1. The synchronized increase in the content of major salivary cation or esophago-salivary reflux. In basal conditions, only the rate of secretion of salivary protein (SPSS Inc. CA) is known, however, regarding the interrelationship between the rate of secretion of each individual protective factor in basal conditions and during stimulation. Therefore, the aim of the study was to explore the correlation between the rate of secretion of salivary bicarbonate (BIC), non-bicarbonate (NBIC), protein, glycoconjugate, epidermal growth factor (EGF), transforming growth factor (TGF) and prostaglandin E2 (PGE2) in basal and stimulated (by mastication or esophago-salivary reflex) conditions.

Methods: The study was conducted on 33 asymptomatic volunteers (15F and 18 M; mean age of 39). Salivary secretions were collected in basal conditions, during mastication, and stimulation by the esophago-salivary reflux (evoked by intraoesophageal HCl/pepsin, pH 2.1). BIC and NBIC were measured by back-titration using TitraLab 900 (Radiometer Am. Inc., OH), protein by Lowry, glycoconjugate by PAS, EGF, TGF and PGE2 by radioimmunoassay (Amersham, IL). Spearman correlation coefficient was assessed using Sigma-Stat (SPSS Inc. CA) software.

Results: In basal conditions, only the rate of secretion of salivary protein correlated with salivary volume (P<0.01). In saliva stimulated by mastication or esophago-salivary reflex, statistically significant correlation was found between salivary volume and BIC, NBIC, protein, glycoconjugate, EGF, TGF and PGE2. Spearman correlation coefficient was assessed using Sigma-Stat (SPSS Inc. CA) software.

Conclusions: 1. The synchronized increase in the content of major salivary protective factors during stimulation significantly augments its defensive potency and could be pivotal in the combat of injurious potential of the gastroesophageal refluxate. 2. Salivary PGE2 is less likely to contribute to esophageal esophaesophtropication.

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INTRANASAL PHYSIOLOGIC VARIABILITY IN 24 HOUR ESOPHAGEAL ACID EXPOSURE
Nancy A. Redinger, B.S., Ali Siddiquei, M.D., Sheila Rodriguez-Stanley, Ph.D., Philip B. Miner, Jr., M.D., FACG*, Oklahoma Foundation for Digestive Research, Oklahoma City, OK and OU Health Sciences Center, Oklahoma City, OK.

Purpose: The accuracy and reliability of the measurement of esophageal acid exposure has become important in clinical practice and in research in the diagnosis and management of GERD. The hypothesis of many studies rests on the assumption that esophageal acid exposure within a patient is a constant measurable value. This study is a retrospective evaluation of multiple esophageal pH recordings in untreated heartburn subjects.

Methods: 24 hr pH tracings from subjects who had undergone multiple pH monitoring tests were evaluated. Subjects with at least three tracings performed on separate occasions were evaluated for total esophageal acid exposure (% time pH < 4, ACT), mean esophageal pH, and mean gastric pH. Three pH tracings were randomly chosen for analyses for subjects with greater than 3 pH-monitoring sessions. Values representing mean time pH <4 (mACT), mean esophageal pH (mEpH), and mean gastric pH (mGpH) were calculated for each subject, as well as the corresponding standard deviations (STD). The standard deviation as a % of the mean for each subject was also calculated (%STD) for each variable. Regression analyses were performed between mACT, mEpH, and mGpH vs their respective %STD (p<0.05 level of significance).

Results: 33 subjects were identified (99 total tracings). mACT was 11.6 ± 5.4; the mean %STD for ACT was 46%. mEpH was 5.6 ± 3.3; the %STD for esophageal pH was 6.8%. mGpH was 2.0 ± 0.4; the %STD for gastric pH was 23.9%. The %STD was unrelated to ACT (R=0.08; p<0.05), mEpH (R=0.13;p<0.05) or mGpH (R=0.19;p<0.05). Based on %STD, variations within 24 hour pH data rank as follows: esophageal pH < gastric pH < ACT.

Conclusions: 1) There is huge physiologic variation in esophageal acid contact time within a patient with repeated pH tests; however, the variation from the mean was not influenced by amount of acid exposure or secretion.

2) Gastric pH varies considerably, but less than ACT. 3) Multiple factors contribute to acid reflux. 4) The physiologic variation in gastric and esophageal pH provides useful data for determining power calculations for studies with multiple 24 hour pH tests.

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BARRITT'S SURVEILLANCE PER THE ACG GUIDELINES, DO WE REALLY DO WHAT THEY SAY?
N. Chaud, M.D., C. Miller, M.D., J. Cassara, M.D., K. Ruffin, M.D., E.L. Catts, M.D., N. Shaheed, M.D., S. Stanley, M.D., D.A. Johnson, M.D.*. Eastern Virginia Medical School, Norfolk, VA; Baptist Hospital, Memphis, TN and University of North Carolina, Chapel Hill, NC.

Purpose: To determine compliance with standards, biopsy reports for BE from the pathology reports from 3 health care systems — 2 community and 1 academic based.

Methods: A retrospective review of consecutive BE (excluding short segment) pathology reports were reviewed. Compliance with the recommended number of biopsy specimens per level, distance between levels and surveillance intervals were assessed relative to the presence/degree of dysplasia.

Results: 160 cases were reviewed. Compliance was assessed according to time interval and to adherence to the recommended (4 quadrant) number of biopsies.

Compliance was assessed at Site 1, Site 2, Site 3 and listed below respectively:

- Time interval was 77%, 58% and 40%.
- Biopsy number was 14%, 32% and 98%.
- Time interval + biopsy number was 14%, 26%, and 38%.

Greatest disparity was seen in the variance for number of biopsies done, although adherence to recommended surveillance interval was extremely variable also. There was no difference in compliance relative to the grade of dysplasia. A trend analysis did not show any changes in practice patterns from the 1998 to the updated 2002 guidelines.

Conclusions:

1. There is an alarming disparity of compliance with recommended biopsy number and intervals for surveillance in both community based and academic practice.
2. Guideline application can be based only on parallel patterns of practice.
3. Application of the ACG guidelines to practice may be inappropriate unless similar standards of biopsy technique and surveillance are adopted by clinicians.

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PATIENTS WITH BARRETTS ESOPHAGUS GREATLY OVER-ESTIMATE THEIR CANCER RISK
Nicholas J. Shaheen, M.D.*, Green Bryan, M.D., Jeffrey T. Wei, M.D., Mark Noble, M.D., Sarah M. Schmitz, B.A., Dawn Proverzdale, M.D. University of North Carolina, Chapel Hill, NC and Durham VA Hospital and Duke University, Durham, NC.

Purpose: Subjects with Barrett’s esophagus (BE) have a risk of esophageal adenocarcinoma of approximately 0.5% per year. Patients may have difficulty understanding this risk, leading to an over-estimation, with changes in healthcare related behaviors as a result. The aim of this study was to assess the perceived risk of cancer in subjects with BE.

Methods: We performed a survey of subjects with BE in two North Carolina sites, a University teaching hospital and a Veteran’s Administration (VA) hospital. Using a previously-validated tool assessing risk perception for small risks, we asked subjects to rate their perceived risk of developing cancer in their BE in both the next year, as well as over their entire lifetime. The questionnaire also elicited their demographics as well as their sources of health information. Healthcare behaviors, including endoscopic surveillance behaviors and other healthcare screening behaviors, were assessed.