

Nuove Tecniche Diagnostiche in
Gastroenterologia
AA 2016-2017

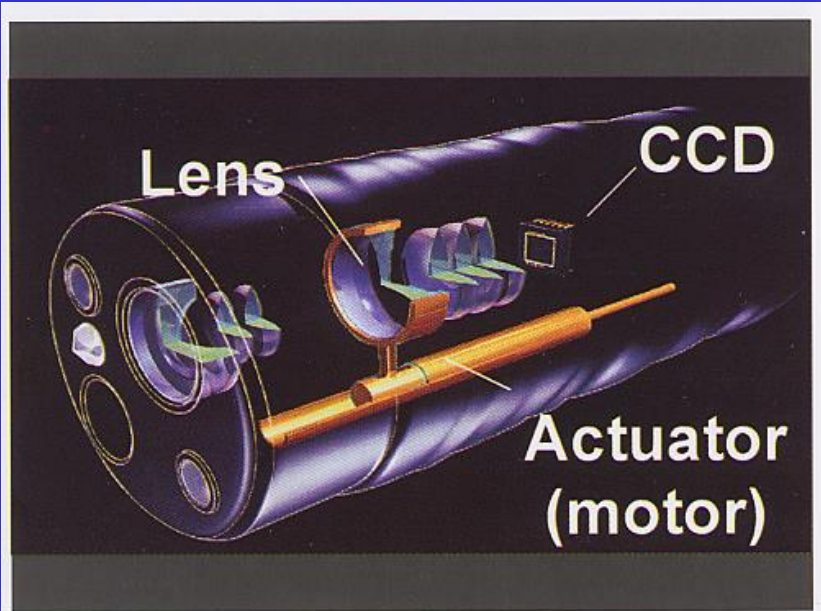


Figura 11 Schema costruttivo di endoscopio a magnificazione ottica (Olympus Co. Ltd.)



Endoscopia con Magnificazione

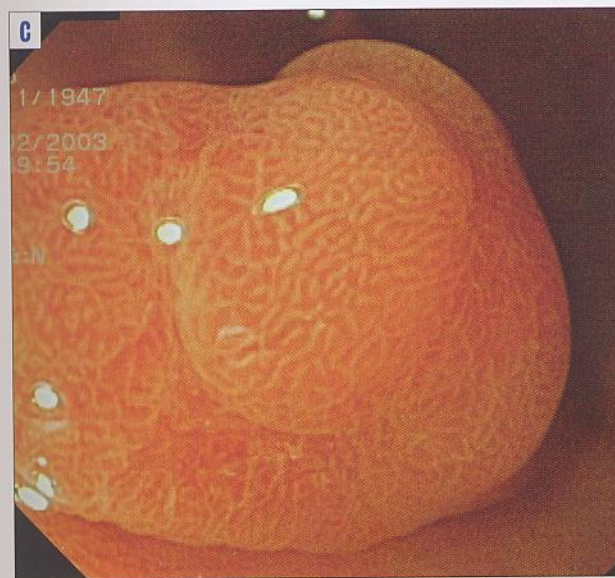
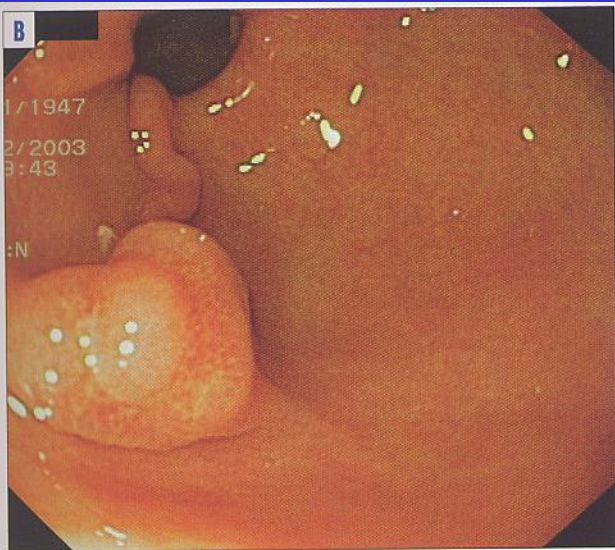


Figura 13 Polipo antrale (A) visualizzato con videoendoscopia standard (B) e con magnificazione (C); la magnificazione evidenzia distintamente il pattern superficiale sulciforme.

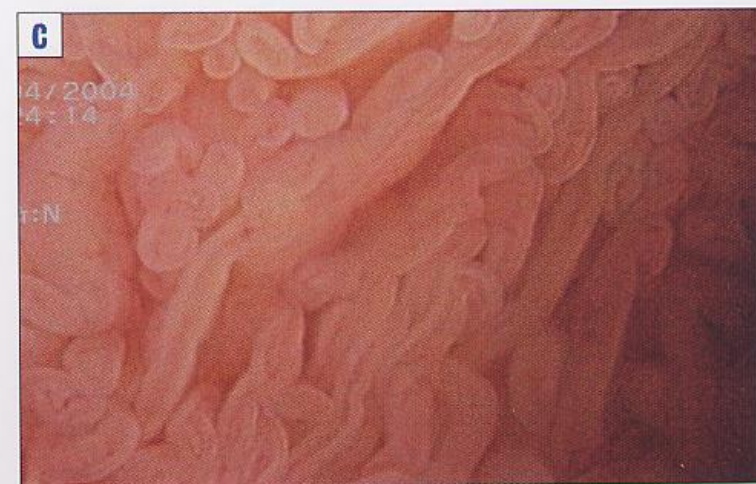
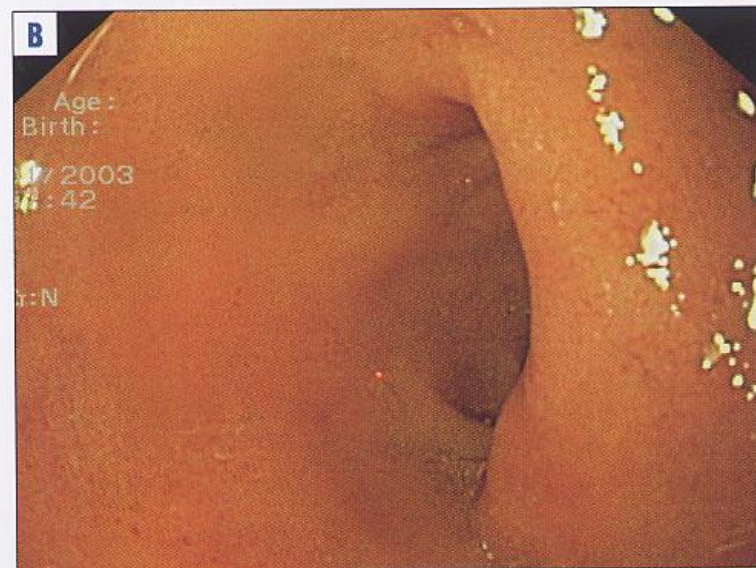


Figura 39 Aspetto endoscopico della mucosa bulbare (A) alla visione standard (B) ed a quella ottenuta con magnificazione spinta (C), in cui sono riconoscibili i singoli villi.

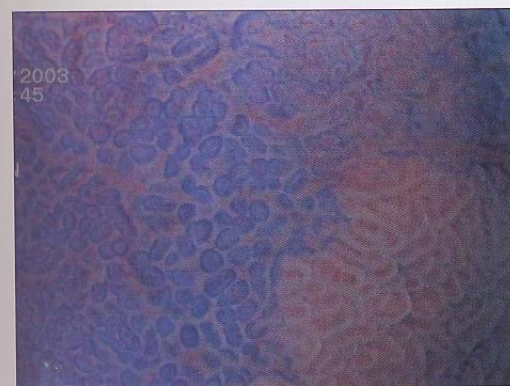


Figura 36-37-38 La metaplasia intestinale gastrica non è facilmente identificabile all'endoscopia standard (alto); la utilizzazione di bleu di metilene (centro) comporta l'assunzione del colorante da parte delle *goblet cells* delle aree metaplasiche; la magnificazione (basso) rende possibile differenziare il pattern della mucosa normale da quella metaplasica (60x, Olympus Optical Co.).

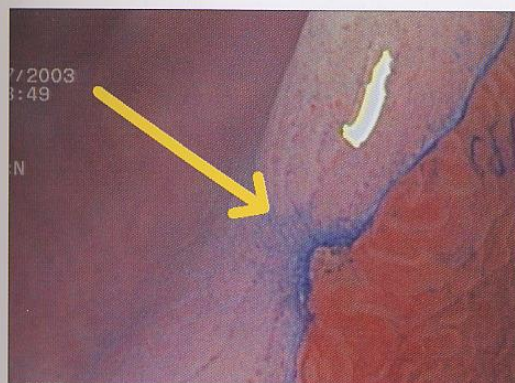


Figura 20 Microerosione della giunzione squamocolonnare.

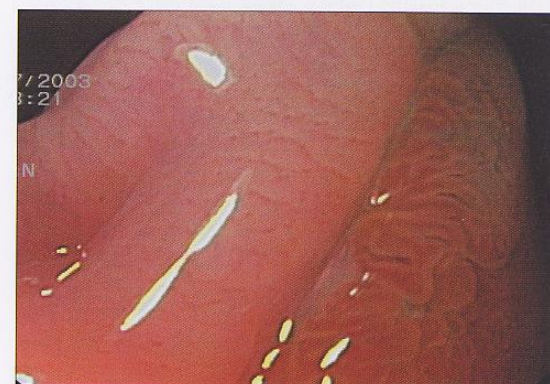


Figura 22 Iperemia della mucosa cardiaca (cardite).

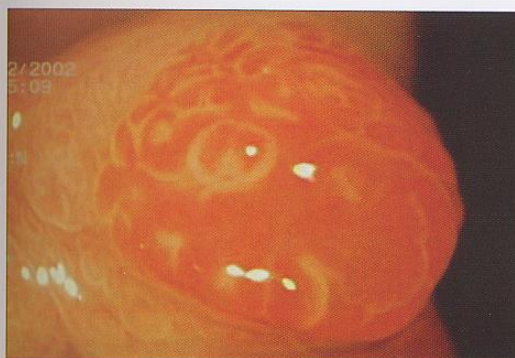


Figura 21 Iperplasia foveolare cardiaca.



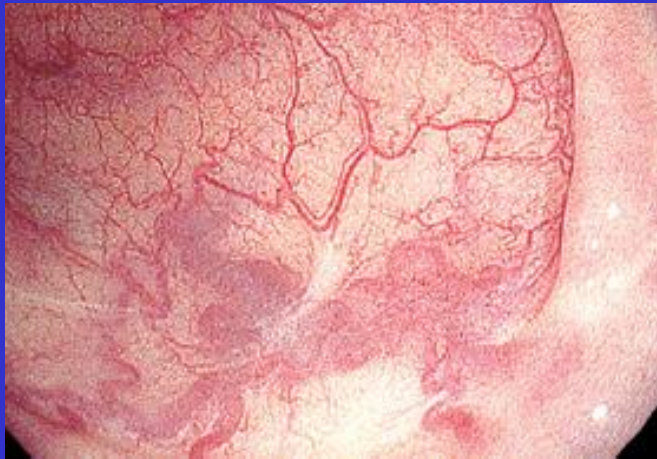
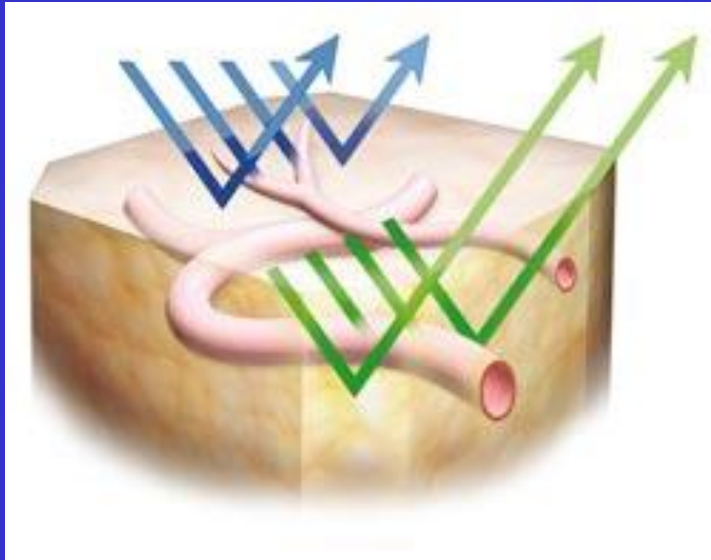
Figura 23 Metaplasia intestinale cardiaca (magnificazione 90x).

