

Non acid gastroesophageal reflux in children with esophagitis.

Orsi, M.; Cohen Sabban, J.; Donato, G.; Gallo, J.; D'Agostino, D.

Pediatric Gastroenterology-Hepatology Unit
Hospital Italiano Buenos Aires. Argentina

Introduction:

- The possible mechanisms involved in the development of esophagitis is still controversial.
- It has been postulated that non acid reflux could exert a more deleterious effect on the esophagus. This mechanism could be important in the development of Barrett's esophagus.
- The Multichannel Intraluminal Impedance -pH monitoring (MII-pH) is able to detect acid or non acid gastroesophageal reflux (GER) as well as the bolus clearance and thus determine their impact on the mucosa.

Aim:

To evaluate esophagitis in relation to the presence of acid or non acid exposure, bolus clearance and height of the column in children with gastroesophageal reflux.

Material & Methods:

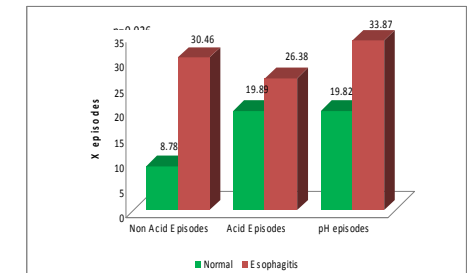
Since May 2005 to November 2008, a prospective study was conducted in 48 children (32 boys median age 8.5 years (r 1-18yrs) suspected of GER. All were evaluated at the Gastroenterology Unit of Hospital Italiano-Buenos Aires. Upper endoscopy with biopsies were performed followed by a 24 hr MII-pH study using a Sandhill Sleuth Monitoring Recorder with 2 different catheters according to age (ZIN or ZPN S61CO1E) with 7 impedance sensors and one pH probe at the distal end.

- Biopsies were reported by two different pathologists in a blinded manner.
- Patients with congenital anomalies, mental retardation or on medications were excluded.

Results:

There was no significant difference in the number of acid episodes or in bolus clearance among children with or without esophagitis. In this group of patients, esophageal damage seems to be more related with non acid reflux than with acid exposure.

	NORMAL (N=9)	ESOPHAGITIS (N=39)	P value
Non Acid Episodes	X 8.78 ± 6	X 30.46 ± 27.82	0.026
Acid Episodes	X 19.89 ± 27.20	X 26.38 ± 21.36	0.439
pH only Episodes	X 19.82 ± 22.38	X 33.87 ± 26.72	0.151
Clearance Bolus	X 15.22 ± 4.82	X 16.41 ± 4.23	0.463
Full Column	X 14.33 ± 12.44	X 27.38 ± 17.17	0.037



Conclusions:

In this study esophagitis was more related to the presence of an increased non acid to acid pattern, instead poor correlation was seen with the number of episodes or with bolus clearance.

It is the quality of the reflux material and not the time of exposure which appears to be more harmful to the esophagus.

Further studies are necessary to confirm or not these observations and thus help prevent dangerous mechanisms in longstanding disease.

The combination of impedance with endoscopy may improve our knowledge on this frequent and complex entity.