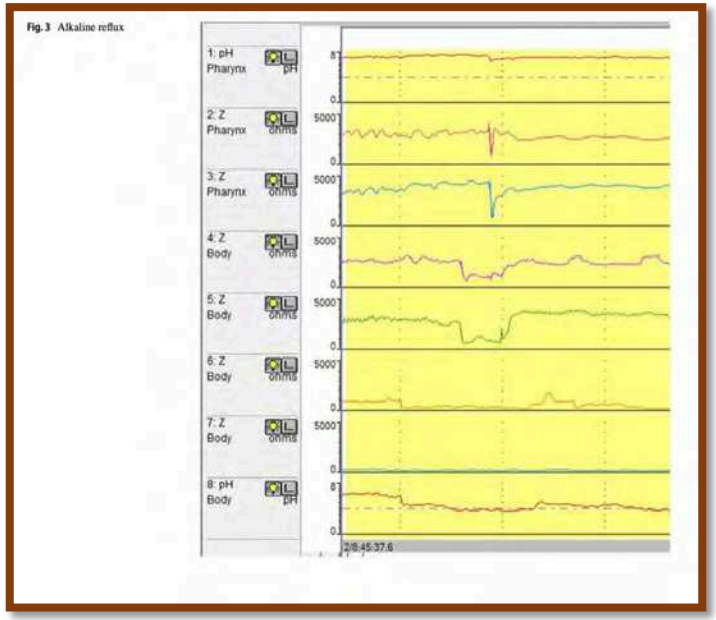
The role of nonacid reflux in laryngopharyngeal reflux diseases

Jinrang Li[1] · Jiasen Wang[1] · Mukun Wu[1] · Jing Zhao[1] · Hongguang Guo[1]

Received: 21 March 2020 / Accepted: 25 April 2020







Our study also found that the proportion of nonacid reflux was as high as 74.1%, and the consistence of patients' RSI and or RFS with all reflux events was higher than that of

LPR IN THE ELDERLY PATIENT

DEFENSE

The main defense mechanisms against reflux (e.g. esophageal motility, bicarbonate secretion, lower esophageal [LES] and upper [UES] esophageal sphincter tonicity) seem to be compromised with aging

BARRIER

Older patients have reduced salivary flow and bicarbonate secretion, which is associated with reduced neutralization of refluxe acid and increased pepsin activity

HIATAL HERNIA

It has been suggested that elderly patients have a higher proportion of hiatal hernia, present in 60% of patients over 60 years of age, compared to younger patients

FAVORABLE FACTORS

COMORBIDITIES

- Parkinson's disease
- Pulmonary fibrosis
- COPD
- Systemic sclerosis

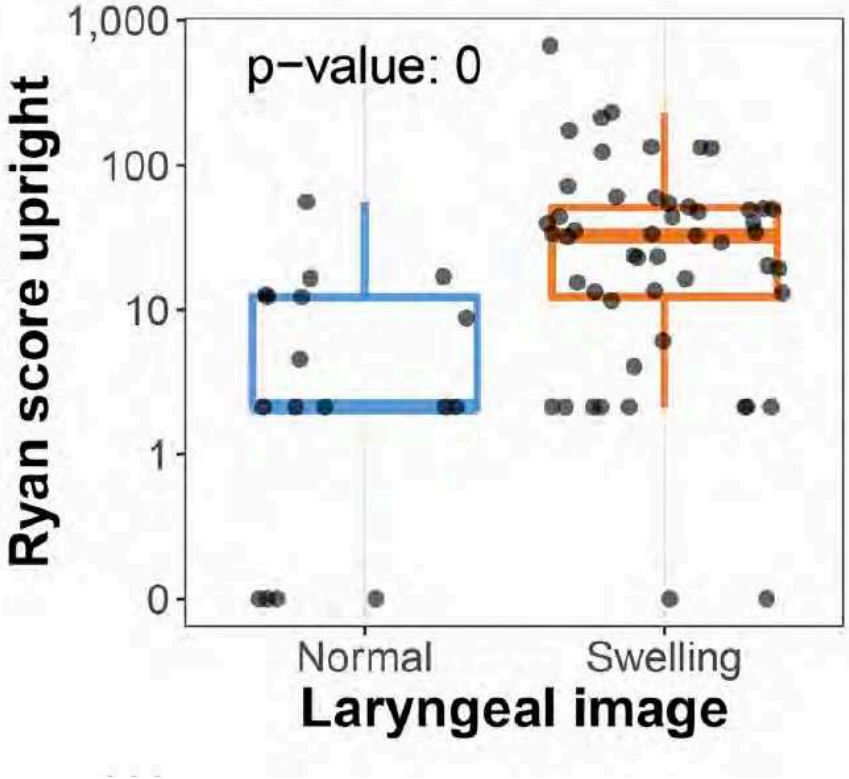
DRUGS

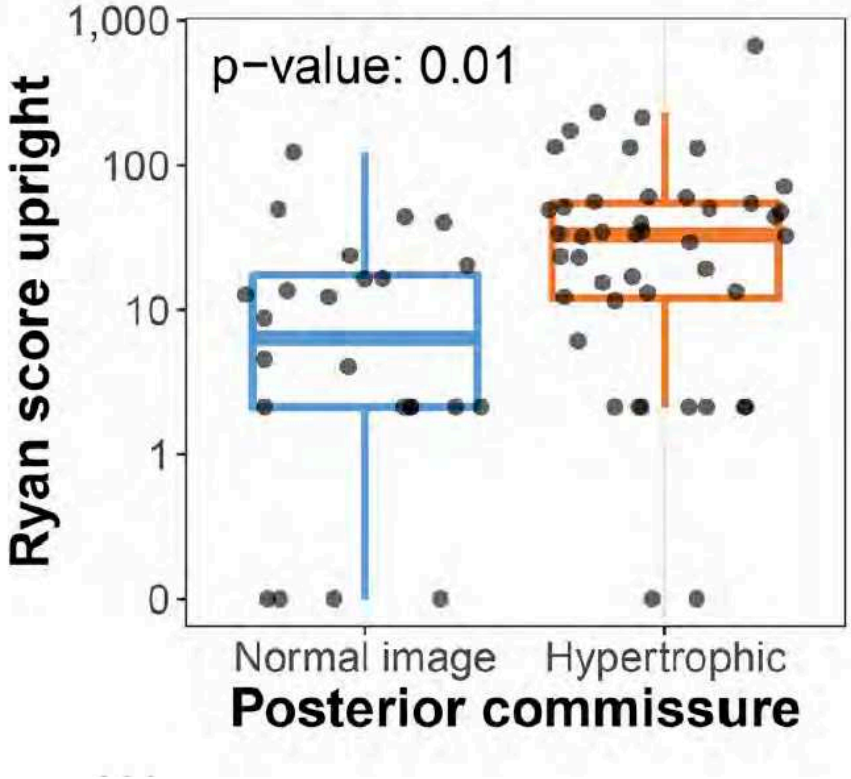
- Benzodiazepine
- Antidepressants
- Anticholinergics
- Calcium channel blockers

CLINICAL AND DIAGNOSIS

	Reflusso faringo-laringeo	Reflusso gastro-esofageo
Caratteristiche	Posizione eretta Reflusso "diurno" Limitati periodi di esposizione acida	Posizione supina Reflusso notturno Prolungati periodi di esposizione acida
Fisiopatologia	Disfunzione dello sfintere esofageo superiore (UES) Normale motilità esofagea	Disfunzione dello sfintere esofageo inferiore (LES) Disturbi motilità esofagea
Incidenza	10 – 15% della popolazione	20 – 30 % della popolazione
Clinica	Sintomi principalmente laringei e faringei Sintomi/segni non correlabili ai dati pH-metrici	Sintomi principalmente gastrointestinali Sintomi/segni in stretta correlazione con i dati pH-metrici
Trattamento	Ridotta e lenta risposta alla terapia medica	Buona risposta alle terapie convenzionali

Tab. 2: Principali differenze tra Reflusso faringo-laringeo e Reflusso gastro-esofageo





PH < 5.5 IN ORTHOSTATISM


Auris Nasus Larynx

The key timing of pharyngeal reflux in patients with laryngopharyngeal reflux

Jeong Wook Kang[1], Young Chan Lee[2], Seong-Gyu Ko[3], Young-Gyu Eun[4,*]


ARTICLE INFO

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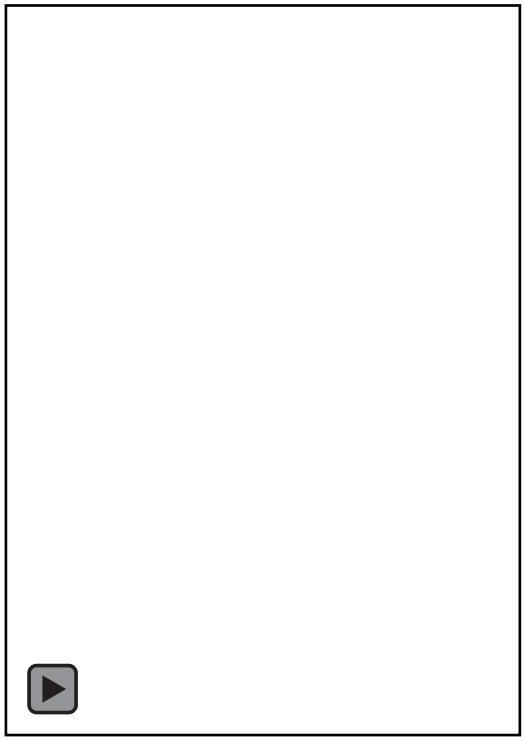
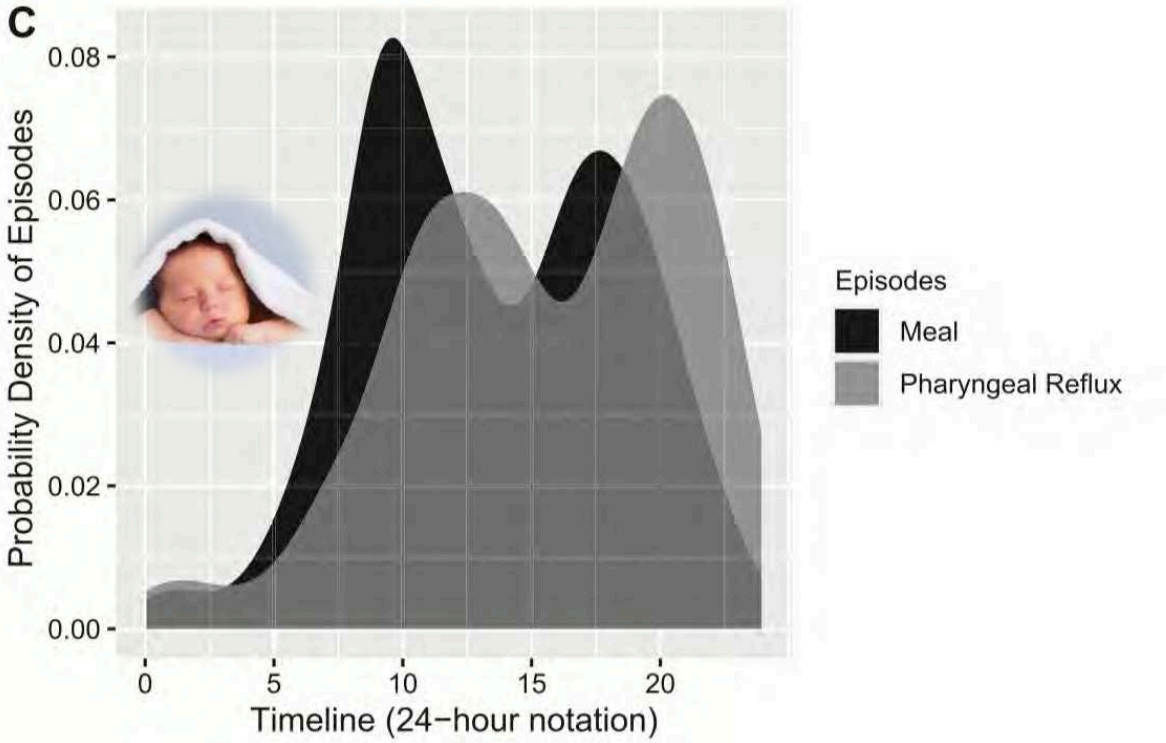
Available online 5 December 2022





Conclusion: The key timing of pharyngeal reflux in patients with LPR was post-prandial 2 hours.