MALATTIA CELIACA



Atrofia dei Villi nella Celiachia
“Scalloping”





Alta Definizione

HD+

Enhancing visibility with NBI



*Colon polyp
(HDTV normal endoscopic light)*

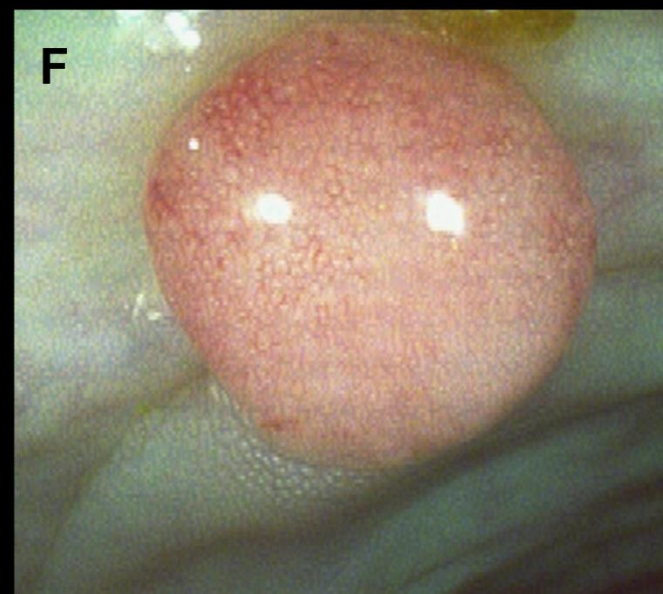
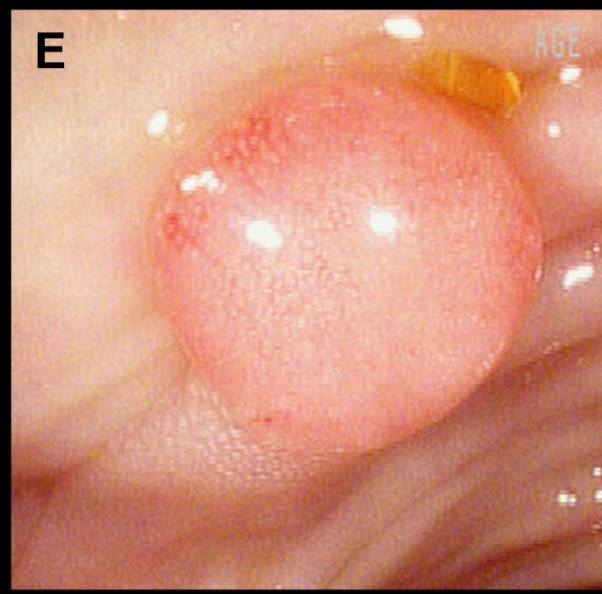
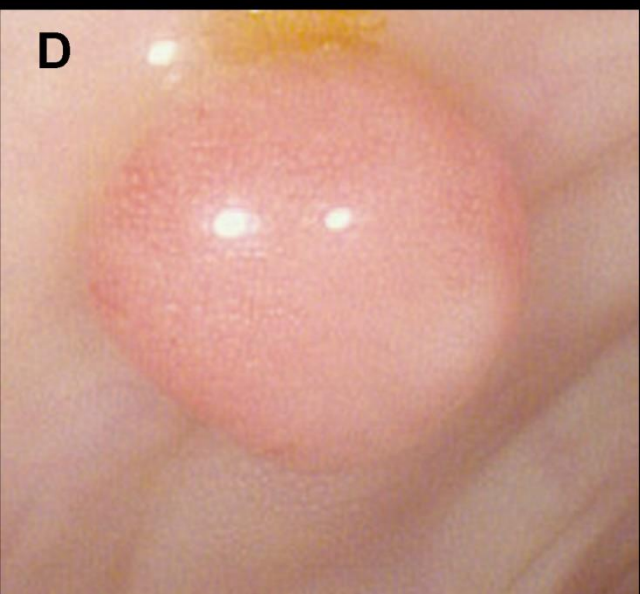
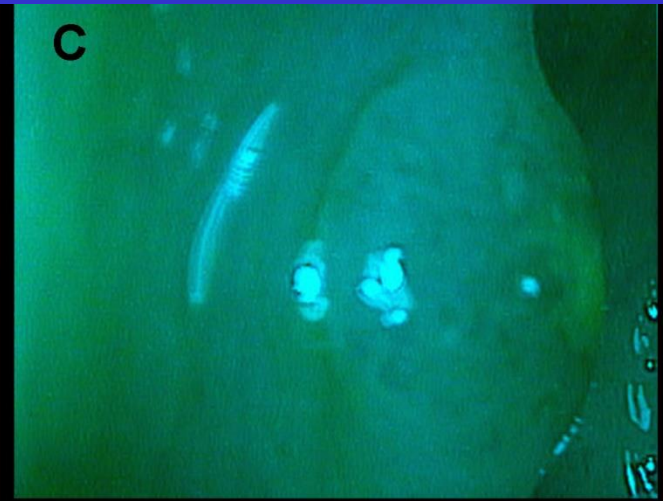
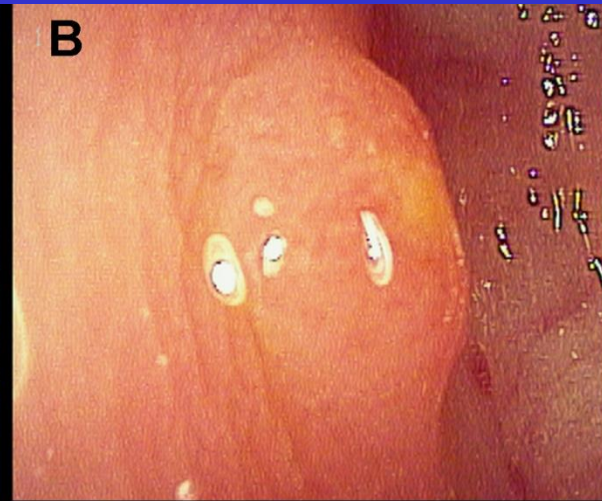


*Colon polyp
(HDTV & Narrow Band Imaging)*



*Colon polyp
(HDTV indigo carmine)*

i-SCAN

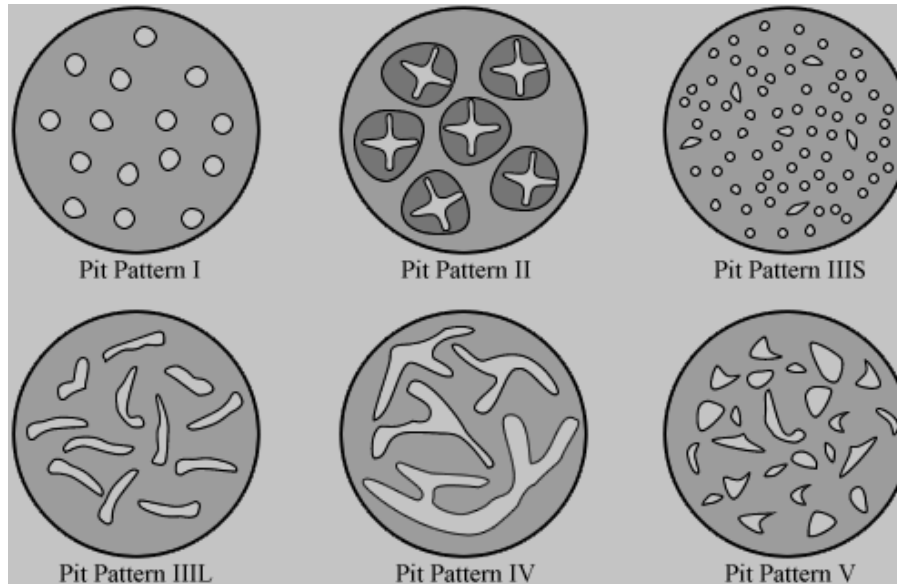


La classificazione delle lesioni neoplastiche superficiali del tratto GI prevede la valutazione di 3 parametri :

- pattern morfologico (MP) classificazione di Parigi 2005, aggiornata per il colon nella classificazione di Kyoto 2008
- pattern ghiandolare (pit-pattern, PP). Le classificazioni comunemente utilizzate sono: sec. Endo per l'esofago; sec. Dinis Ribeiro per lo stomaco; sec. Kudo per il colon.
- pattern vascolare (VP) richiede endoscopi magnificatori e enhance ottica con NBI

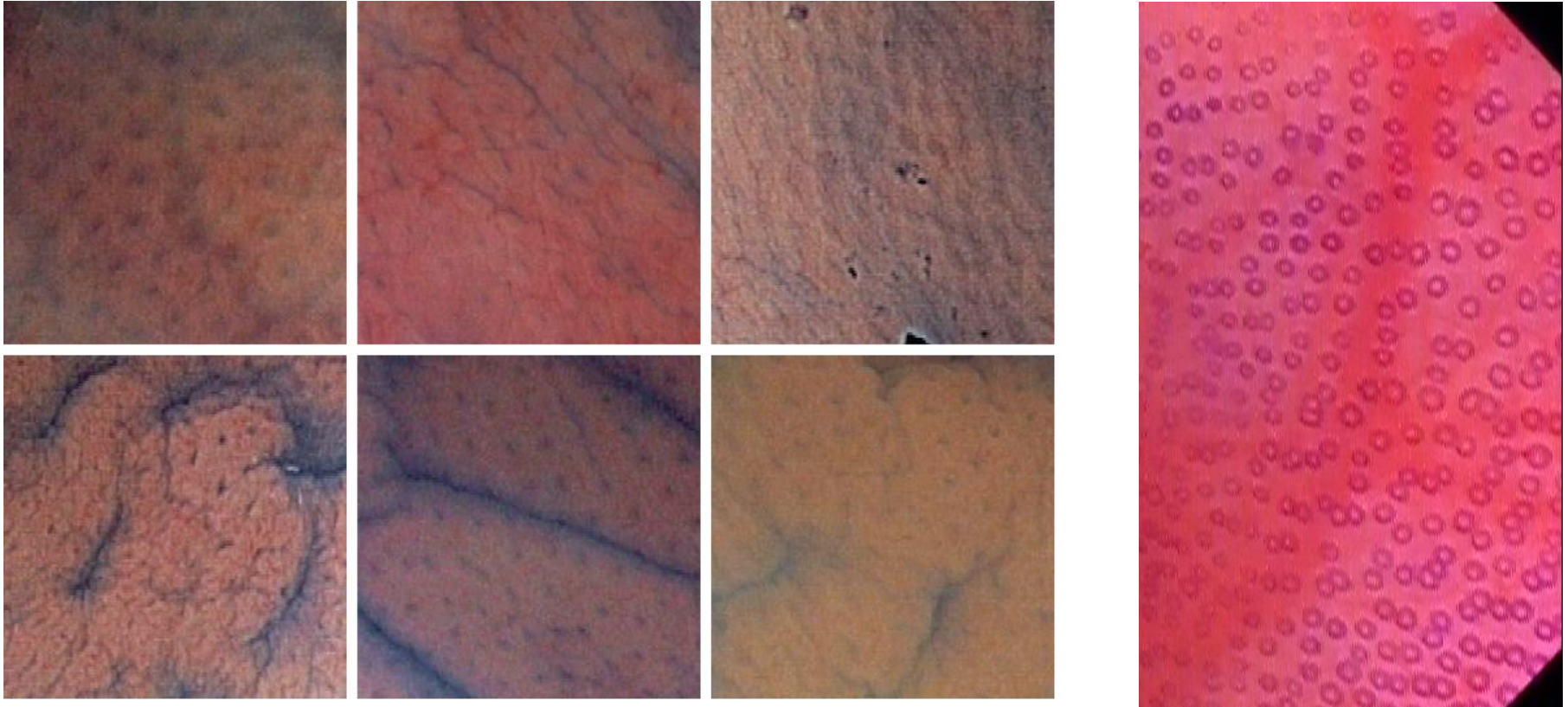
L'insieme di questi parametri è in grado di fornire, con buona approssimazione, informazioni relative allo stadio della lesione, correlandosi con l'istologia così da fornire elementi utili che indirizzino verso la scelta terapeutica appropriata

PIT PATTERN



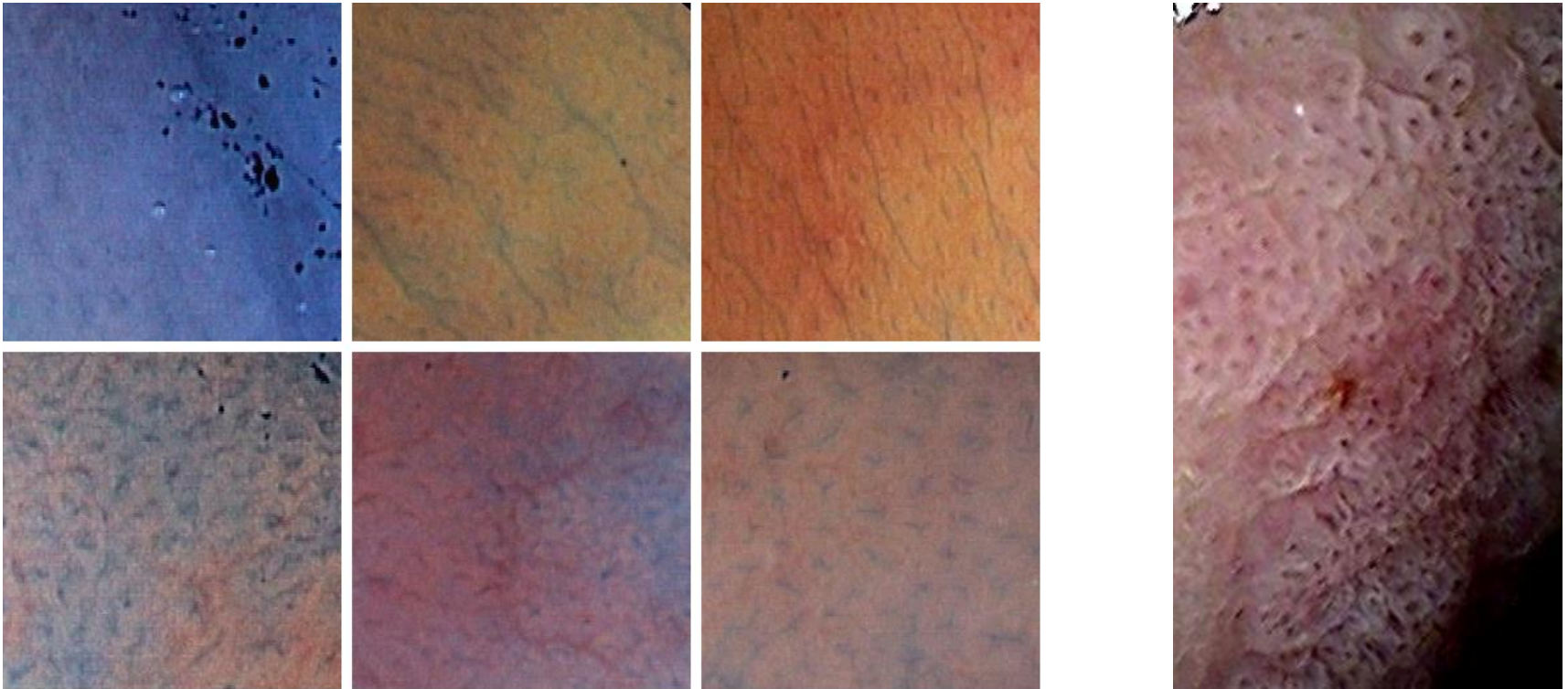
Pit pattern	Caratteristiche	Istologia
I	Piccole e regolari	Non neoplastico
II	Stellate ampie e regolari	Non neoplastico
III S	Tubulari piccole e tondeggianti (più piccole del tipo I)	Adenomatoso
III L	Tubulari e allungate	Adenomatoso
IV	Ramificate	Adenomatoso
Vi	Irregolari	Invasivo
Vn	Destruzzurate	Invasivo

