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NOVEL TECHNIQUES FOR ASSESSING OESOPHAGO-PHARYNGEAL REFLUX IN PATIENTS WITH HOARSENESS AND SUSPECTED LARYNGOPHARYNGEAL REFLUX

J. O. Hayat ^{1,2}, E. Yazaki ², A. T. Moore ³, L. A. C. Hicklin ³, P. W. Dettmar ⁴, J.-Y. Kang ¹, D. Sifrim ²

¹Gastroenterology, St.George's Hospital, ²GI Physiology, Barts and the London School of Medicine and Dentistry, ³ENT Surgery, St.George's Hospital, London, ⁴Technostics, Kingston-upon-Hull, United Kingdom

Introduction: It is suggested that hoarseness along with typical signs on laryngoscopy can be caused by oesophagopharyngeal reflux, often referred to as LPR. New methods are proposed to assess pharyngeal exposure to gastric contents. They are suggested to measure 1) liquid or mixed gas-liquid acid and non-acid reflux (HMII-pH), 2) aerosolized acid reflux (Dx-pH measuring system, Restech), and 3) presence of pepsin in saliva. We **aimed** to quantify pharyngeal exposure to gastric contents in patients with hoarseness and healthy controls using the above techniques.

Methods: 21 patients with hoarseness and a positive laryngoscopy (mean age: 51 range: 23-75) and 10 asymptomatic controls (mean age: 26, range:21-34) underwent simultaneous HMII-pH monitoring, oropharyngeal pH monitoring and saliva pepsin sampling. The HMII-pH catheter was located with impedance sensors in the oesophageal body, 3-5 cm distal and 0-2 cm proximal to the UOS. The Dx-pH catheter was located posterior to the uvula and pepsin in saliva was measured using an in vitro device utilising two pepsin monoclonal antibodies (Peptest™) at 5 different times during the 24 hr period. Patients were studied "off" PPI.

Results: Healthy controls had 1) no liquid or mixed gas/liquid reflux in the pharynx, 2) 2 controls had +ve Dx-pH and 3) 2 controls had more than 1 saliva sample +ve for pepsin with the other tests negative. Patients were classified into 4 groups: a) all tests +ve (n=2); b) 2 tests +ve (MII-pH + pepsin (n=5) or MII-pH + Dx-pH (n=3); c) all tests negative (n=5) and d) patients with +ve Dx-pH or pepsin without evidence of HMII detected reflux. These patients were considered negative (n = 6). Dx-pH drops were poorly associated with HMII-pH reflux. 11% of Dx-pH drops to pH<4, 15% of pH drops to pH<5 and 10% of pH drops to pH<5.5 coincided with HMII detected liquid or gas reflux in the oesophageal body. The detection of pepsin in saliva occurred in 7/10 patients with acid or non acid HMII detected reflux. Positive pepsin saliva samples were preceded by more reflux events in the previous 60 mins 3(1-4) than negative samples 0(0-2) p<0.0001.

Conclusion: We identified a subgroup of patients with hoarseness with objective detection of oesophago-pharyngeal reflux (10/21). b) the majority of oropharyngeal pH drops detected by Dx-pH do not correlate with retrograde flow (liquid or gas) in the oesophageal body. c) Detection of pepsin in saliva suggests the likelihood of reflux episodes in the previous 60 mins.