HOW ACIDIC ARE YOU!!

SUB CORDAL STIMULATION → COUGH

POSTERIOR VOCAL CORD INFLAMMATION → DYSPHONIA

CRICOPHARYNGEAL MUSCLE CONT. → GLOBUS

GLOBUS → RACLAGE

SALIVAR GLAND MUCOUS SECRETION → RACLAGE

PAROXYSMAL LARINGOSPASM FROM ACTIVATION OF THE SUPERIOR LARYNGEAL N. → NOCTURNAL DYSPNEIC EPISODES

DIAGNOSIS OF LPR REQUIRES GASTROENTROLOGICAL EVALUATION

- CONTRADICTION IN TERMS
- DENIAL OF EVIDENCE

Clinical Gastroenterology and Hepatology 2023;21:1414–1421

CLINICAL PRACTICE UPDATE

AGA Clinical Practice Update on the Diagnosis and Management of Extraesophageal Gastroesophageal Reflux Disease: Expert Review

Joan W. Chen,[1] Marcelo F. Vela,[2] Kathryn A. Peterson,[3] and Dustin A. Carlson[4]

[1]Division of Gastroenterology and Hepatology, University of Michigan, Ann Arbor, Michigan; [2]Division of Gastroenterology and Hepatology, Mayo Clinic, Scottsdale, Arizona; [3]Division of Gastroenterology, University of Utah, Salt Lake City, Utah; and [4]Division of Gastroenterology and Hepatology, Northwestern University Feinberg School of Medicine, Chicago, Illinois

esophagus are considered highly specific for GERD, EGD in the majority of patients with GERD will be normal.[2] In addition, EGD findings do not confirm that the extra-esophageal symptoms are in fact caused by reflux.[3] As such, EGDs should be performed for assessment of presence of GERD injury/complications but not as a diagnostic tool for confirmation of GERD or to conclude on a causal link between extraesophageal symptoms and GERD.

GERD	LPR
Clinical diagnosis	Clinical diagnosis
EGDS is not indicated as a routine examination but only in "complications" and in the suspicion of a neoplasm	Videlaryngoscopy is minimally invasive and can always be performed
EGDS has a NPV -> 62 -73%	Videolaryngoscopy has a VPP of 94% and a VPN of 54%

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-pH.

Another limitation is the possibility that, because rare reflux events appear to contribute to LPR, disease-relevant HREs may not occur during the 24-h monitoring period, resulting in potential false negative results absent infeasibly lengthy monitoring periods. The same

HEMII-pH

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Received 16 August 2023
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oesophagus provide absolute pH values. A limitation of HEMII-pH (and other pH-monitoring techniques) is that they do not detect pepsin presence or concentration.

Historically, 24-hour pH monitoring was used to diagnose LPR. This is suboptimal, since LPR may be low- or non-acid, leading to false positive rates of 20–50% (Fuchs et al., 2018; Lechien, Mouawad, et

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journal homepage: www.elsevier.com/locate/ijporl

Diagnosis of laryngopharyngeal reflux in children with voice disorders using 24-hour pharyngeal pH monitoring

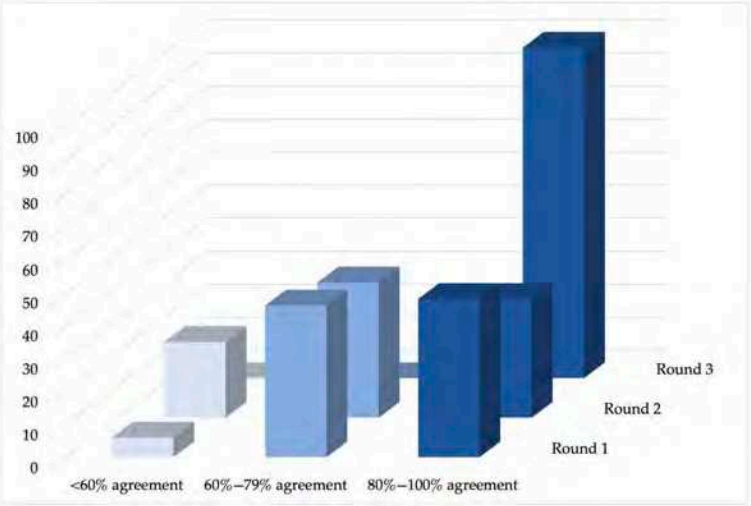
Elżbieta Włodarczyk[a,*], Tomasz Jetka[a], Danuta Raj-Koziak[a], Aleksandra Panasiewicz[a], Agata Szkiełkowska[a], Piotr Henryk Skarżyński[a,b,c], Henryk Skarżyński[a]

[a] World Hearing Center, Institute of Physiology and Pathology of Hearing, Warsaw, Kajetany, Poland
[b] Heart Failure and Cardiac Rehabilitation Department, Medical University of Warsaw, Warsaw, Poland
[c] Institute of Sensory Organs, Warsaw, Kajetany, Poland

The diagnosis of LPR can lead to much disagreement, both in adults and children. In the case of GERD, dual probe oesophageal 24-h pH monitoring is commonly considered to be the gold standard for diagnosis. However, this examination is quite invasive and shows low sensitivity to LPR, with the proportion of undetected diseases reaching as high as 50% [6,7]. Recently, studies based on 24-h pharyngeal pH

The Dubai Definition and Diagnostic Criteria of Laryngopharyngeal Reflux: The IFOS Consensus

Jerome R. Lechien, MD, PhD, MSc; Michael F. Vaezi, MD, PhD, MS; Walter W. Chan, MD; Jacqueline E. Allen, MD; Petros D. Karkos, MD, PhD, MPhil; Sven Saussez, MD, PhD; Kenneth W. Altman, MD, PhD; Milan R. Amin, MD; Tarek Ayad, MD; Maria R. Barillari, MD, PhD, MS; Peter C. Belafsky, MD, PhD, MPH; Joel H. Blumin, MD, FACS; Nikki Johnston, PhD; Francois Bobin, MD; Matthew Broughurst, MD; Fabio P. Ceccon, MD, PhD; Christian Calvo-Henriquez, MD; Young-Gyu Eun, MD, PhD; Carlos M. Chiesa-Estomba, MD, PhD, MS; Lise Crevier-Buchman, MD, PhD, MS; John O. Clarke, MD; Giovanni Dapri, MD, PhD, FACS; Claudia A. Eckley, MD, PhD; Camille Finck, MD, PhD; P. Marco Fiorella, MD, FACS; Abdul-Latif Hamdan, MD, MPH, FACS; Stephane Hans, MD, PhD, MS; Kathy Hunt, PhD; Rui Imamura, MD, PhD; Blair A. Jobe, MD, FACS; Toshitaka Hoppo, MD, PhD; Lance P. Mayer, MD; Vincenzo Mola, MD; Ashli K. O'Rourke, MD; Paulo S. Pereira, MD, PhD; Gregory Postma, MD; Vyas M.N. Prasad, MD, MSc, FRCS; Marc Remacle, MD, PhD; Geraldo D. Sant'Anna, MD, PhD; Robert T. Sataloff, MD, FACS; Eduardo V. Savarian, MD, PhD; Antonio Schindler, MD, PhD; Nora Stupinskiene, MD, PhD; Ping-Huei Tseng, MD, PhD; Craig H. Zalvan, MD; Karol Zelenik, MD, PhD; Bernard Fraysse, MD, PhD; Jonathan M. Bock, MD, FACS; Lee M. Akst, MD; Thomas L. Carroll, MD



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Upper GI endoscopy may be **normal** in LPR patients and **should be performed** in patients with "**alarm**" features, such as severe dysphagia, hematemesis, unexplained weight loss, or family history of upper GI tract cancer.

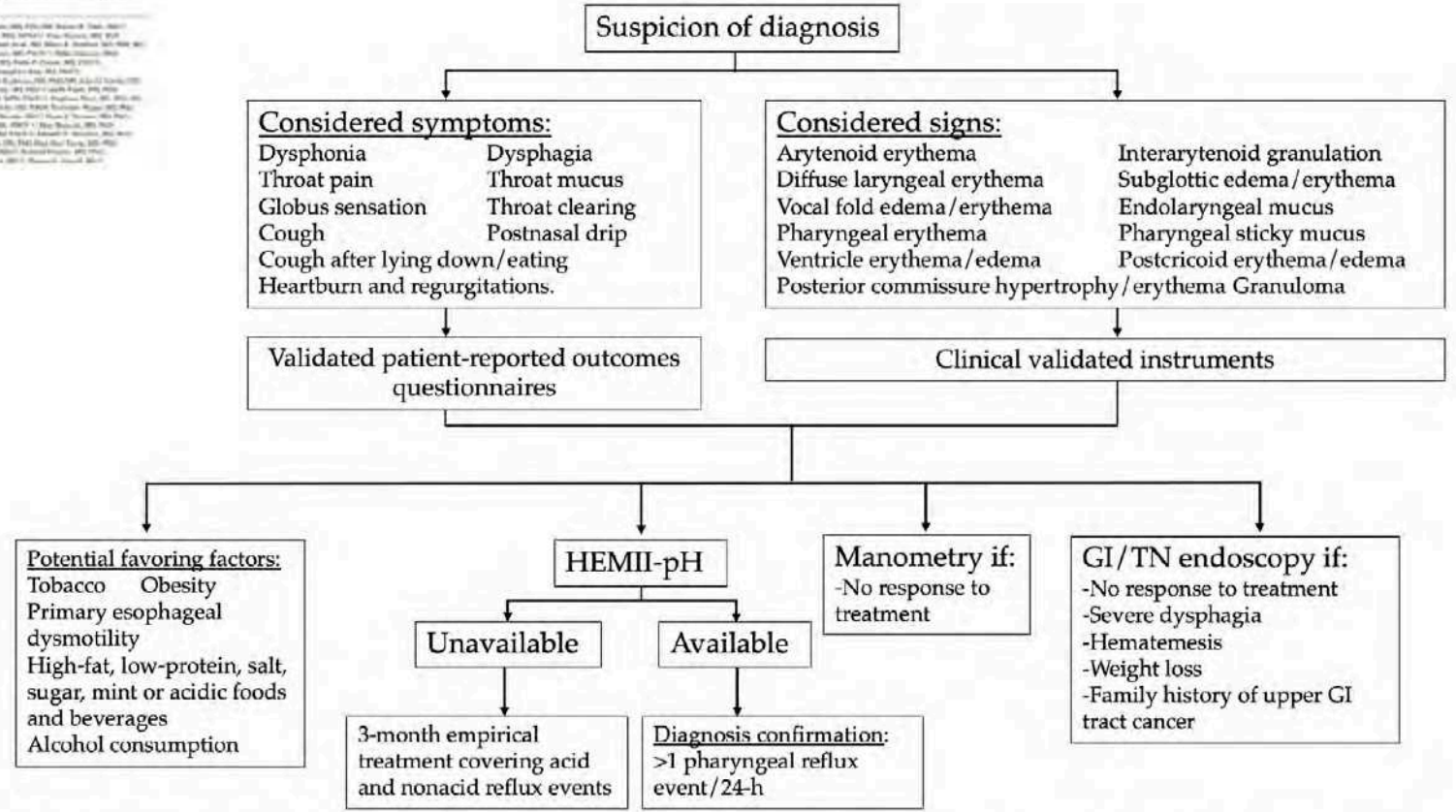
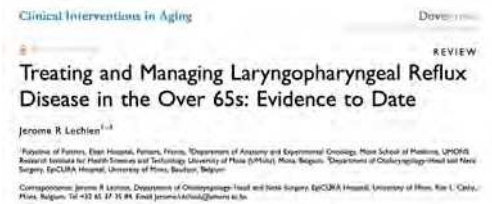