PIT PATTERN Tipo I



Aperture ghiandolari : piccole e regolari

PIT PATTERN Tipo II



Aperture ghiandolari : stellate ampie e regolari

PIT PATTERN Tipo IIS



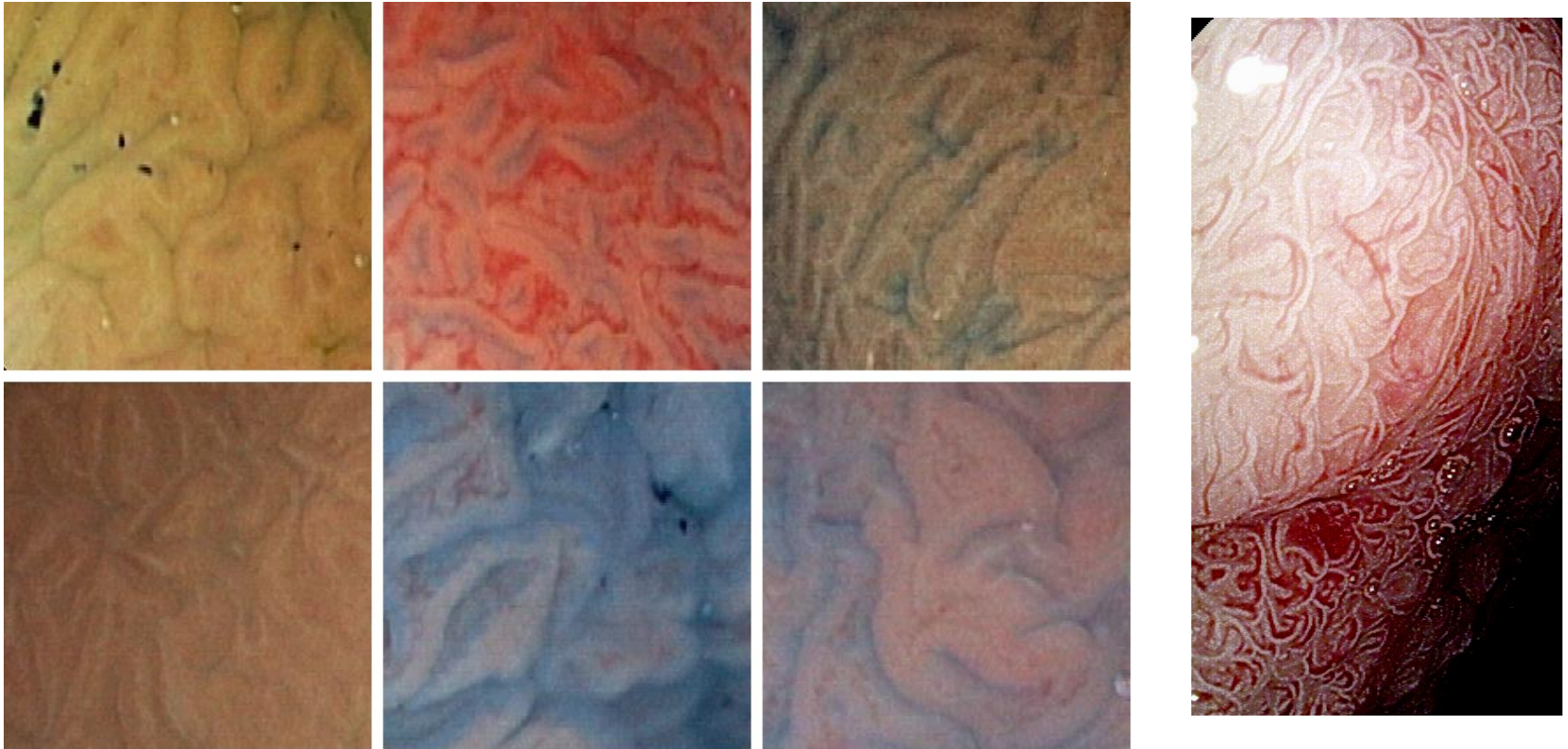
Aperture ghiandolari: tubulari piccole e tondeggianti (più piccole del tipo I)

PIT PATTERN Tipo III L



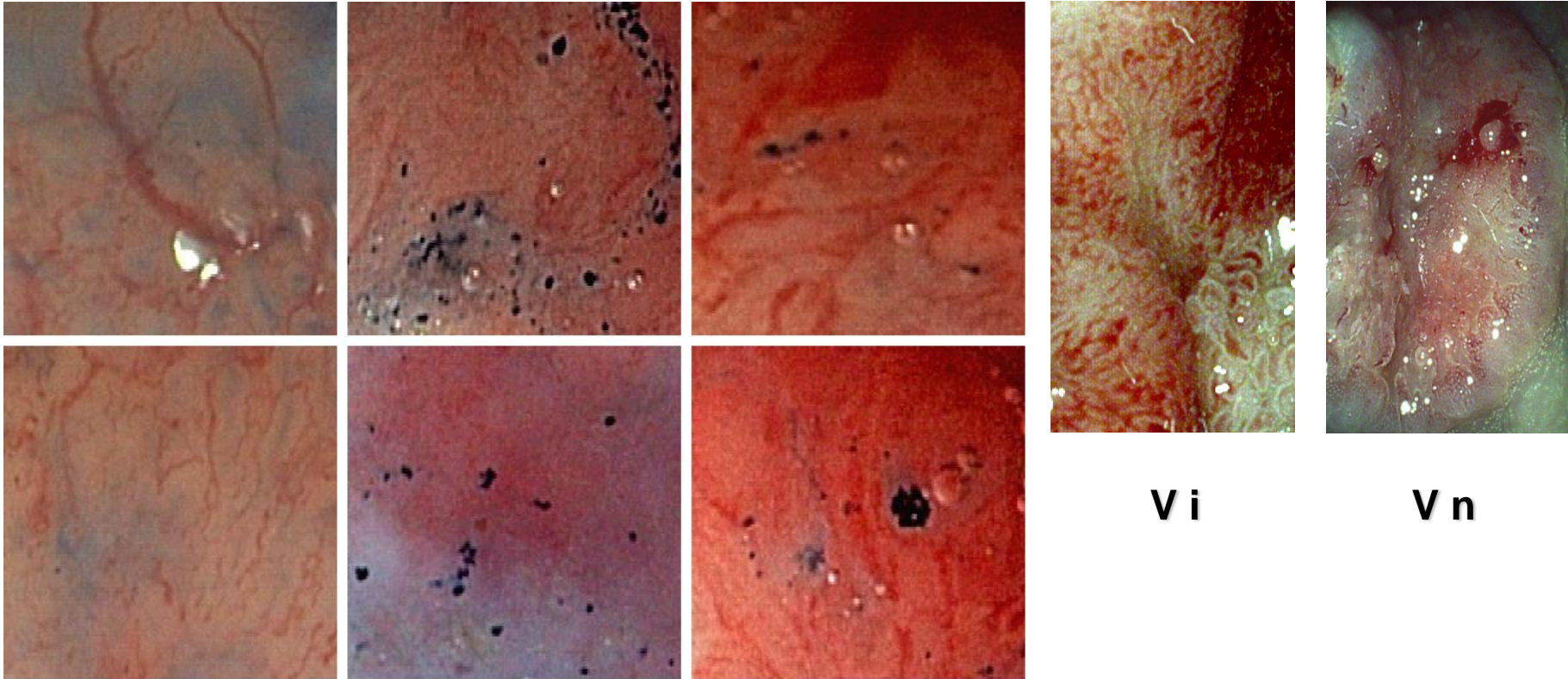
Aperture ghiandolari : tubulari e allungate

PIT PATTERN Tipo IV



Aperture ghiandolari: ramificate e cerebriformi

PIT PATTERN Tipo V



Vi

Vn

Aperture ghiandolari : irregolari e Destrutturate

POLIPY SERRATI

Circa il 20-30 % dei casi di cancro del colon-retto origina dalla via serrata.

I polipi serrati si dividono in :

- Polipi iperplastici (HPs)
 - Adenomi/polipi serrati sessili (SSA/Ps)
 - Adenomi serrati tradizionali
- ***Lesioni precancerose***

POLIPY SERRATI:

Caratteristiche endoscopiche

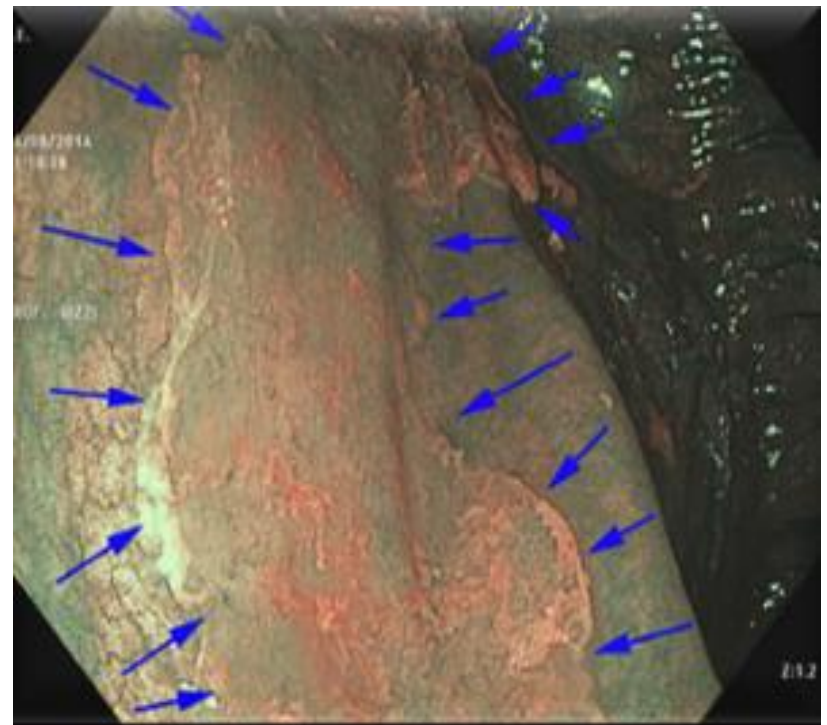
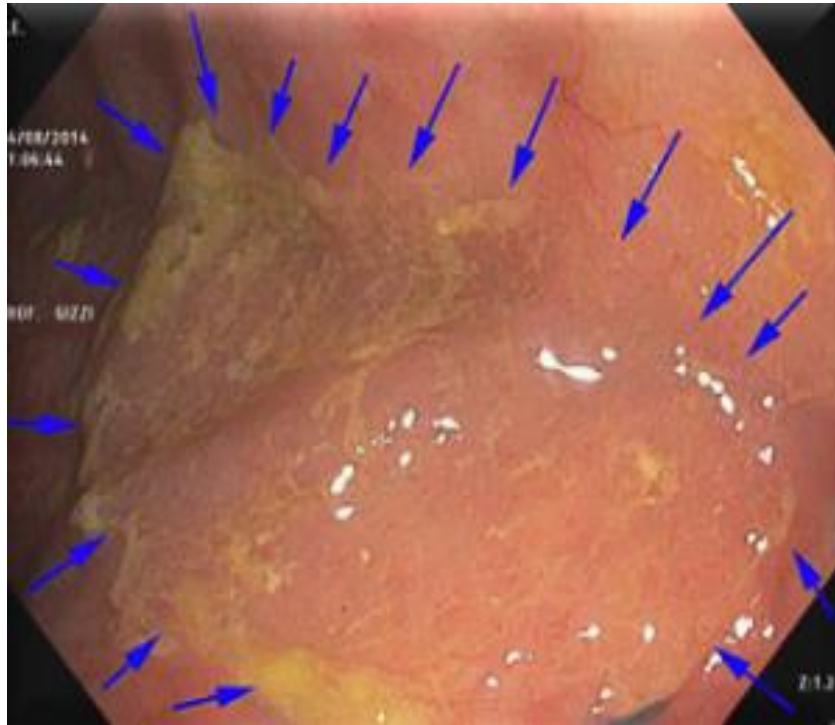
Descriptor	Definition
Rim of Debris/Bubbles	Cospicuous ring of debris/bubbles encircle > 25% of lesion
Nodular Surface	Focal/subtle irregularity or bumpiness to mucosal surface
Mucous cap	Focal collection of mucus (clear/bile stained) on the mucosal surface
Red/Pink color	Lesion relatively red/pink compared with adjacent mucosa
Obscured Blood Vessels	Lesion obscures underlying submucosal vascular structures
Dome-shaped Elevation	Lesion possesses a rounded apex and is >50% as high as it wide
Alters Fold Contour	Lesion drapes over a mucosal fold
Superficial Lacy Vessels	Small vessels on the surface of the lesion

POLIPI SERRATI:

