



QUALITY IN ENDOSCOPY

**UPPER GI ENDOSCOPY
& NEOPLASIA**

What is a “normal gastroscopy,,?” Do we need biopsies? PRO

Name: Miguel Areia

Institution: Portuguese Oncology Institute-Coimbra

Country: Portugal



Learning Objectives

1. “Normal gastroscopy” means no gastritis, atrophy or intestinal metaplasia;
2. Endoscopy alone cannot diagnose nor exclude;
3. Correct assessment gastric mucosa requires...
Biopsies!

Background

- Atrophy and intestinal metaplasia are precancerous conditions
- Extensive when involving antrum and corpus
- Classification systems imply biopsies:
 - Updated Sydney classification
 - OLGA (**O**perative **L**ink for **G**astritis **A**ssessment)
 - OLGIM (**O**perative **L**ink on **G**astric **I**ntestinal **M**etaplasia)

Dinis-Ribeiro M et al. Endoscopy 2012; 44: 74

Dixon MF et al. Am J Surg Pathol 1994; 20: 1161

Rugge M et al. Dig Liver Dis 2008; 40: 650

Capelle LG et al. Gastrointest Endosc 2010; 71: 1150

Gastritis

- Endoscopy has low correlation to histology
- Antral nodularity reliable but rare



First author	Year	Country	Patients	Sensitivity	Specificity	Bias
Laine L	1995	USA	55	32	96	Small sample size
Calabrese C	1999	Italy	364	91	21	13% excluded
Loffeld RJ	1999	Netherland	305	40	84	Retrospective No biopsy protocol
Redéen S	2003	Sweden	488	57	64	No reproducibility

Gastritis

- Carpenter HA, et al. Gastroenterology 1995; 108: 917
 - “Endoscopic visualization alone cannot reliably detect gastric mucosal disease”
 - “Gastric biopsy is therefore an essential part of routine endoscopic examination”

Atrophy

- Endoscopy has low correlation to histology
- Presence visible vessels, absence of rugae

First author	Year	Country	Outcome	Patients	Sensitivity	Specificity	Bias
Redéen S	2003	Sweden	Atrophy	488	67%	87%	No reproducibility
Eshmuratov A	2010	South Korea	Atrophy	1,330	62%	58%	Indeterminate cases excluded

<i>Feature</i>	<i>Sensitivity % (95% CI)</i>	<i>Specificity % (95% CI)</i>
Visible vessels	48 (26 – 70)	87 (84 – 90)
Absence of rugae	67 (43 – 85)	85 (82 – 88)
Visible vessels and/or absence of rugae	67 (43–85)	81 (77 – 84)

Intestinal Metaplasia

- Endoscopy has low correlation to histology
- Thin white mucosal plaques



After methylene blue 1%
chromoendoscopy

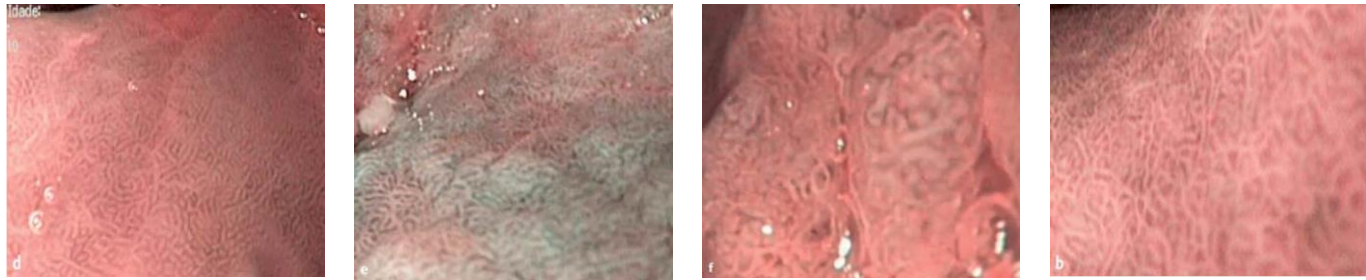
New Methods

- Chromoendoscopy
- Magnifying endoscopy

First author	Year	Country	Type of study	Patient s	Conclusion	Bias
Dinis-Ribeiro M	2003	Portugal	Magnification Methylene blue + Reproducibility	136	IM: Sens. 76%, Spec. 87% Kappa: 0.74	1 day interval for agreement
Areia M	2008	Portugal	Magnification Methylene blue + Reproducibility	42	IM: Sens. 76%, Spec. 89% Kappa: 0.92	Small sample size
Gonen K	2009	Turkey	Magnification Indigo carmine	129	Hp: Sens. 88% Spec. 75%	No blinding
Anagnostopoulos GK	2007	UK	Magnification + Reproducibility	95	Atrophy: Sens. 90% Spec. 96% Kappa 0.91	Corpus only
Yan SL	2010	Taiwan	Magnification	112	Gastritis: Sens. 100% Spec. 86%	Corpus only

New Methods

- Narrow Band Imaging (NBI)
- One validated classification



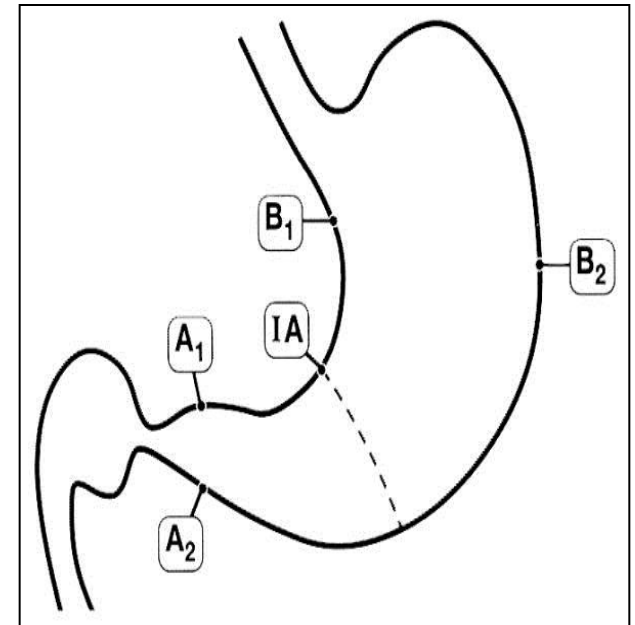
Mucosal / vascular pattern	Regular, tubulo-villous	Light blue crest	Irregular	Variable vascular density
Outcome	Intestinal metaplasia	Intestinal metaplasia	Dysplasia	<i>H. pylori</i> infection
Sensitivity	89	48	96	62
Specificity	90	96	98	70
Accuracy	90	83	70	66

New Methods

- Improve accuracy but:
 - Time consuming (workload, tolerance)
 - Require expertise
 - Not for routine gastroscopy!

Biopsies – where and how much?

- Type and extension of precancerous lesions is key
 - Assessment and prognosis
 - At least 2 from antrum (greater and lesser curvature)
+
 - At least 2 from corpus (greater and lesser curvature)



Conclusion

- “Normal gastroscopy” should mean no:
 - Gastritis, atrophy or intestinal metaplasia;
- Correct assessment gastric mucosa in this context...
...requires Biopsies!



Coimbra, Portugal

Thanks for your attention!