Fig. 2. Symptoms, signs and additional examinations of laryngopharyngeal reflux (LPR). GI/TN = gastrointestinal/transnasal; HEMII-pH = hypopharyngeal-esophageal multichannel intraluminal impedance-pH monitoring.



Clinical Interventions in Aging

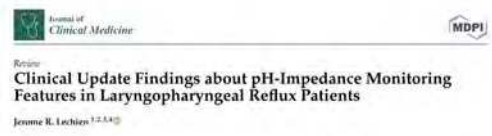
REVIEW

Treating and Managing Laryngopharyngeal Reflux Disease in the Over 65s: Evidence to Date

Jerome R Lechien

Dottore,
Ma io non soffro di bruciore di stomaco!!?

The gaseous nature of events and the lack of GERD have led to a clinical picture characterized by otolaryngological symptoms without heartburn or abdominal findings.



Journal of Clinical Medicine

MDPI

Review

Clinical Update Findings about pH-Impedance Monitoring Features in Laryngopharyngeal Reflux Patients

Jerome R. Lechien

regimen [27]. In practice, many patients did not experience heartburn or gastroesophageal reflux disease (GERD)-related symptoms and may doubt the reflux (LPR) diagnosis, which may strengthen the poor therapeutic adherence. The patient fear about suspected adverse

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While acid-suppressing proton pump inhibitors (PPIs) may be effective for reflux esophagitis, they and potent next-generation drugs (i.e., potassium-competitive acid blockers) fail to resolve typical GERD symptoms in up to 40% of cases,[15–17] and decades of widespread PPI use has proven inadequate to stem the rising incidence of reflux-attributed cancers.[18] Meta-analyses do not support their efficacy for symptoms of LPR relative to placebo.[19–22] It is now understood that refluxate reaching the proximal aerodigestive tract is predominantly weakly to nonacidic.[23,24] While antireflux surgery (ARS) may be help-


THE LPR IS ANOTHER
NOSOLOGICAL ENTITY

Review Article

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Department of Clinical Speech and Language Studies, Trinity College Dublin, Dublin, Ireland

Received 16 August 2021
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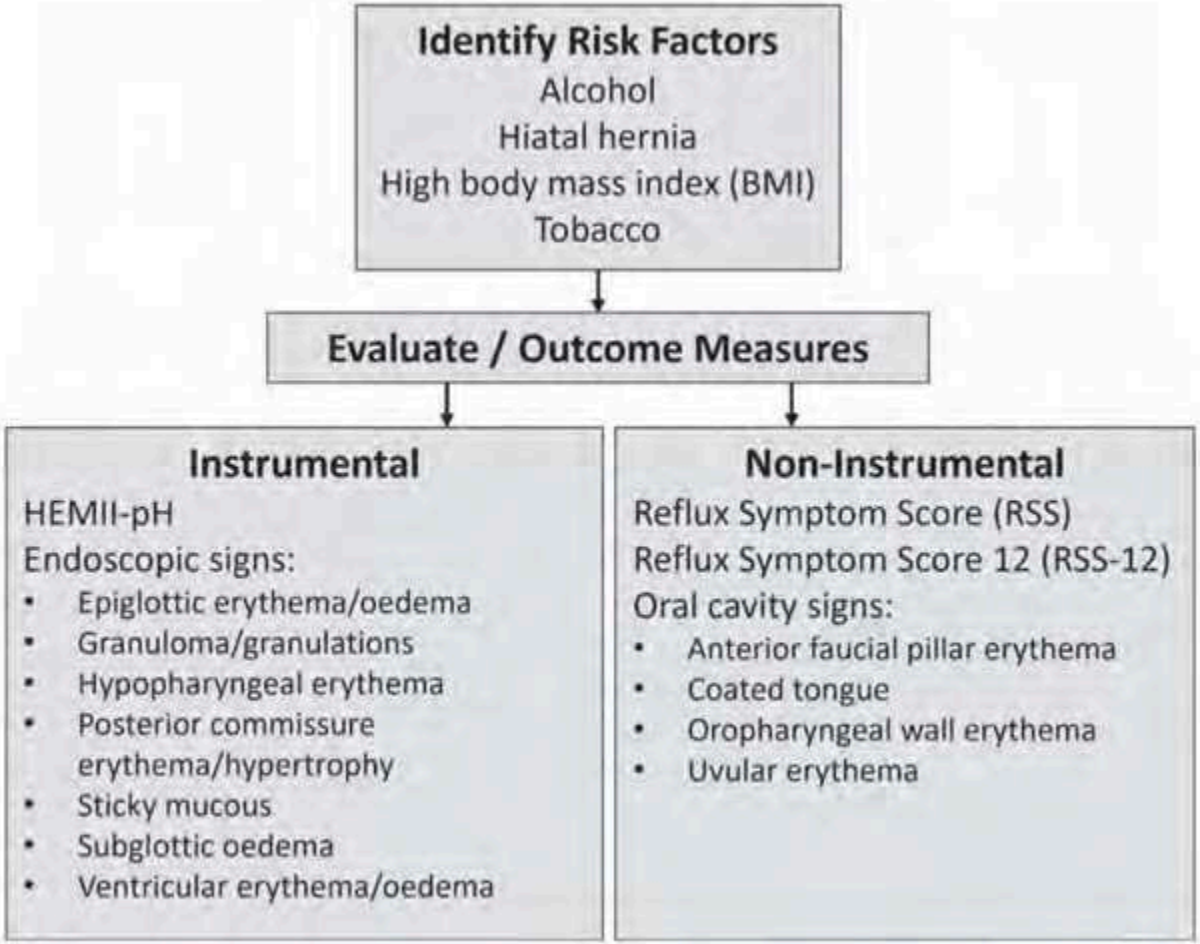


Fig. 1. Evaluation of LPR.

REFLUX SYMPTOM INDEX

A value greater than 13 is suggestive for laryngo-pharyngeal reflux.

Dysphonia	1	2	3	4	5
Need to clear the throat	1	2	3	4	5
Excess mucus in the throat or postnasal drip	1	2	3	4	5
Difficulty swallowing (solids, liquids)	1	2	3	4	5
Coughing after meals or lying down	1	2	3	4	5
Difficulty breathing	1	2	3	4	5
Persistent, annoying cough	1	2	3	4	5
Foreign body sensation	1	2	3	4	5
Chest pain, acid regurgitation	1	2	3	4	5

DIAGNOSIS OF PHARYNGOLARYNGEAL REFLUX

FLEXIBLE FIBER OPTIC LARYNGOSCOPY

- *Hypertrophy of the base of the tongue*
- *Obliteration of the laryngeal ventricles*
- *Posterior commissure hypertrophy*
- *Pseudosulcus*
- *Posterior third nodules/granulations of CCVVVV*

Laryngeal Granulation Vs Dysphonia

Pseudonodules due to posterior third edema and posterior granulations of CVVs are typical of reflux

Nodules at the ANTERIOR/MIDDLE THIRD junction are typical of dysfunctional dysphonia

LPR: DIAGNOSIS IN THE PATIENT WITH COUGH AND ATYPICAL SIGNS

Subglottic edema (pseudosulcus vocalis)
- 0 = Absent
- 2 = Present

Ventricular obliteration
- 0 = None
- 2 = Partial
- 4 = Complete

Erythema/hyperemia
- 0 = None
- 2 = Arytenoids only
- 4 = Diffuse

Vocal fold edema
- 0 = None
- 1 = Mild
- 2 = Moderate
- 3 = Severe
- 4 = Polypoid

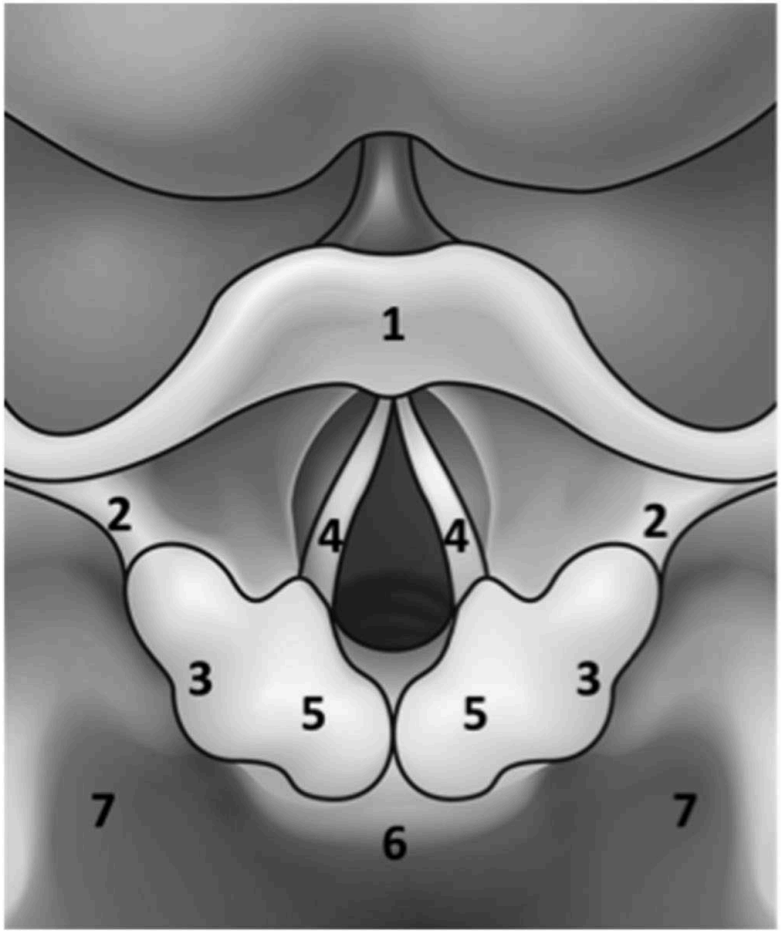
Diffuse laryngeal edema
- 0 = None
- 1 = Mild
- 2 = Moderate
- 3 = Severe
- 4 = Obstructing