Caratteristiche endoscopiche

RIM OF DEBRIS

Bordi ricoperti detriti o bolle che interessano > 25% della lesione

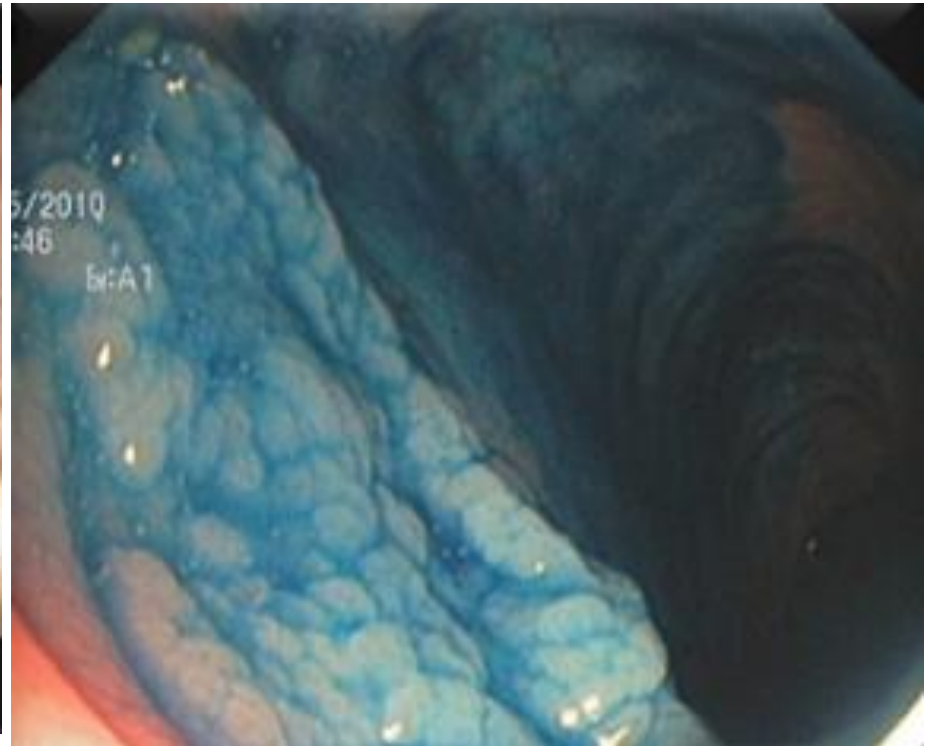


POLIPI SERRATI:

Caratteristiche endoscopiche

NODULAR SURFACE

Sottile e/o focale irregolarità o nodularità della superficie della lesione



POLIPI SERRATI: Caratteristiche endoscopiche

MUCOSAL CAP

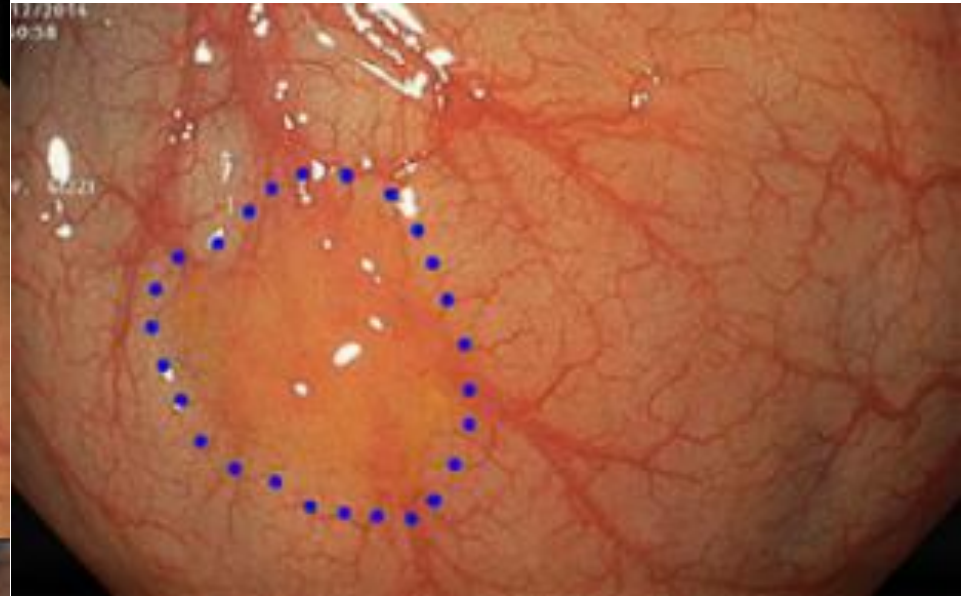
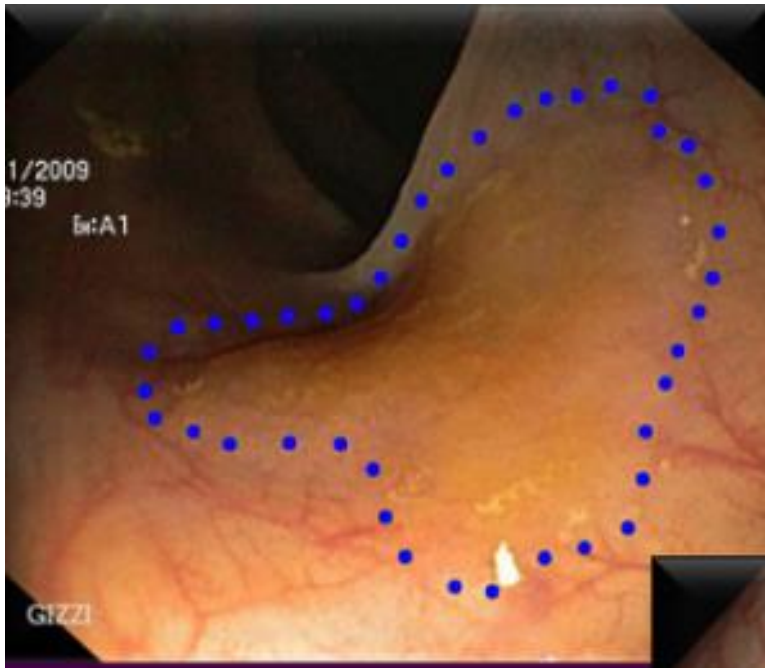
Accumulo focale di muco sulla superficie della lesione



POLIPI SERRATI: Caratteristiche endoscopiche

OBSCURED BLOOD VESSEL

La lesione oscura la sottostante trama vascolare

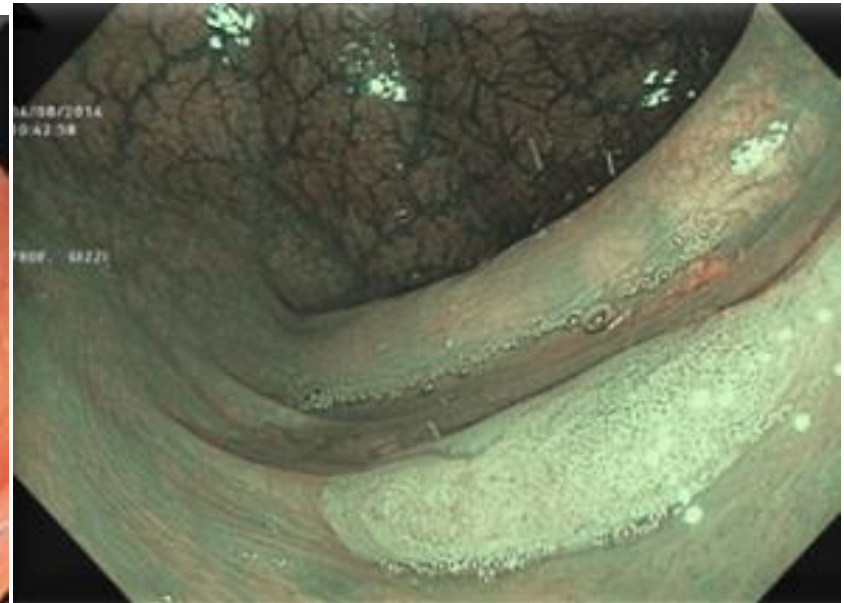


POLIPI SERRATI:

Caratteristiche endoscopiche

DOME SHAPED ELEVATION

La lesione possiede un apice rilevato



Cos'è l'ecoendoscopia (EUS)

L'ecografia endoscopica (EUS) è una metodica mini-invasiva che unisce in sé i vantaggi dell'ecografia e dell'endoscopia: l'ecoendoscopio, è infatti costituito da un endoscopio flessibile, alla cui estremità è posta una sonda ecografica ad alta frequenza.

Permette di effettuare un'ecografia ad alta risoluzione della parete del tubo digerente (esofago, stomaco, duodeno, retto) e delle strutture adiacenti (mediastino, pancreas, vie biliari, vasi).

Permette di effettuare agoaspirazioni eco guidate (FNA, Fine Needle Aspiration) per eseguire un esame citologico, biochimico, immunoistochimico delle lesioni visualizzate

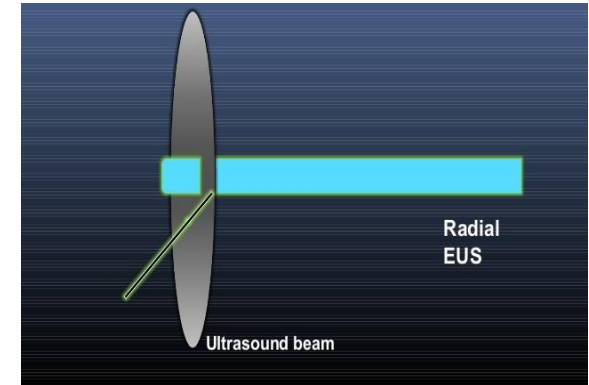
EUS Radiale

L'ecoendoscopio radiale da un'immagine sonografica a 360°, che è perpendicolare alla punta dell'endoscopio.

La visione endoscopica è frontale o laterale.

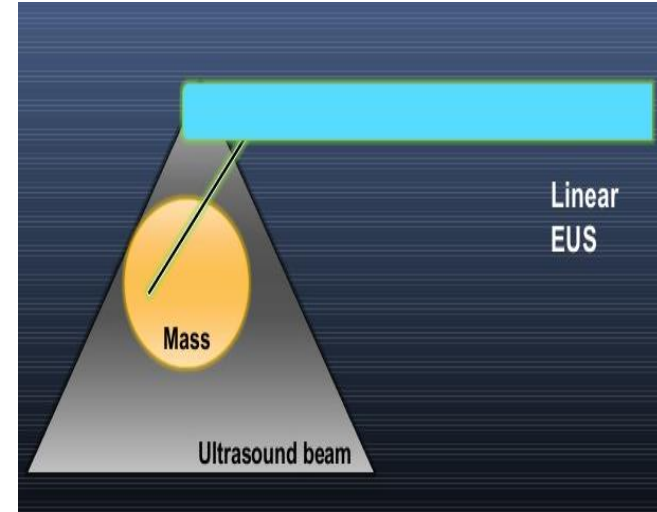
Consente di visualizzare ampie zone del tratto gastro-intestinale e degli organi adiacenti.

Consente perciò un'interpretazione più completa, semplice e rapida dell'anatomia delle strutture attraversate dal fascio ultrasonico.



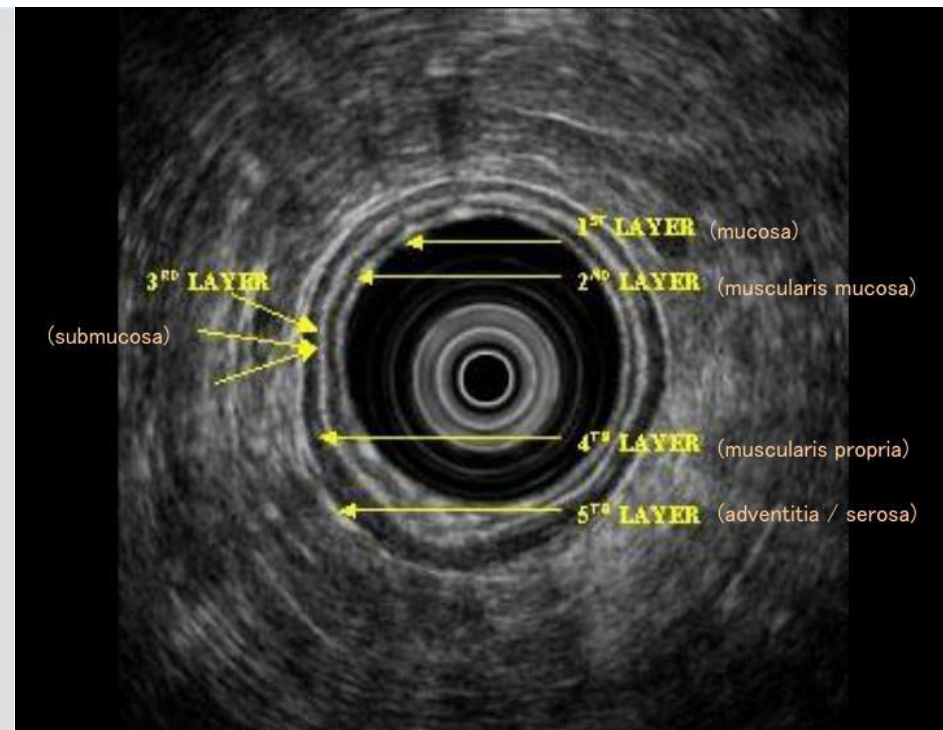
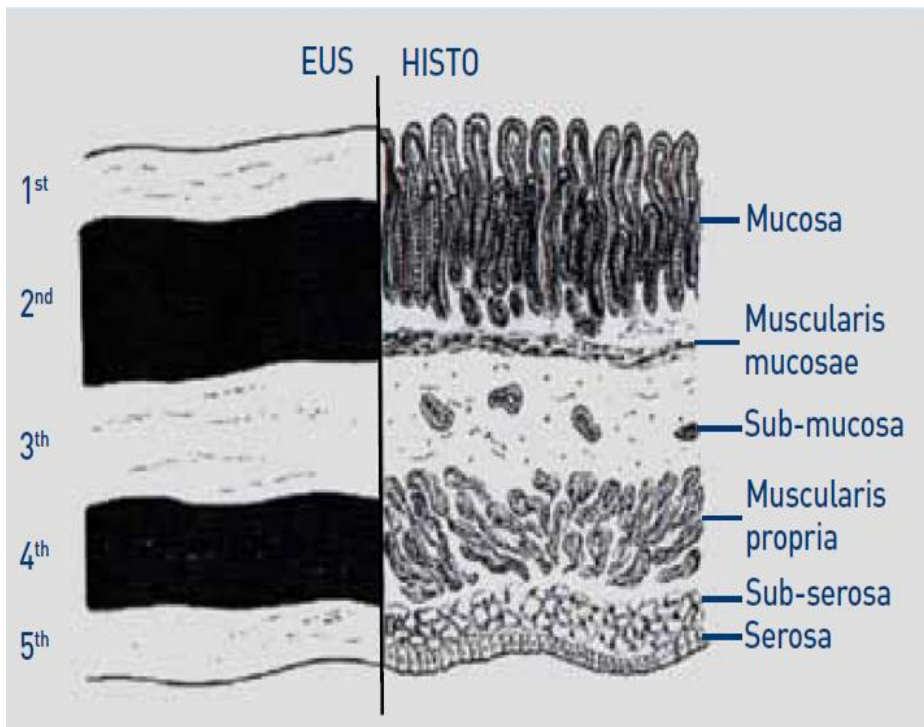
EUS Lineare

L'ecoendoscopio lineare grazie all'orientamento del fascio ultrasonico parallelo allo strumento consente di seguire la traccia di un ago che esce dal canale operativo, per effettuare agoaspirazioni citologiche e altre procedure interventistiche.