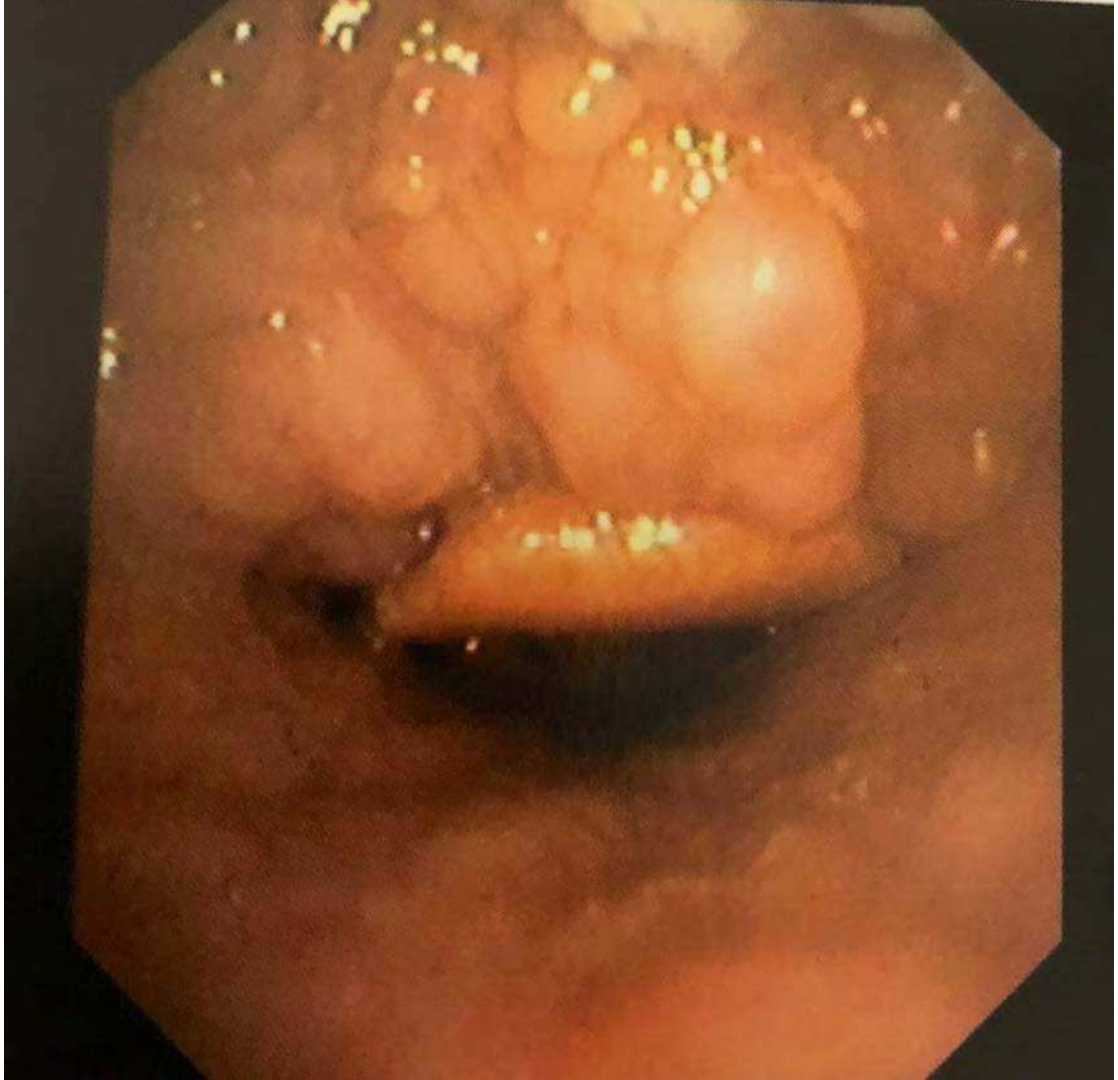
Posterior commissure hypertrophy
- 0 = None
- 1 = Mild
- 2 = Moderate
- 3 = Severe
- 4 = Obstructing

Granuloma/granulation
- 0 = Absent
- 2 = Present

Thick endolaryngeal mucus
- 0 = Absent
- 2 = Present

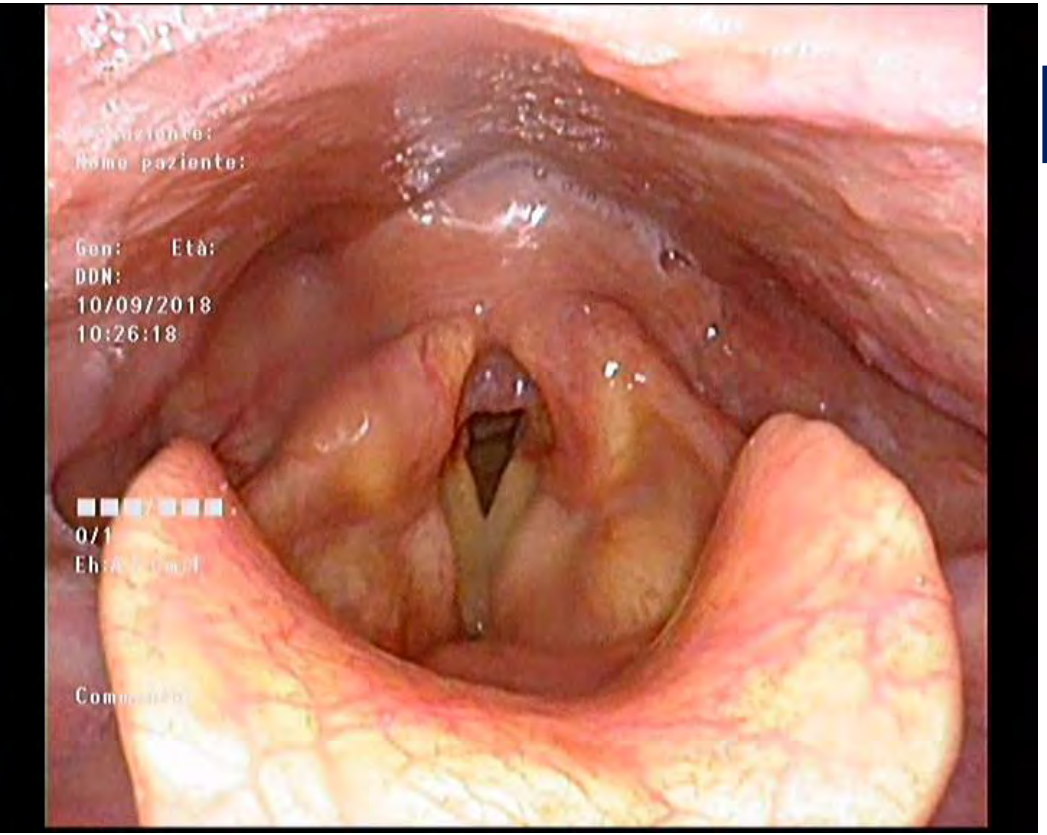
Figure 3. Reflux Finding Score.[5] Score range, 0 (no abnormal findings) to 100 (worst possible score).





[HYPERTROPHY
OF
TONGUE BASE]

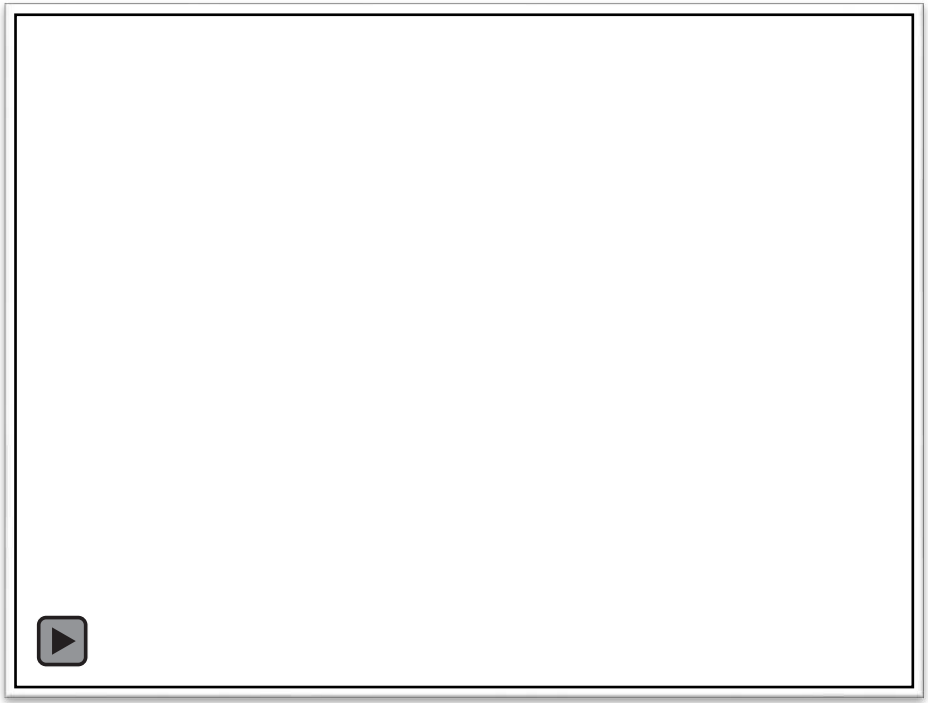
["COBBLESTONE"
PHARYNX]



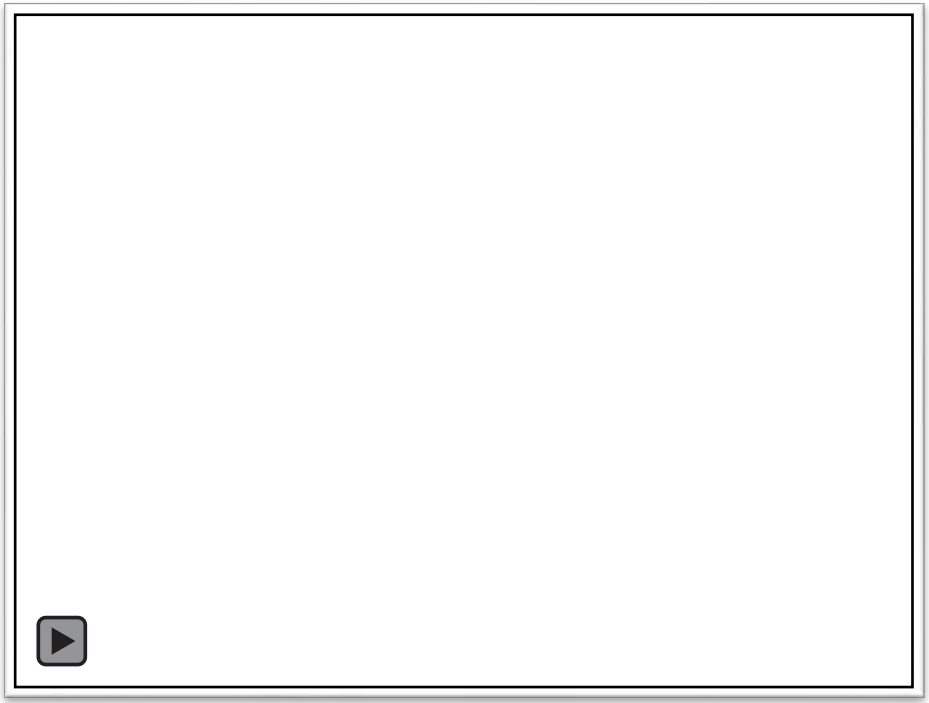
[HYPERTROPHY OF THE POSTERIOR COMMISSURE AND CHORDAL EDEMA]

[POSTERIOR GRANULATION]

RFL : SIMILAR ENDOSCOPIC PICTURE FROM 3 YEARS OF AGE



4 Y.O.



35 Y.O.

International Journal of Pediatric Otorhinolaryngology (2005) 69, 1109–1112

ELSEVIER

International Pediatric Otorhinolaryngology

www.elsevier.com/locate/ijporl

Predictive value of laryngeal pseudosulcus for gastroesophageal reflux in pediatric patients

Michele M. Carr [a,*], Usamah Abu-Shamma [b], Linda S. Brodsky [c]

PSEUDOSULCUS

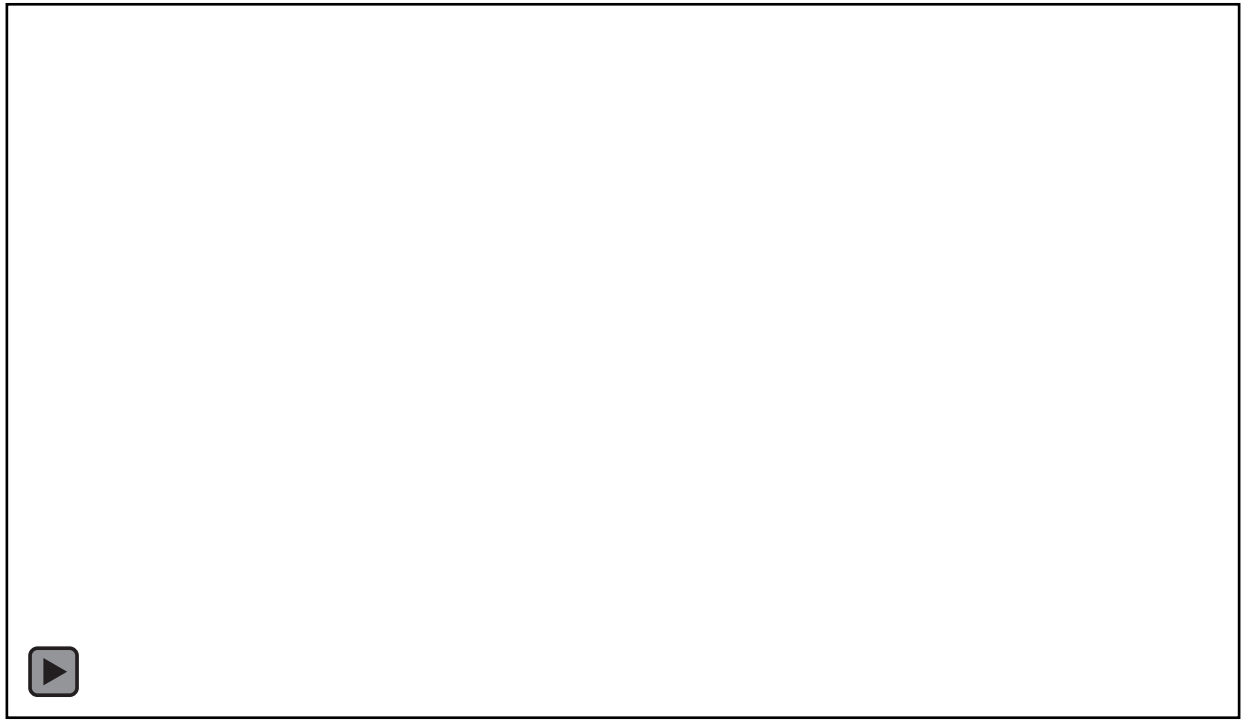
Subglottic edema parallel to the free margin of the true vocal cords

Table 2 Contingency table of results

	Disease positive	Disease negative	
Test positive	50	3	Positive predictive value: 94%
Test negative	6	7	Negative predictive value: 54%
	Sensitivity: 89%	Specificity: 70%	

"Test" refers to presence of pseudosulcus.

PSEUDOSULCUS



Validity and Reliability of the Reflux Sign Assessment

Annals of Otology, Rhinology & Laryngology
1–13
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SAGE

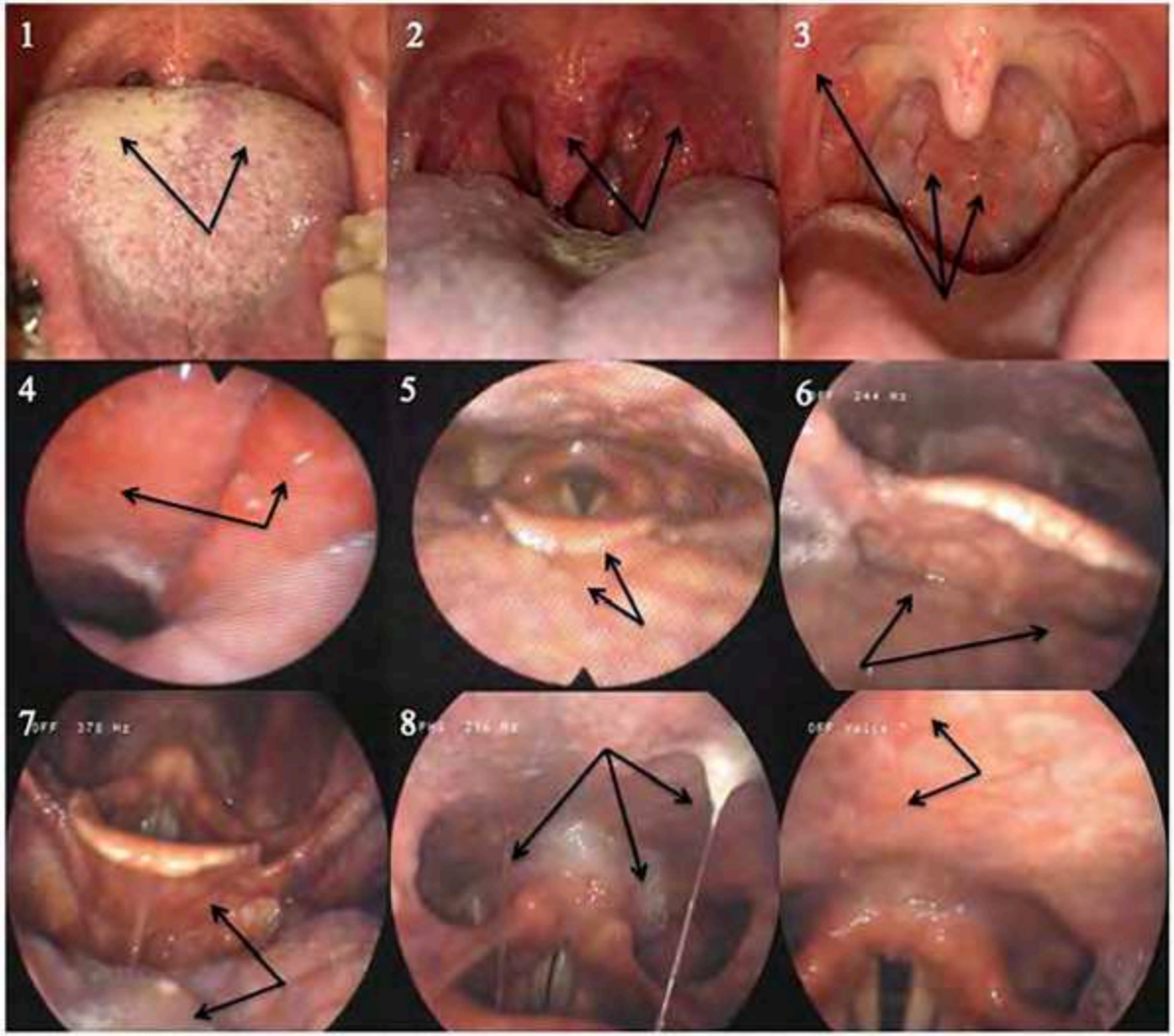
Jérôme R. Lechien, MD, PhD, MS[1,2,3,4], Alexandra Rodriguez Ruiz, MD[1,3], Didier Dequanter, MD, PhD[1,3], Francois Bobin, MD[1,5], Francois Mouawad, MD, PhD, MSc[6], Vinciane Muls, MD[1,7], Kathy Huet, PhD[1,4], Bernard Harmegnies, PhD[1,4], Sarah Remacle, MD[8], Camille Finck, MD, PhD[1,8*], and Sven Saussez, MD, PhD[1,2,3*]

...strointestinal endoscopy findings, and the ...

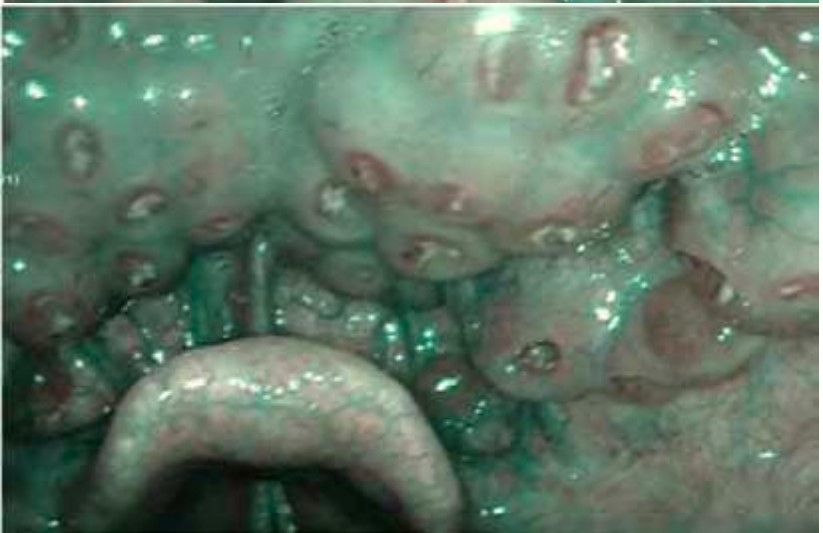
An RSA >14 may be suggestive of LPR.