Neoplasie di parete

Stratificazione della parete esofagea e gastrica corrispettivo tra visione endosonografica e istologica



EUS nella coledocolitiasi

L'avvento dell'ecoendoscopia (EUS) ha rivoluzionato lo studio della regione bilio-pancreatica.

Consente di identificare foci iperecogeni con cono d'ombra di dimensioni anche molto piccole (0.5-2 mm) riferibili a microlitiasi, ma anche la presenza di sabbia biliare, spesso misdiagnosticata anche dall'ERCP diagnostica

- L'Ecoendoscopia è più accurata della TC.**
- Accuratezza simile alla MRI ma superiore per i calcoli di piccolo dim**

Sensibilità 84-100%

Specificità 96-100%



Coledocolitiasi



- **Stent enterale:**

- Risoluzione dell'ostruzione
- Preparazione e stadiazione adeguate
- Resezione in un tempo unico

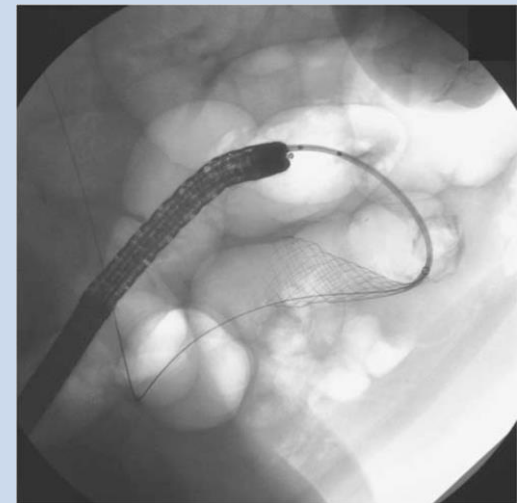
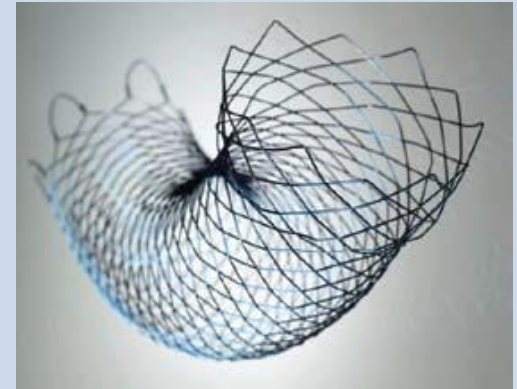
- **Complicanze:** PERFORAZIONE

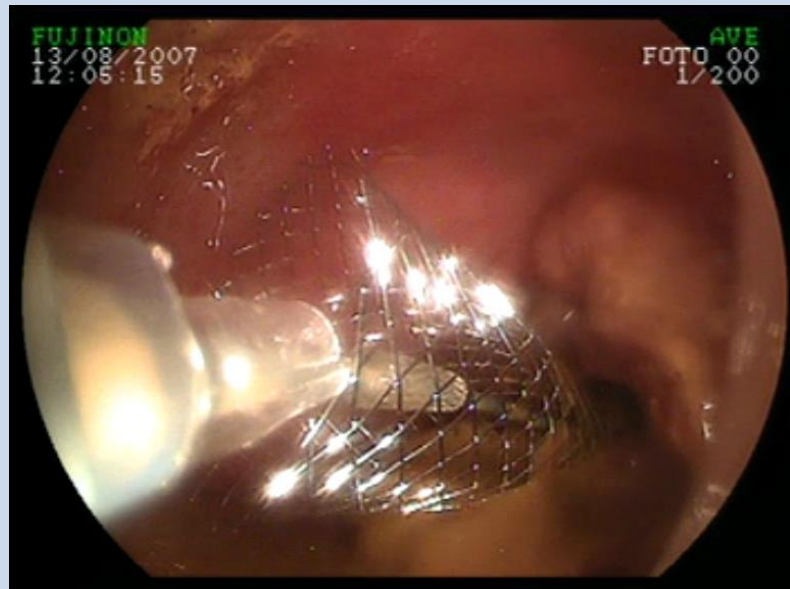
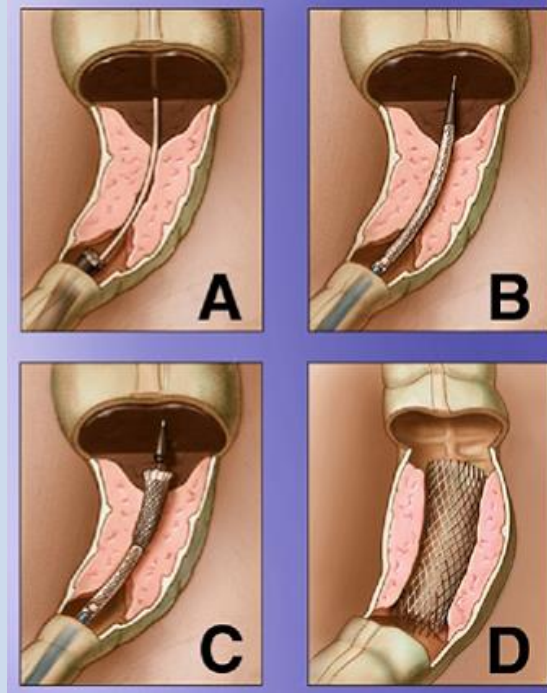
Emorragia

Recidiva

Migrazione

Tenesmo



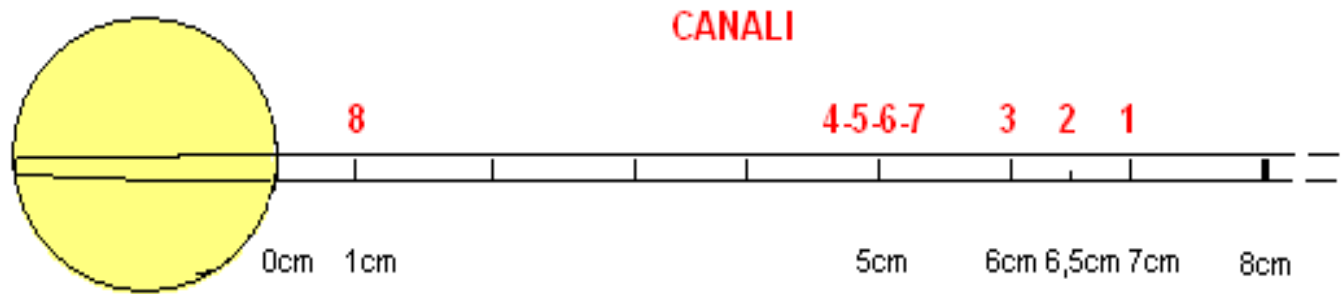


Tecnica della mucosectomia (Endoscopic Mucosal Resection – EMR)

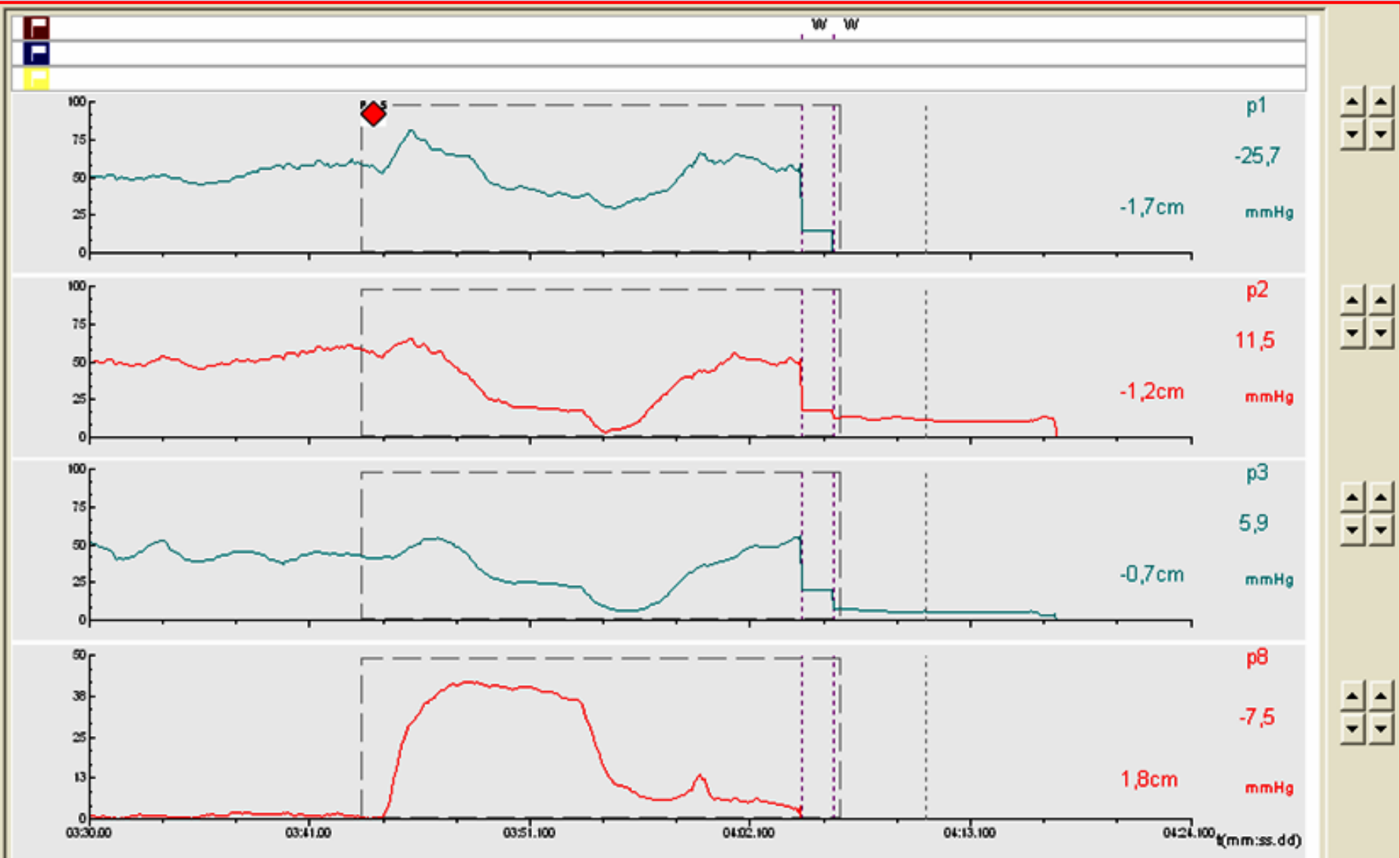
Nella "mucosectomia" la lesione piatta viene staccata dai piani sottostanti iniettando delle sostanze specifiche. La lesione così "sollevata" viene poi sezionata con l'ansa da polipectomia ed inviata per lo studio istopatologico