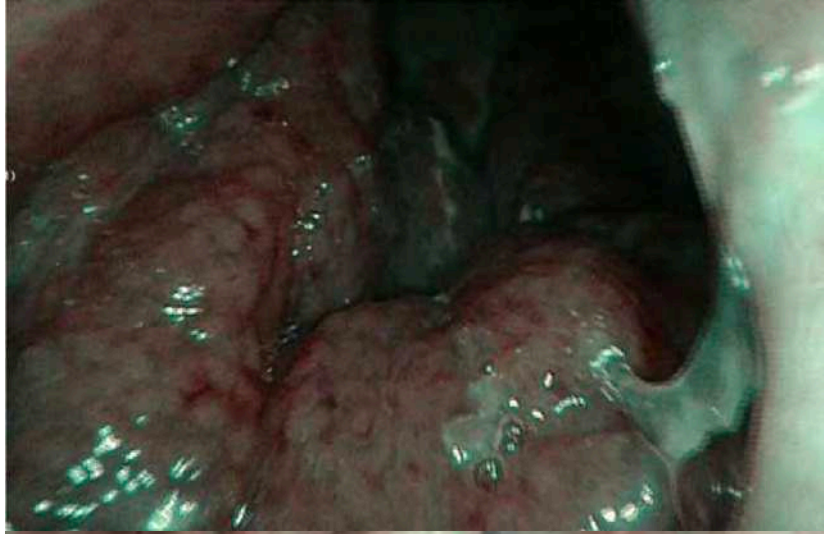
...The RSA is ... to discriminate ...

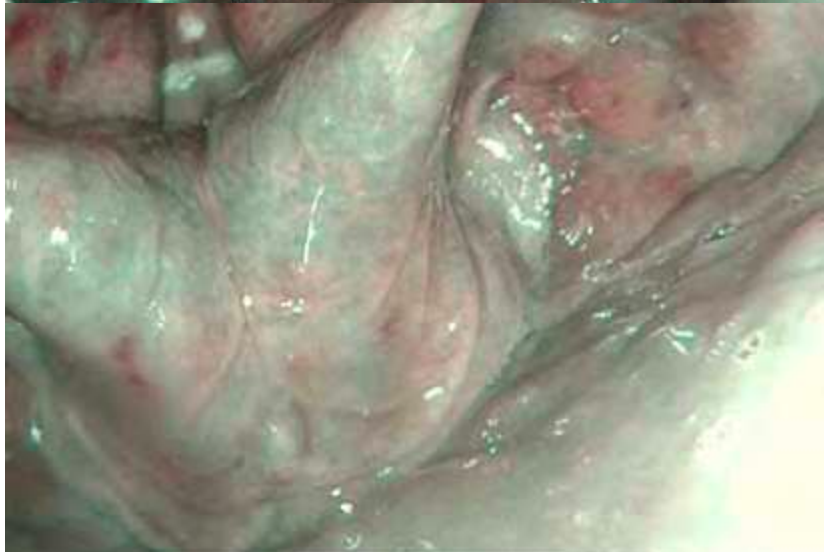
Reflux Sign Assessment			Scores
Oral cavity			
1. Anterior pillar erythema	absent = 0	présent = 4	
2. Uvula erythema ± edema	absent = 0	présent = 3	
3. Coated tongue	absent = 0	présent = 2	
Oral cavity subscore	.../9		
Pharyngeal cavity			
1. Nasopharyngeal wall erythema ± inflammatory granulations	absent = 0	présent = 2	
2. Posterior oro- or hypopharyngeal wall erythema	absent = 0	présent = 4	
3. Posterior oro- or hypopharyngeal wall inflammatory granulations	absent = 0	présent = 3	
4. Tongue tonsil hypertrophy:	no hypertrophy = 0 Apparent vallecula only when tongue sticked = 3 Unapparent vallecula irrespective the tongue = 4		
5. Contact between epiglotitis and tongue tonsils	absent = 0	présent = 4	
6. Pharyngeal sticky mucus	absent = 0	présent = 4	
Pharyngeal cavity subscore	.../21		
Larynx			
Subglottic edema ± erythema	absent = 0	présent = 1	
Ventricular band erythema ± edema	absent = 0	présent = 2	
Epiglottis redness ± edema	absent = 0	présent = 3	
Posterior commissure & retro-cricoid			
1. Erythema	Absent = 0 Arytenoids/inter-arytenoid only = 4 Diffuse to posterior commissure = 5		
2. Inter-arytenoid granulatory tissue	absent = 0	présent = 2	
3. Posterior commissure hypertrophy	absent = 0	présent = 5	
4. Retro-cricoid erythema	absent = 0	présent = 3	
5. Retro-cricoid edema (=contact between retro-cricoid area & hypopharyngeal posterior wall during breathing/opening glottis)	absent = 0	présent = 4	
Vocal folds			
1. Endolaryngeal sticky mucus deposit	absent = 0	présent = 3	
2. Vocal fold erythema	absent = 0	présent = 1	
3. Edema of the free-edge or the entire vocal folds	absent = 0	présent = 1	
4. Vocal fold lesions (2-point per lesion): granuloma(s), nodules, polyp(s), Reinke's edema, ulceration(s), keratosis.	...		
Laryngeal subscore	.../42		
RSA Total score:	.../72		


1
2
3
4
5
6
7
8


NBI







[NI ON]

Received: 17 October 2023 | First decision: 30 November 2023 | Accepted: 19 December 2023
DOI: 10.1111/apt.17858

APT Alimentary Pharmacology & Therapeutics WILEY

Review article: Diagnosis and management of laryngopharyngeal reflux

Amanda J. Krause | Rena Yadlapati

3.8 | Novel diagnostic approaches—salivary biomarkers

…the pepsin concentration in a given sam…
…e Peptest (RDBiomed, United Kingdom). T…

…for elevated AET in patients with laryngeal symptoms.

In summary, salivary bile acids are quantifiable in saliva and may have diagnostic potential in LPR.


THERAPY

THERAPY

Changing your diet

REDUCE YOUR

BODY MASS INDEX!

INTENSIFY PHYSICAL ACTIVITY

CORRETTE INDICAZIONI COMPORTAMENTALI E ALIMENTARI

COMPORTAMENTO
TENERE SOTTO CONTROLLO IL PESO
EVITARE DI INDOSSARE VESTITI SCOMODI
EVITARE DI SDRAIARSI SUBITO DOPO I PASTI
EVITARE DI COMPIERE SFORZI FISICI A STOMACO PIENO
ELEVARE LA SPALLIERA DEL LETTO DI 15-20 CM
SMETTERE DI FUMARE
EVITARE I FARMACI CHE CONTRIBUISCONO ALL'INSORGENZA DEL REFLUSSO

ALIMENTI CONSIGLIATI E NON NEL REFLUSSO GASTRO-ESOFAGEO E LARINGO-FARINGEO

FRUTTA

- Arancia/Succo d'arancia
- Limone
- Limonata
- Pompelmo/Succo di pompelmo
- Mirtillo
- Sidro di mela
- Pesca
- Lampone
- Uva
- Mela/Succo di mela
- Mela essiccata
- Banana

VERDURA

- Pomodoro
- Purea di patate
- Patate fritte
- Cipolla cruda
- Patate all'insalata
- Aglio
- Cipolle cotte
- Porri
- Crauti
- Scalogno
- Carote
- Cavolo
- Piselli
- Broccoli
- Fagioli verdi
- Patate bollite
- Patate al forno

CEREALI E DERIVATI

- Pasta con formaggio
- Pane all'aglio
- Muesli
- Pane multicereali
- Pane bianco
- Pane di segale
- Riso integrale
- Riso raffinato
- Cous cous
- Crakers dolci
- Crakers salati
- Dolci di riso
- Cereali all'avena
- Cereali alla crusca

LATTE E DERIVATI

- Panna acida
- Milk shake
- Gelato
- Formaggio fermentato
- Mascarpone
- Yogurt
- Latte scremato
- Ricotta
- Mozzarella
- Feta
- Formaggi di capra
- Formaggi di soia

CARNE, UOVA, PESCE

- Spalla di manzo trita
- Lombo di manzo
- Pollo fritto
- Insaccati
- Insalata di pollo
- Uova strapazzate
- Uova fritte
- Pesce fritto
- Insalata di tonno
- Prosciutto
- Bistecca
- Petto di pollo
- Carne trita magra
- Bianco d'uovo
- Pesce fresco

DOLCI E ALIMENTI GRASSI

- Cioccolato
- Caramelle
- Patatine
- Biscotti al burro
- Biscotti al cioccolato
- Frittelle
- Burro
- Strutto
- Margarina
- Maionese
- Biscotti secchi
- Ketchup
- Liquirizia

BEVANDE

- Liquori
- Vino
- Caffè
- Tè
- Coca cola
- Aceto
- Birra
- Acqua gassata
- Acqua naturale

LEGENDA

Alimenti che andrebbero evitati

Alimenti da consumare con **moderazione**

Alimenti che tendenzialmente **non provocano o non aggravano** il reflusso

Diet and Health in Otolaryngology

Hailey M. Juszczak, MD*, Richard M. Rosenfeld, MD, MBA, MPH

Department of Otolaryngology-Head and Neck Surgery, State University of New York Downstate Health Sciences University, 450 Clarkson Avenue, Brooklyn, NY 11203, USA
* Corresponding author.
E-mail address: Hailey.juszczak@downstate.edu

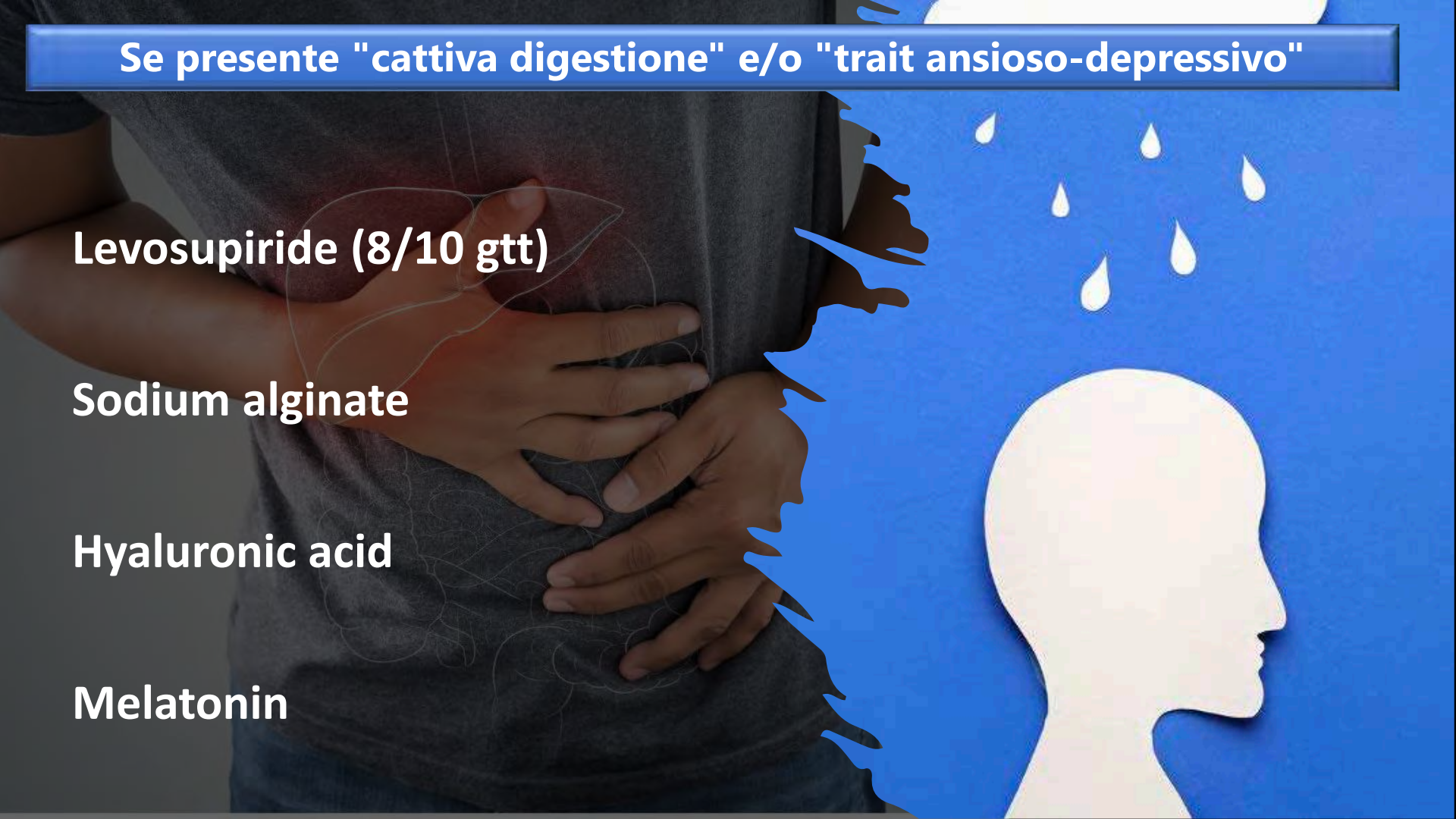
Otolaryngol Clin N Am 55 (2022) 909–927
https://doi.org/10.1016/j.otc.2022.06.001
oto.theclinics.com

A systematic review of dietary modifications for LPR included 1 randomized control trial and 6 observational studies assessing the effect of LPR outcomes based on diet or dietary behavior. Dietary modifications, such as fasting, avoiding eating or drinking 2 to 3 hours before sleeping, consuming low-acid drink and food (including alkaline water and a plant-based, Mediterranean-style diet), and reduced consumption of fat, chocolate, and coffee were found to improve LPR symptoms. However, heterogeneity of studies and low certainty of evidence did not provide sufficient evidence for dietary recommendations in LPR patients.[60]

Melatonina


MELATONINA
Aumenta il Tono muscolare delle cellule muscolari del LES
(Lower Esophageal Sphincter)
Riduce la secrezione acida basale
Favorisce la produzione di Prostaglandine E_2
responsabili della secrezione di Muco gastrico citoprotettivo
Ha dimostrato di stimolare la riparazione tessutale locale
RIDUCENDO gli indici di infiammazione come TNF-α, Interleuchina 1-beta

Se presente "cattiva digestione" e/o "trait ansioso-depressivo"



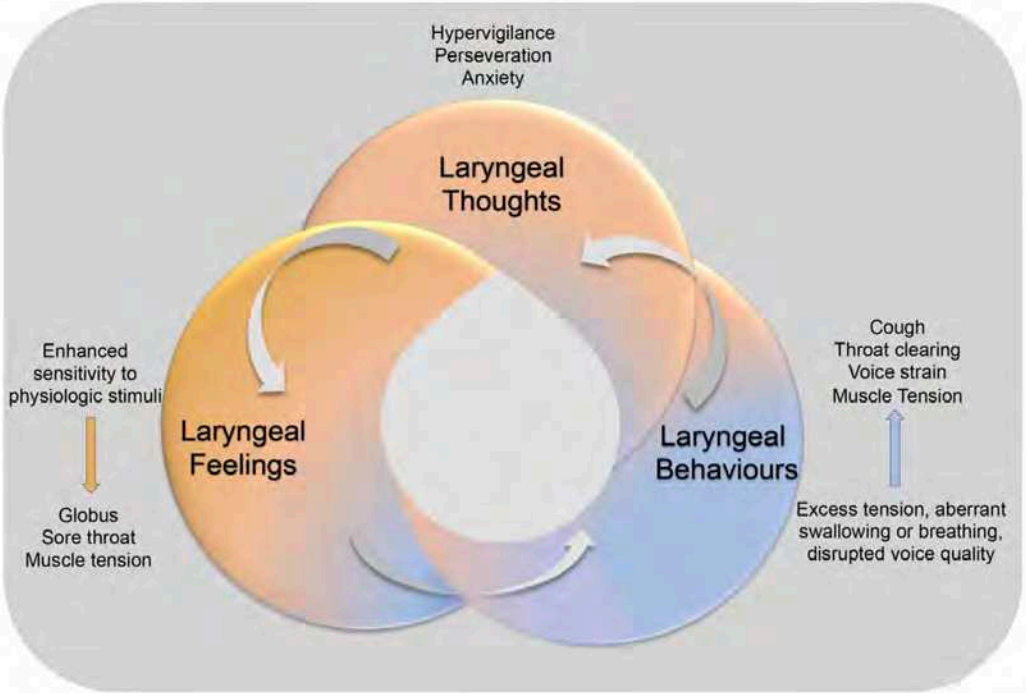
Levosupiride (8/10 gtt)

Sodium alginate

Hyaluronic acid

Melatonin

Disorders of Brain–Larynx interaction, laryngeal hypersensitivity and quality of life impairment



4.8 | B

There is l
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laryngeal s

Hypno
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effective i
non-cardia
patients w

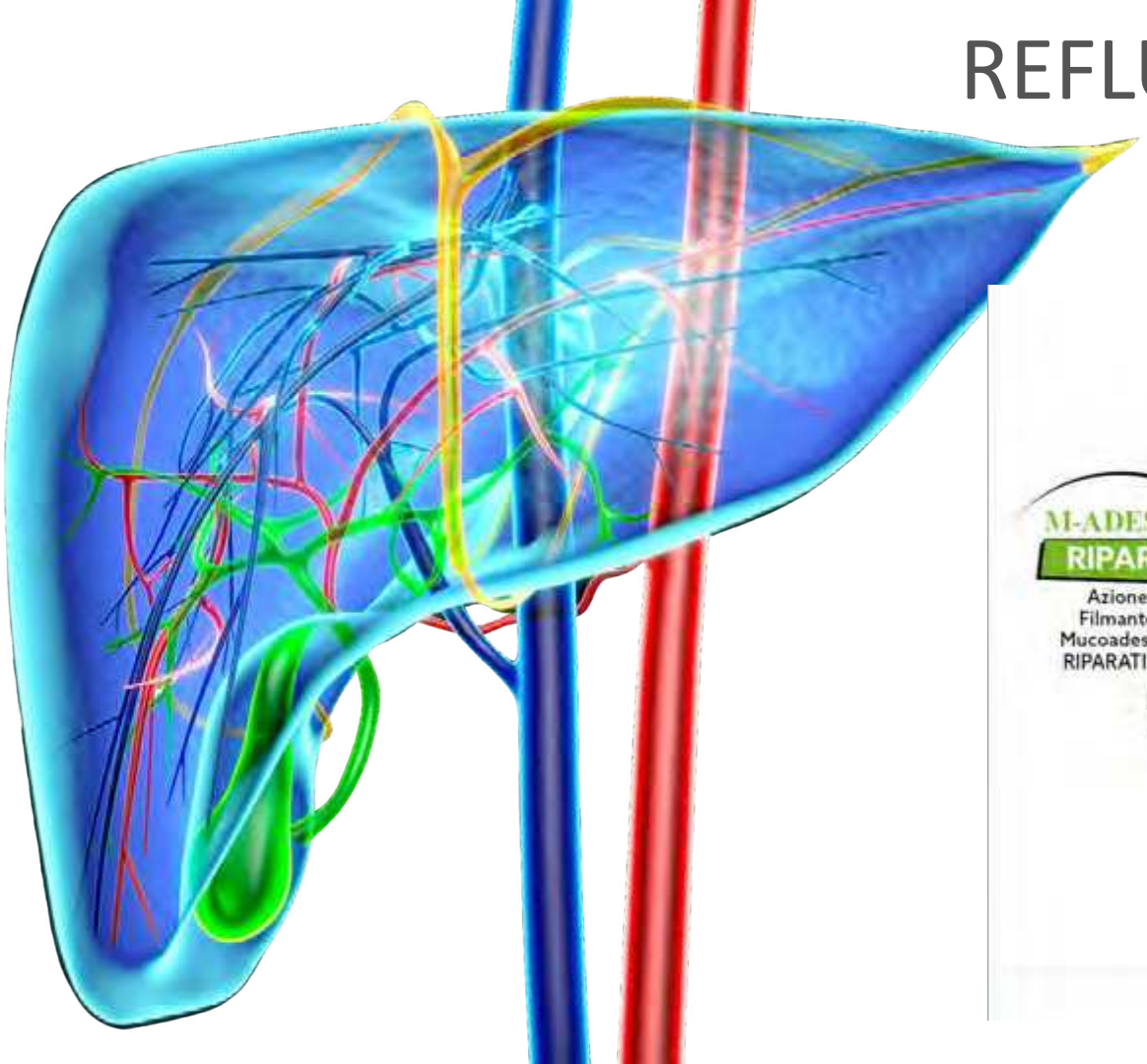
apies for patients
erapy targets the
eal symptomatol-
apy and cognitive
ients with chronic

reatment of irrita-
erature has shown
rapy, a health psy-
ate uncomfortable
otherapy may be
rn, dysphagia and
nto the efficacy in
ated.[127]

When RFL is also associated with "esophageal hypersensitivity" due to acid/weakly acidic/basic reflux.

In this case, a combination of chondroitin-sulphate (protective action) + hyaluronic acid + aluminium hydroxide may be useful.

REFLUSSO BILIARE



Acid and basic anti-reflux drugs

Biologically derived prokinetics (ginger extracts, melatonin, low-dose levosulpiride)The Esophageal Hypervigilance and Anxiety Scale (EHAS) Patients with dominant LPR symptoms had higher EHAS than controls (P = 0.007)

Journal of Clinical Medicine

MDPI

Review

Clinical Update Findings about pH-Impedance Monitoring Features in Laryngopharyngeal Reflux Patients

Jerome R. Lechien [1,2,3,4]

course of some LPR disease presentations, and the patient adherence are all factors that may underly the low empirical therapeutic success rate [18]. According to recent reviews [18,19], most authors used proton pump inhibitors (PPIs) for the empirical treatment, even though most hypopharyngeal reflux events (HREs) are weakly or nonacid at the hypopharyngeal-esophageal multichannel intraluminal impedance–pH monitoring (HEMII-pH) [20–22]. The use of PPIs with alginate or magaldrate makes further sense [18], but this combination

THE THERAPY WILL BE EFFECTIVE IN A LONG TIME!