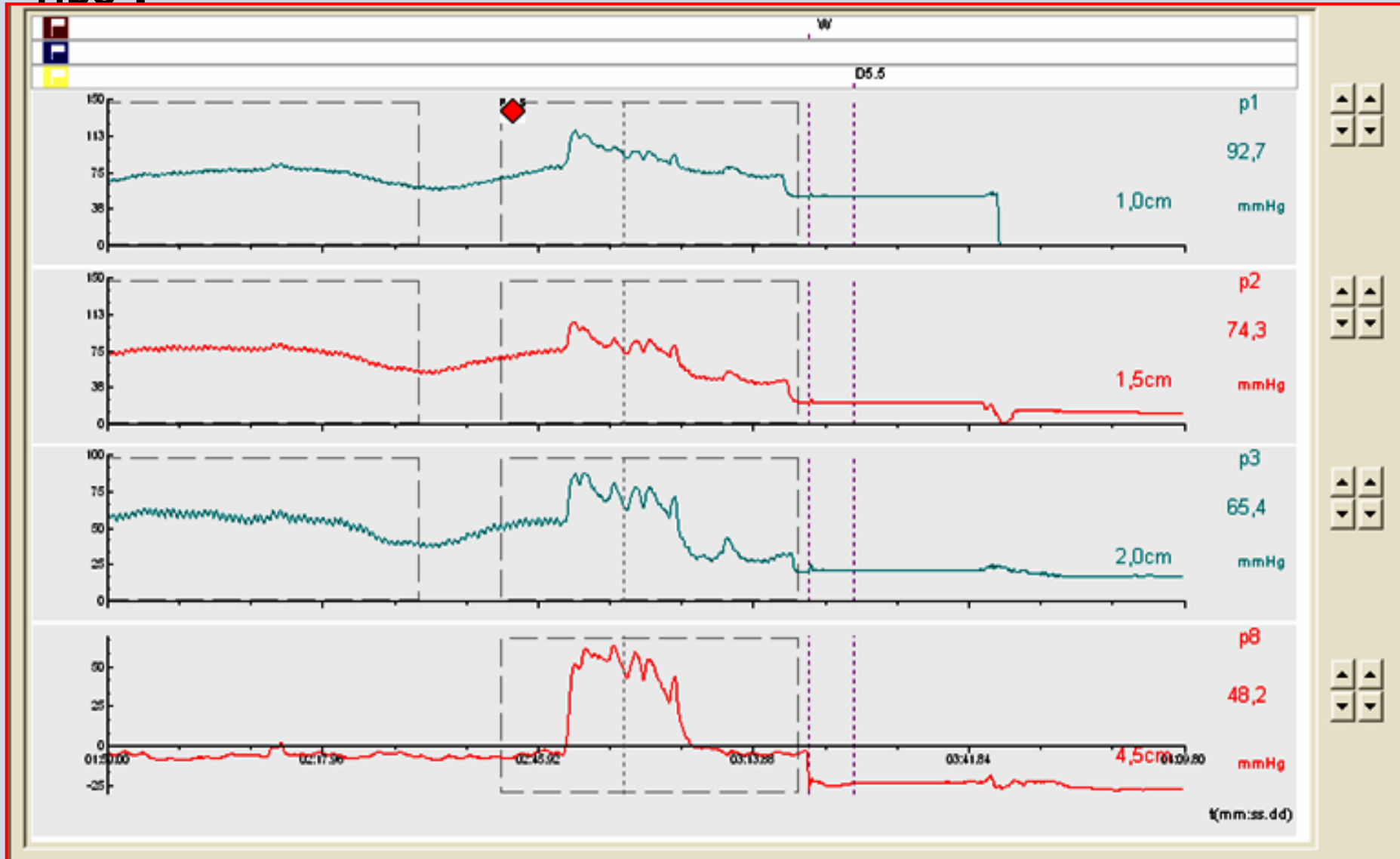


Normale



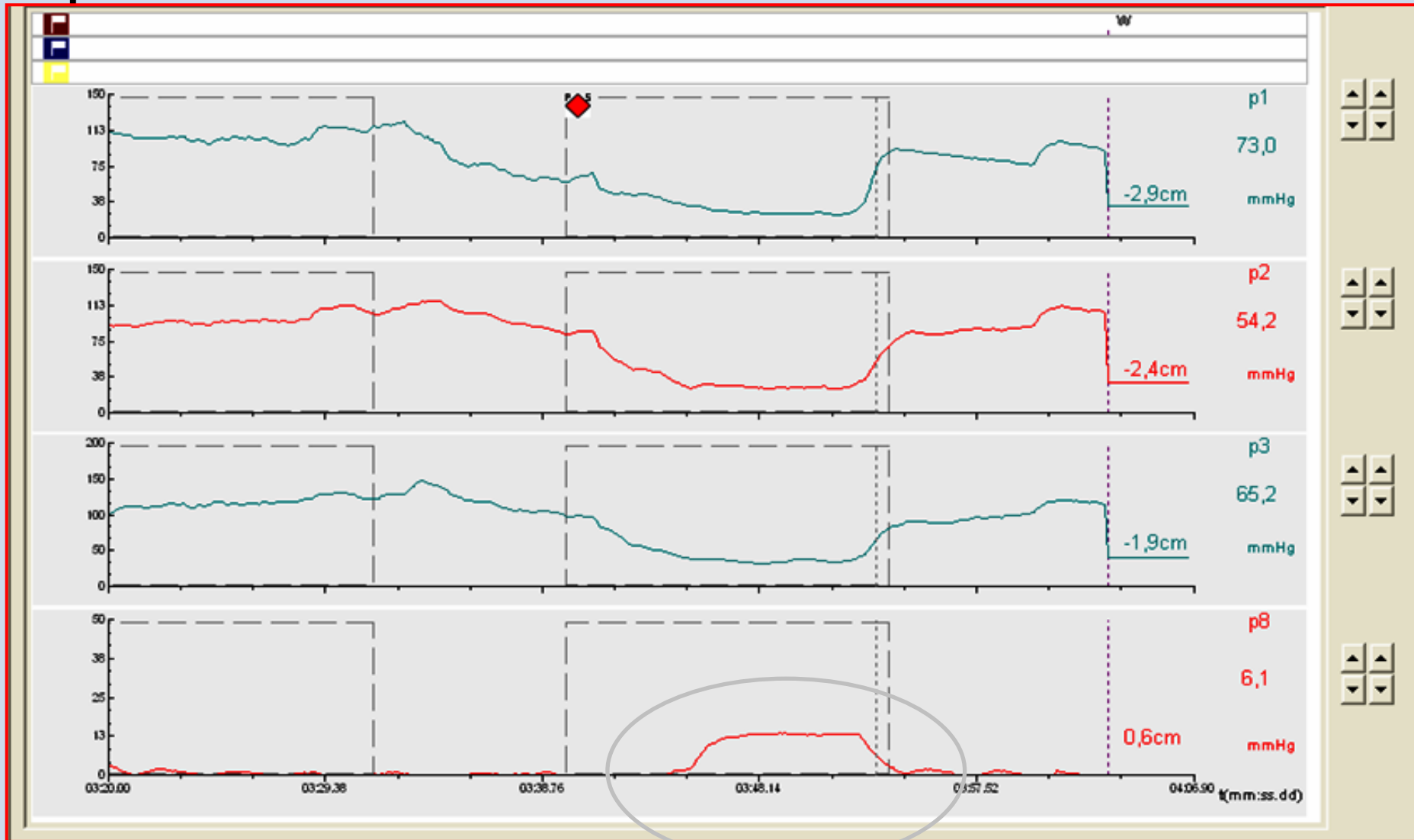
Tipo I

Contrazione paradossa



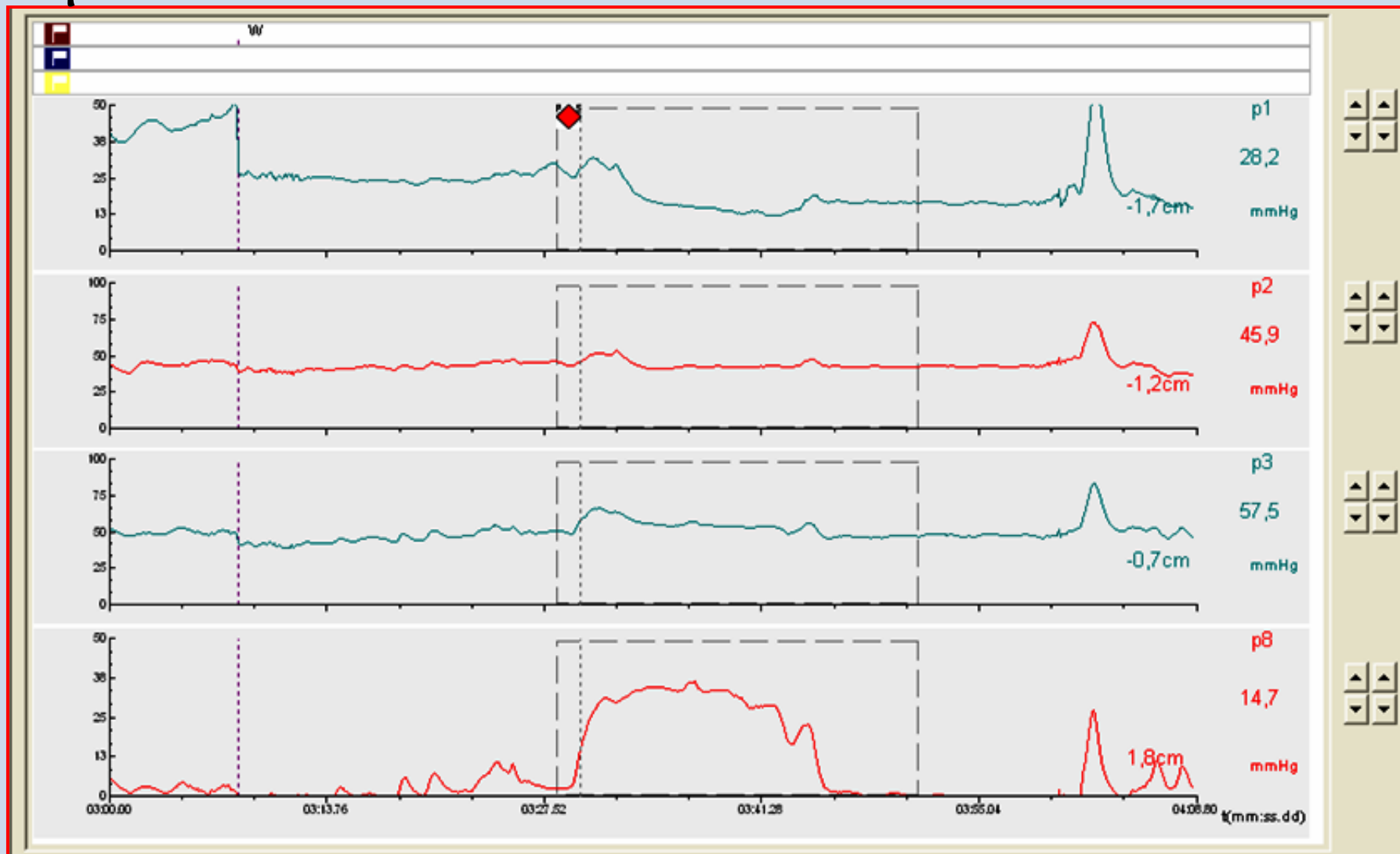
Tipo II

Insufficiente pressione endoretinale



Tipo III

Rilasciamento assente o insufficiente



H₂ e CH₄ Breath Test al lattulosio

- Test non invasivo e di semplice esecuzione per la diagnosi di dismicrobismo intestinale.
- Il principio sul quale si basa il Breath Test consiste nell'aumento dei livelli di escrezione respiratoria di H₂ e/o CH₄ in seguito alla fermentazione glucidica operata dalla flora batterica intestinale.



Gas cromatografo utilizzato per il test

Quintron BreathTracker™ DP Digital Microlyzer

H₂ e CH₄ Breath Test al lattulosio

Preparazione del paziente

Nelle ultime 4 settimane

- Non bisogna eseguire Colonscopia, Clisma opaco
- Non usare lassativi

Nelle ultime 2 settimane

- Non usare antibiotici, IPP, procinetici

Il giorno precedente

- Escludere dalla dieta pane, pasta, frutta, verdura
- Cibi permessi: riso, carne o pesce

Il giorno dell'esame

- Essere a digiuno
- Evitare il fumo prima e durante l'esecuzione del test



H₂ e CH₄ Breath Test al lattulosio

☞ Esecuzione del test

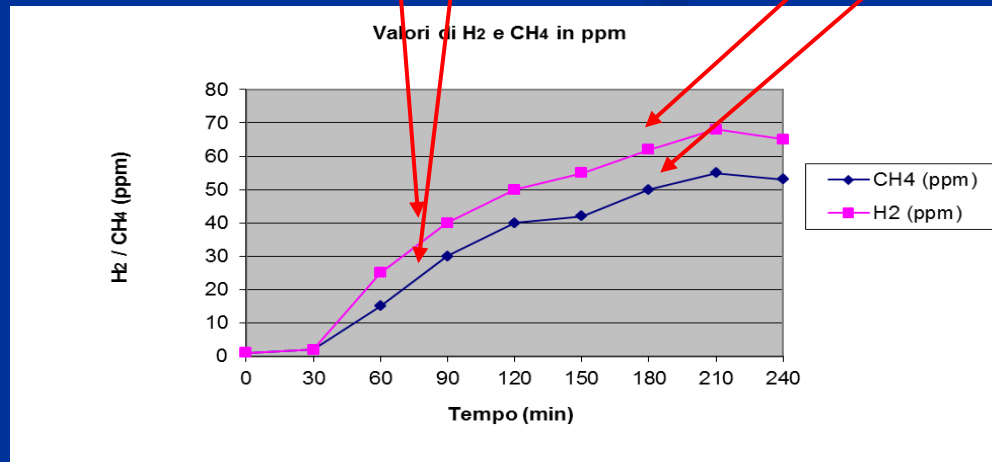
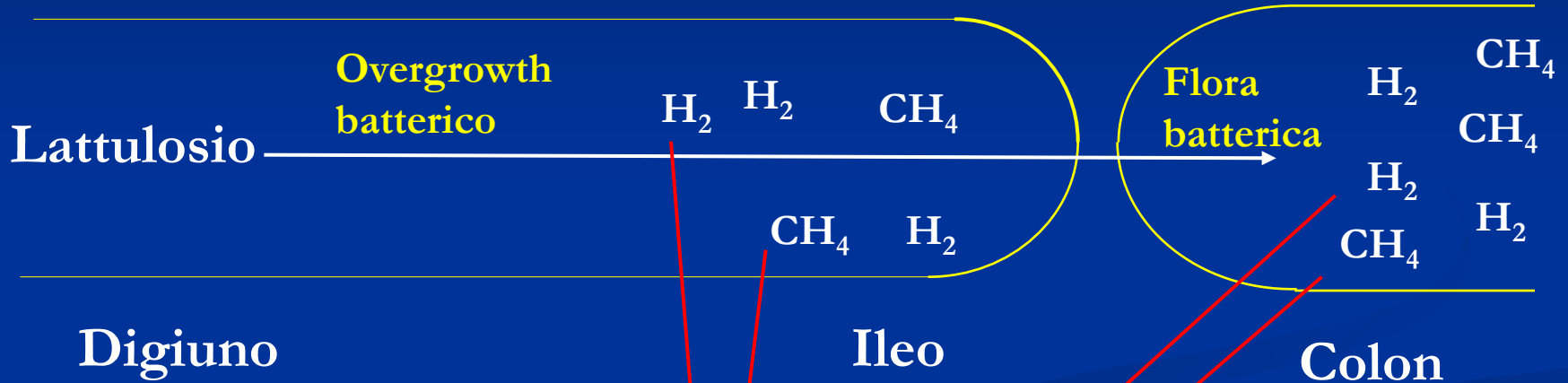
- t = 0' espirazione di controllo per ottenere valore basale
- Assunzione di 10 g di lattulosio in 250 ml di acqua
- Lettura dell'espirato ogni 30 minuti