WHEN DOES THERAPY NOT WORK?

Don't be found in the clinic!

Or we reasoned with blinkers!

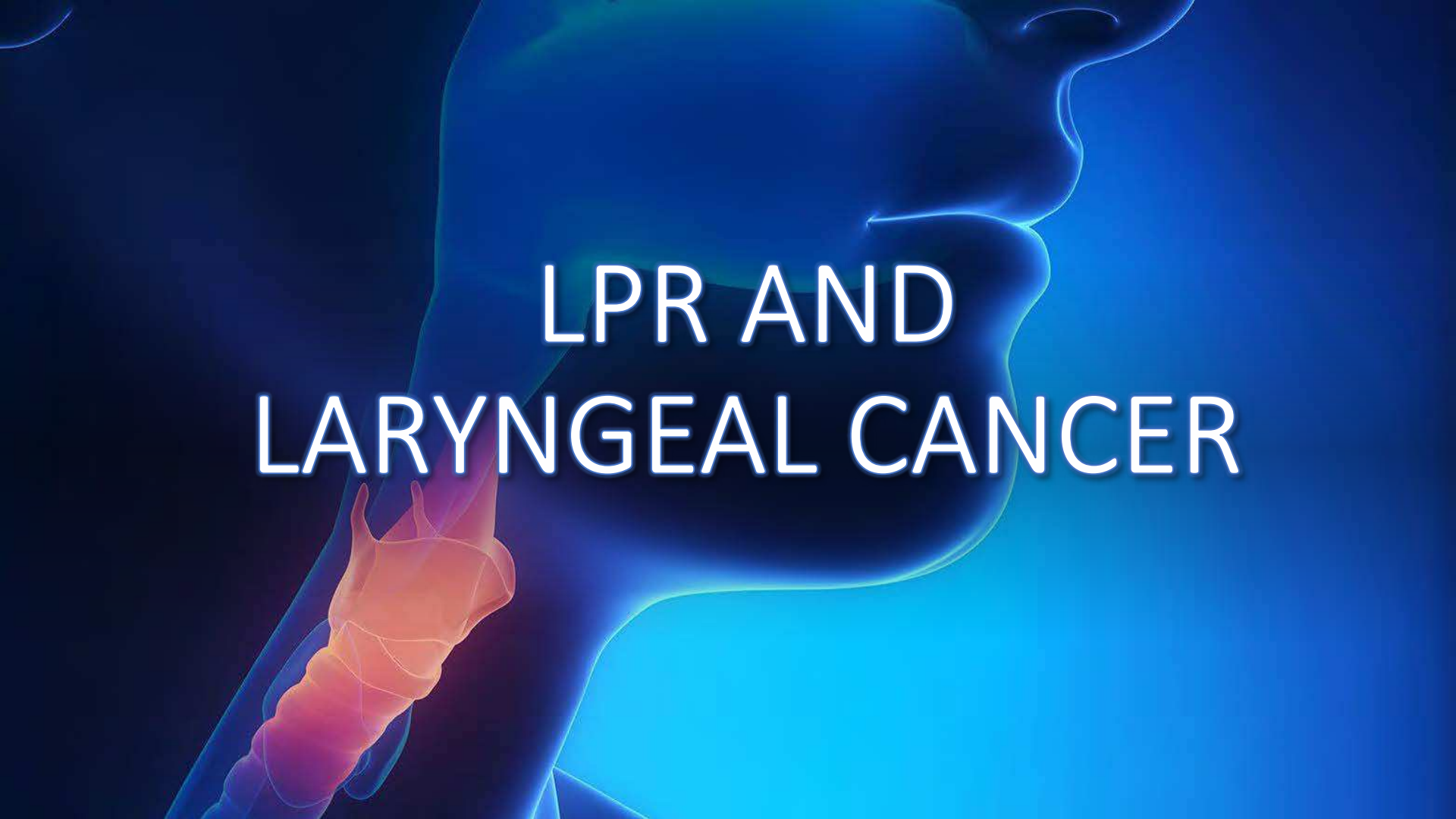
Excluding ASTHMA

Often the "UACS" also coexists

Therefore, diagnosis and therapy must result from a multidisciplinary approach!

LPR
SOCIAL AND HEALTH COSTS

INSTRUMENTAL EXAMINATIONS REQUIRED FOR "SORE THROAT AND COUGH"	THERAPIES PROPOSED FOR "SORE THROAT AND COUGH"
Prick test / RAST	Antibiotics
Spirometry	Corticosteroids
Neck Ultrasound	Antihistamines
Throat swab	Bronchodilators
Chest Rx/CT	NSAIDs


LPR AND
LARYNGEAL CANCER


Clinical Gastroenterology and Hepatology 2019;17:1253–1264

SYSTEMATIC REVIEWS AND META-ANALYSES

Gastroesophageal and Laryngopharyngeal Reflux Associated With Laryngeal Malignancy: A Systematic Review and Meta-analysis

Sean M. Parsel,* Eric L. Wu,* Charles A. Riley,‡ and Edward D. McCoul[§,‖]

In non-smokers and non-drinkers with head and neck cancer, there are slightly fewer genetic mutations

HPV is not as important a risk factor for laryngeal cancer as in the oropharynx

It is difficult to identify "other" risk factors because most patients with laryngeal cancer are smokers and drinkers

In reflux, cell damage seems to be caused more by pepsin than by HCl.

The pathogenetic process in hypopharynx could be similar to what happens for Barrett's esophagus

Clinical Gastroenterology and Hepatology 2019;17:1253–1264

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A comprehensive literature review was performed on April 9, 2018, from the MEDLINE (January 1966 to April 2018), EMBASE (January 1975 to April 2018), and Web of Science (January 1900 to April 2018) databases. Search

disease and extralaryngeal malignancies did not produce further citations meeting inclusion criteria. In total, 18 articles were included for systematic review and meta-analysis. These resulted in a large number of cases (n = 36,634) and controls (n = 74,623), and

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SYSTEMATIC REVIEWS AND META-ANALYSES

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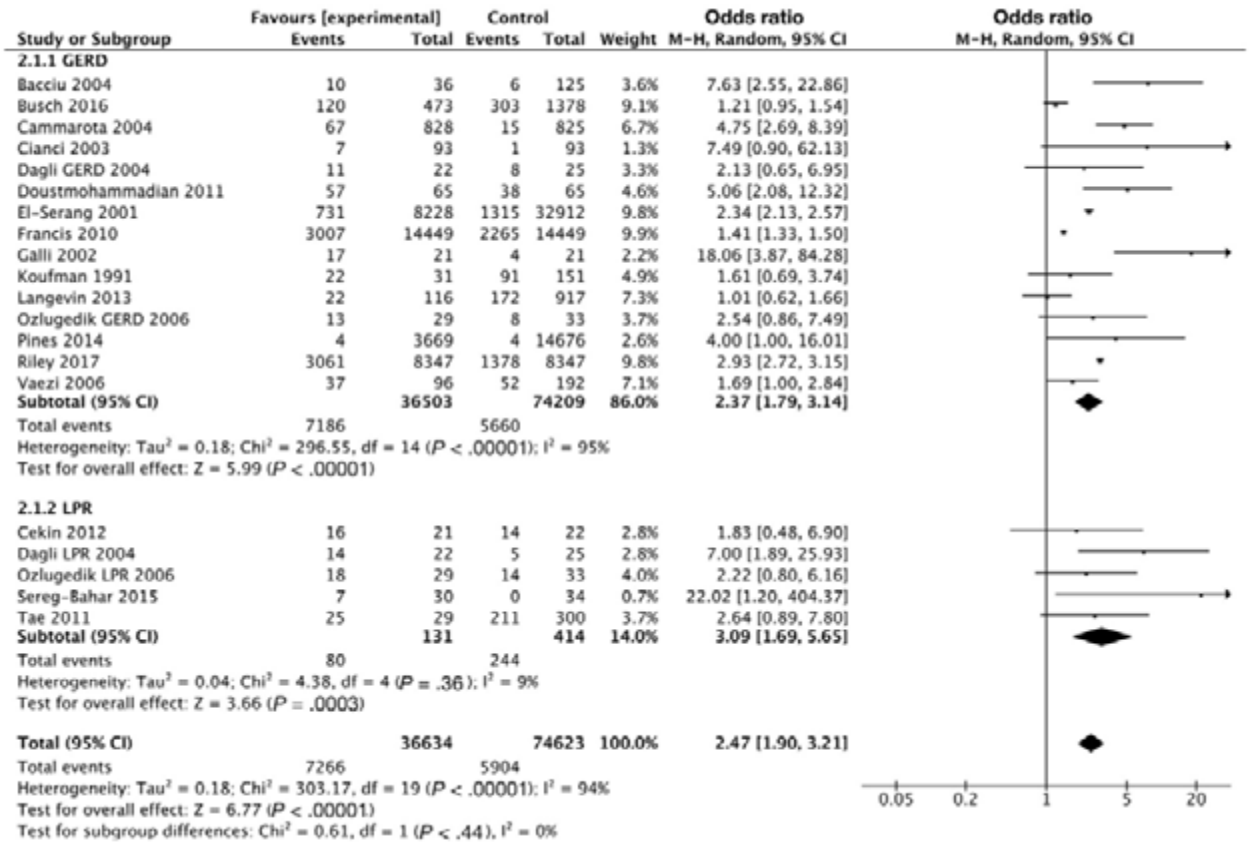

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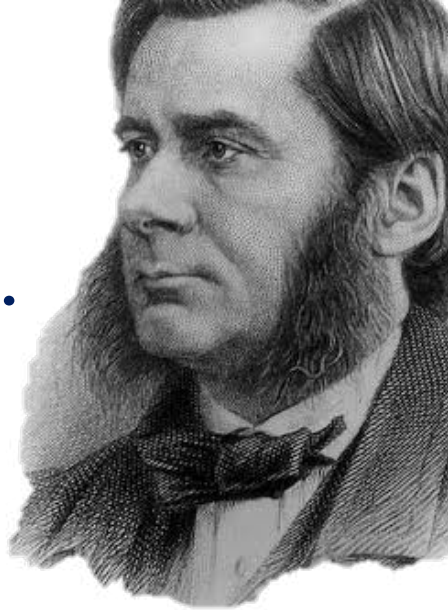
ings of our sensitivity analysis and has been shown in vitro and in animal models. Specifically, exposure of hypopharyngeal epithelial cells to acidic reflux has been shown to induce nuclear factor-κB, leading to deregulation of oncogenic mircoRNAs seen in laryngeal carcinoma.[24,47] Although these changes have not been documented in human specimens, the results of this

"All great truths pass through three stages.

First they are ridiculed.

Then they are strongly opposed.

Finally they are accepted as obvious."



Thomas Henry Huxley (1825-1895)

XII CONGRESSO NAZIONALE

oltre i confini

26·29 nov

SALERNO

2025

Gruppo Campano ORL

SAVE the DATE