- Prelievo, mediante una comune siringa da 50 cc, di un campione d'aria di circa 30 cc e successiva analisi mediante gascromatografo



H₂ e CH₄ Breath Test al lattulosio

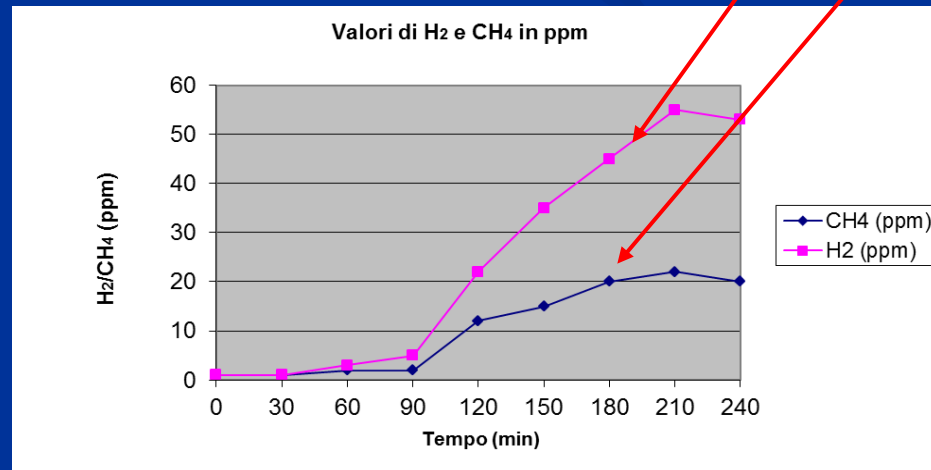
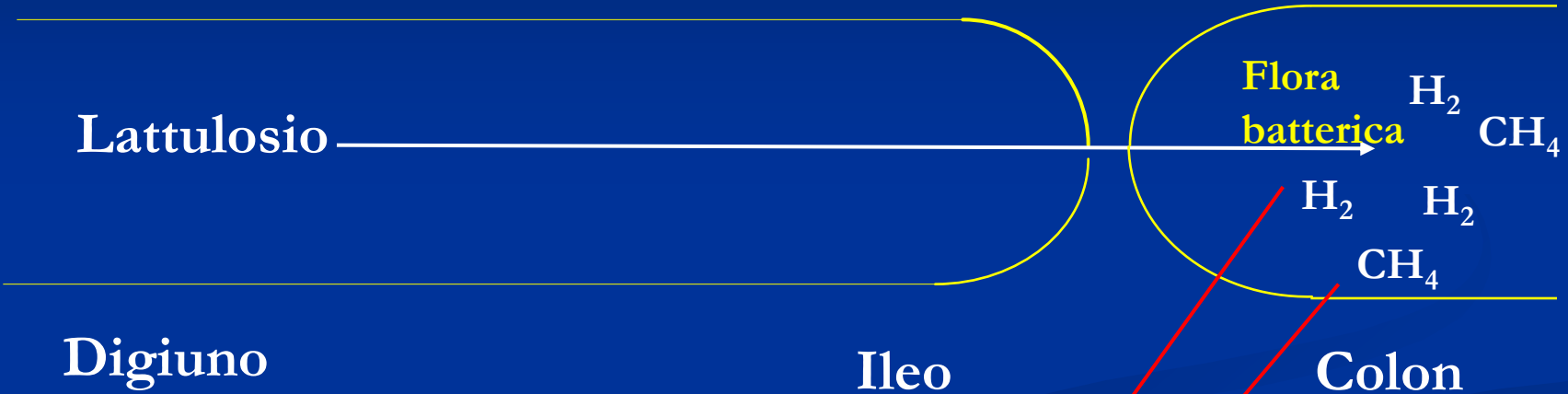
Interpretazione dei dati



Positivo

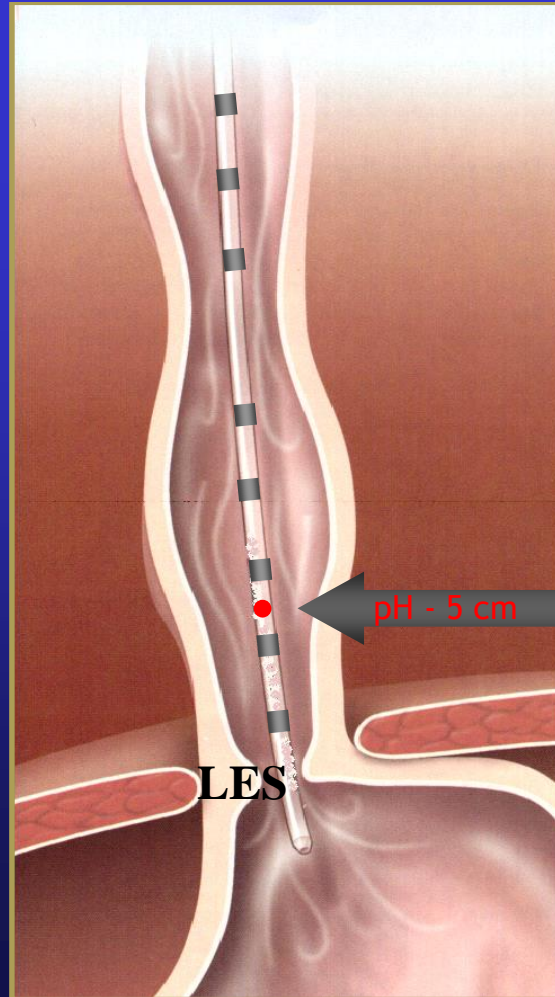
H₂ e CH₄ Breath Test al lattulosio

☞ Interpretazione dei dati

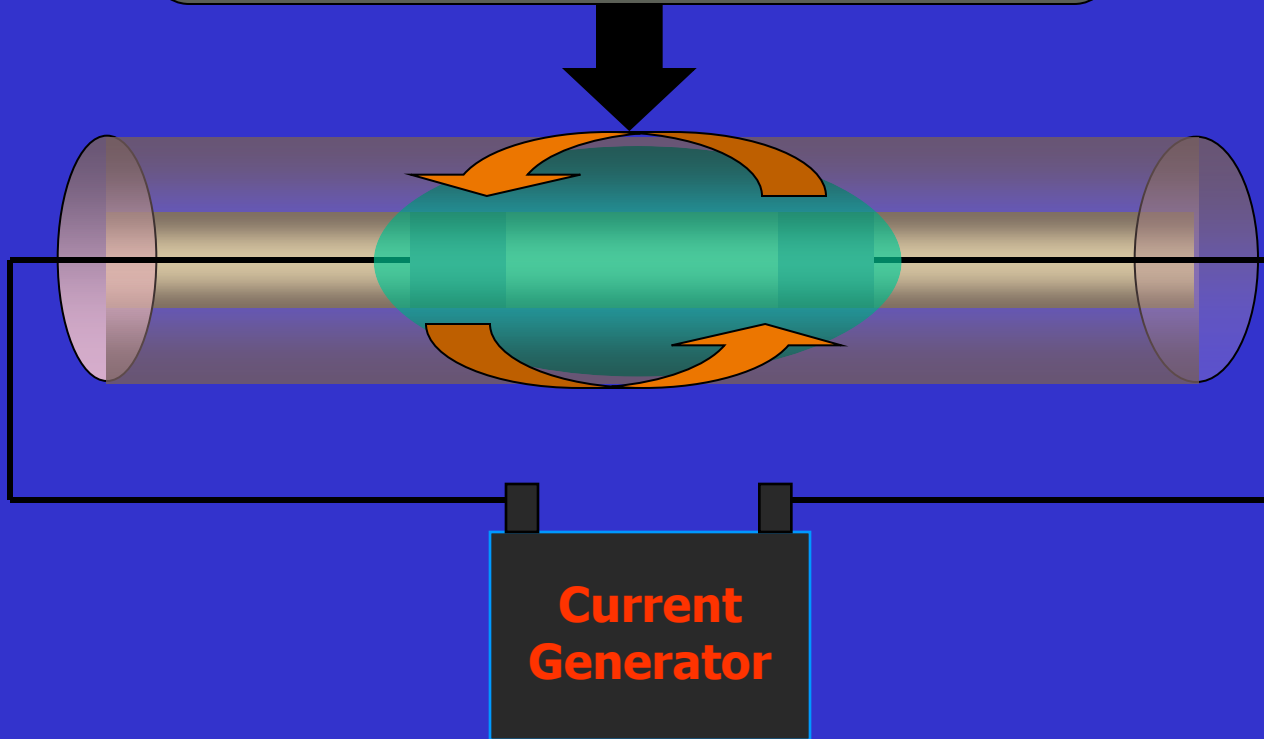


Negativo

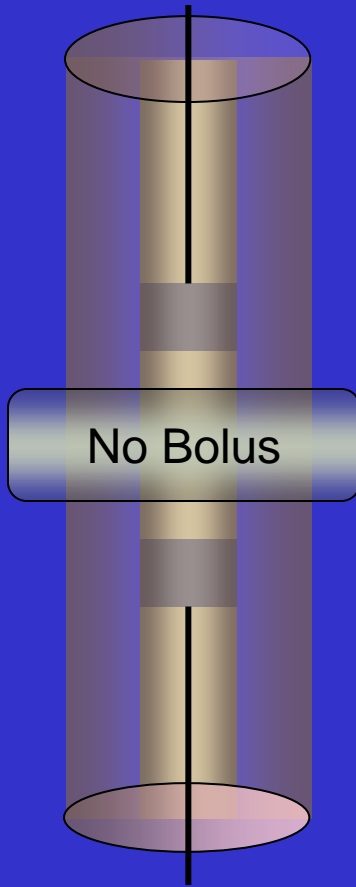
Catetere nella pH-metria esofagea



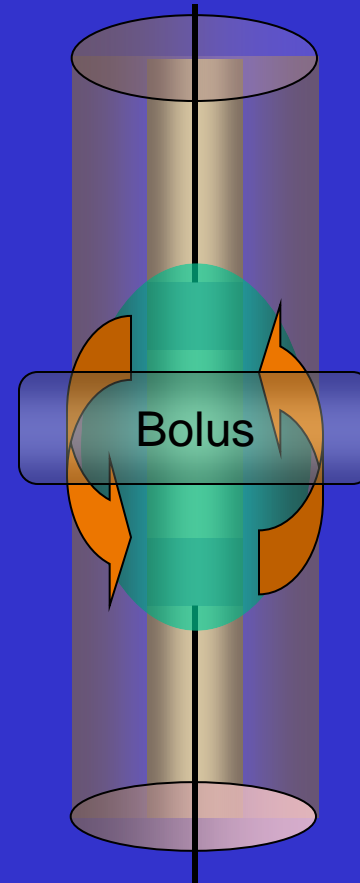
Bolus Conducts Electricity
&
Current Flows Between Impedance Rings



High Impedance



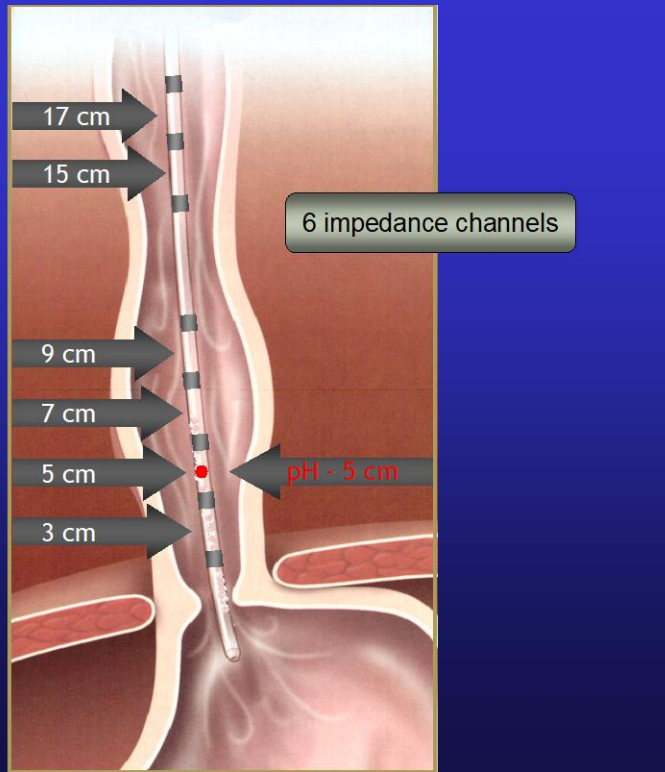
Low Impedance



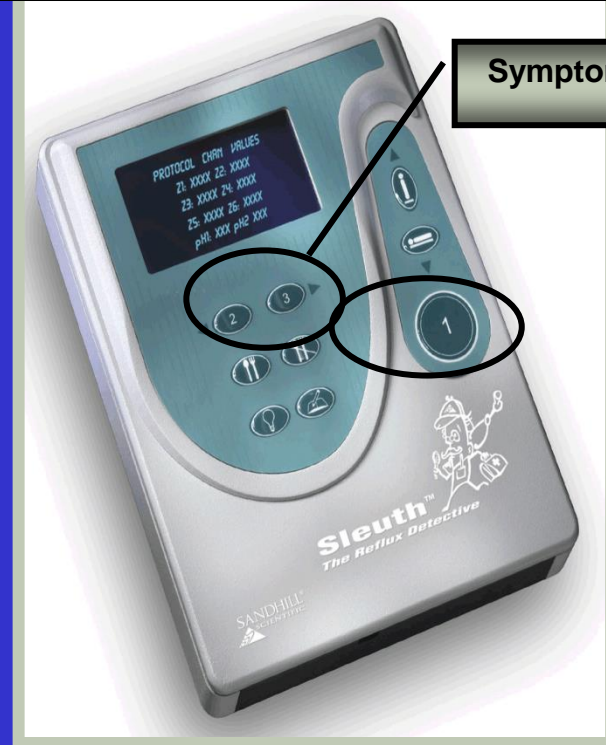
Impedance falls when reflux is present because the bolus conducts electricity between the metallic impedance contacts!

Impedance -pH Catheter

Adult Model



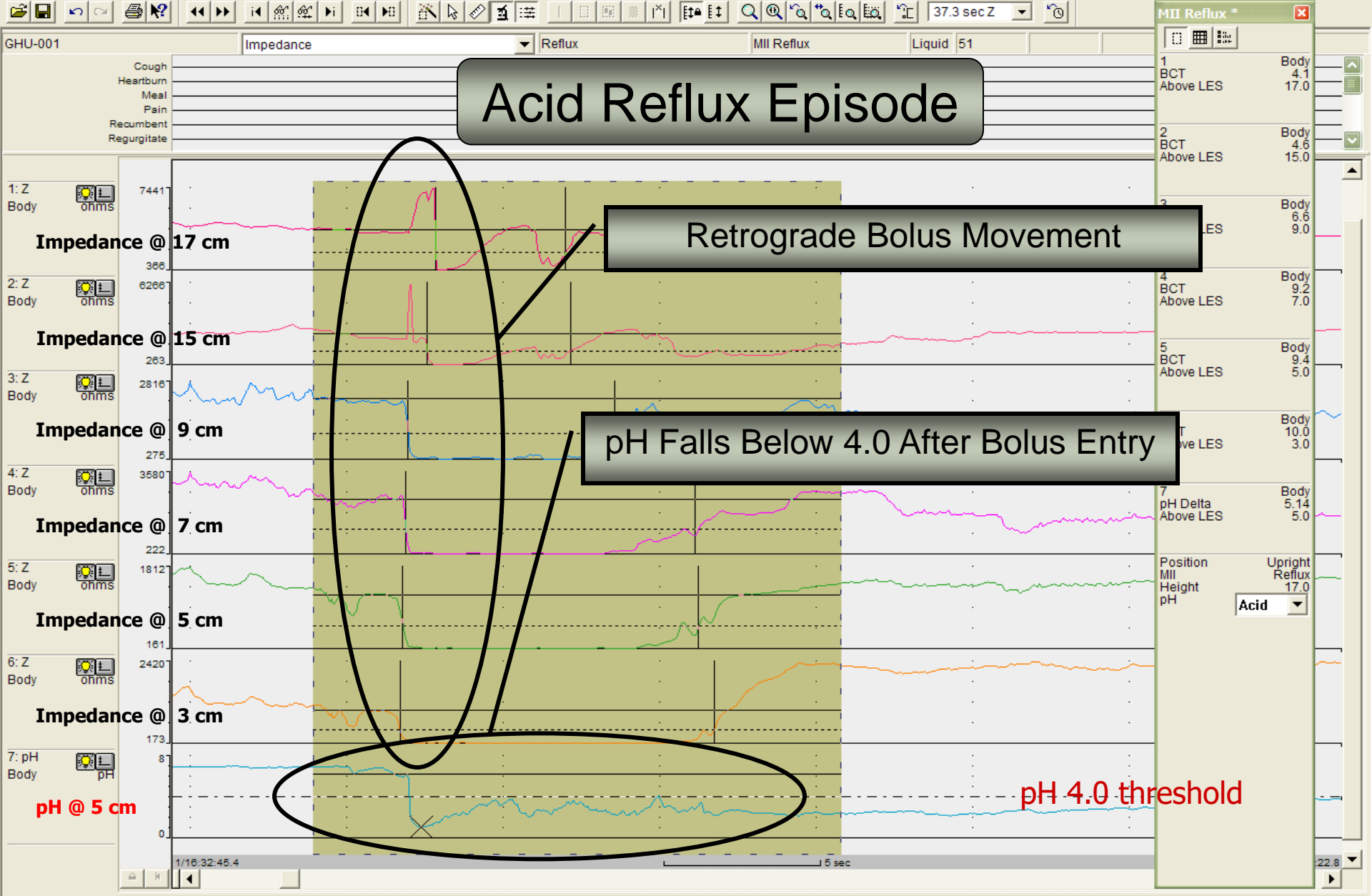
Instruct Patient on Recorder Usage

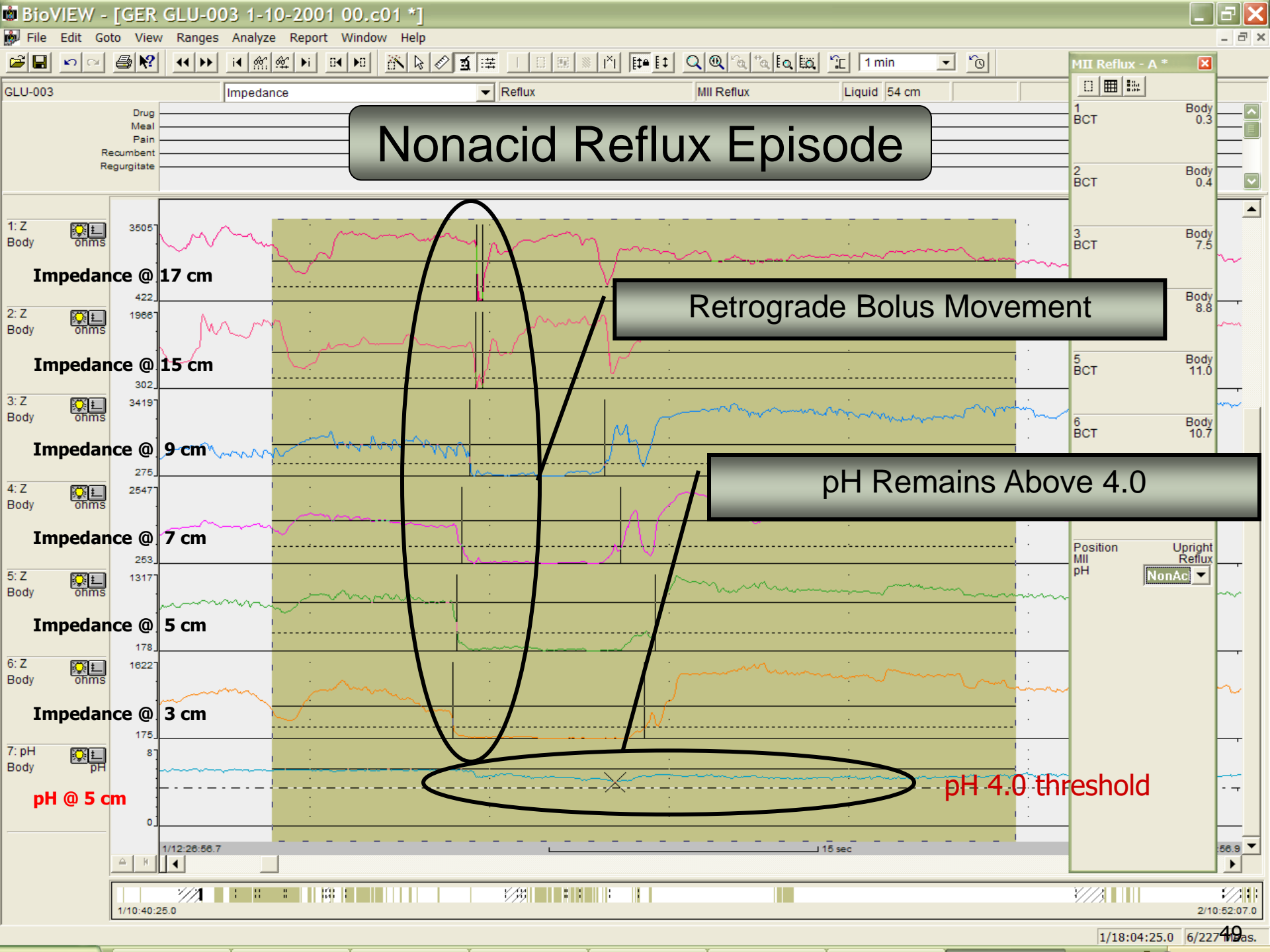


Position Catheter In Patient

AirFLOW LES Locator







Impedance-pH Monitoring

Versus

pH Monitoring

	pH Monitoring	Impedance - pH Monitoring
Acid Reflux	Yes	Yes
Nonacid Reflux	No	Yes
Acid ReReflux	No	Yes
Acid Clearance (chemical)	Yes	Yes
Bolus Clearance (physical)	No	Yes
Detect Postprandial Reflux	Limited	Yes

Chemical exposure



Acid reflux, pH < 4

Superimposed acid reflux (HH)

Weakly Acid reflux, pH 4-7

Non-Acid reflux, pH > 7

Reflux subcategories

Duodenogastric reflux or bile reflux (Bilitec®)

Physical exposure



Liquid

Gas

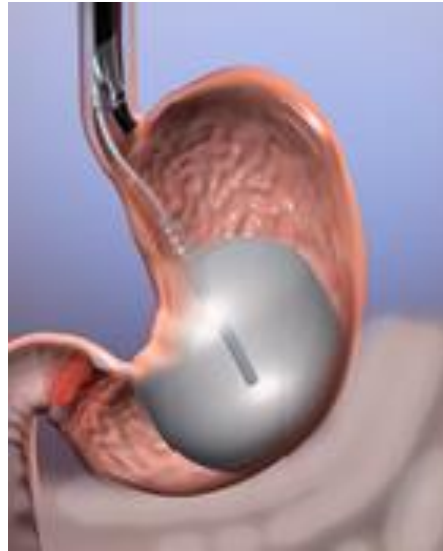
Mixed Liquid/Gas

Endoscopic Treatment of Obesity: Final Solution or Bridge to Bariatric Surgery?

B.I.B. (Bioenterics®)



Adjustable Balloon (Spatz®)



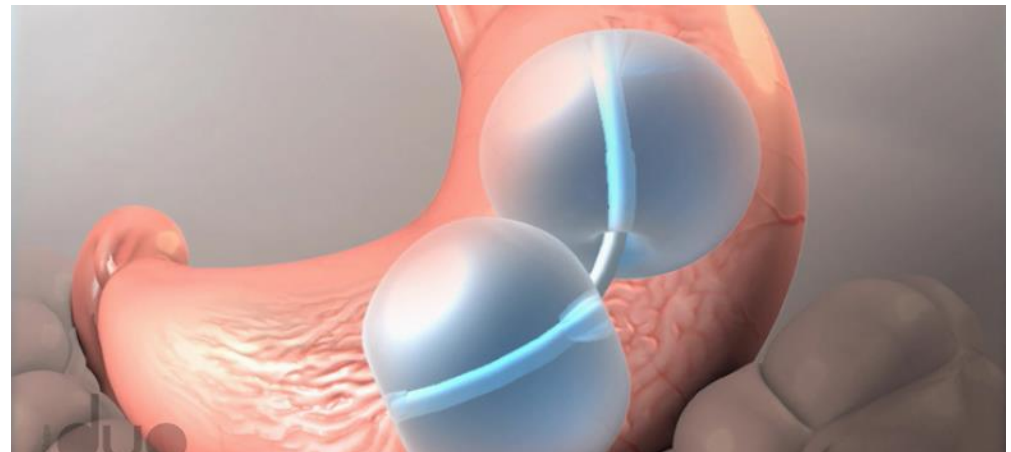
BAG (Heliosphere®)



ATIIP (EndogAst®)



Duo (Reshape®)



Indications

- 1) BMI 27.0 - 29.9Kg/m², in association with severe comorbidities that will likely improve with weight loss (typically insulin-requiring diabetes);
- 2) BMI 30.0 - 34.9 Kg/m², with comorbidities;
- 3) BMI 35.0 - 39.9 without comorbidities;
- 4) or ≥ 40 , mostly as a preparation for bariatric surgery.

Contraindications

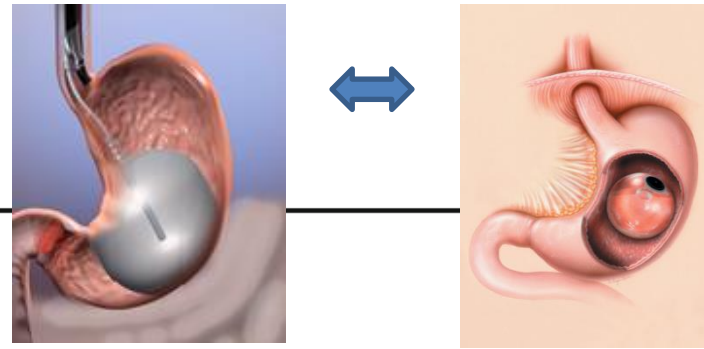
Absolute contraindications

- Previous gastric surgery
- Hiatal hernia ≥ 5 cm
- Coagulation disorder
- Anticoagulant Therapy
- Potentially bleeding lesion of the upper gastrointestinal tract
- Pregnancy or desire to become pregnant, breast-feeding
- Alcoholism or drug addiction
- Severe liver disease
- Any contra-indication to endoscopy

Relative contraindications

- Previous abdominal surgery
- Hiatal hernia, esophagitis
- Crohn's disease
- Intake of NSAD
- Psychiatric disorders





Adjustable Intra-gastric Balloon vs Non-Adjustable Intra-gastric Balloon: Case–Control Study on Complications, Tolerance, and Efficacy

Table 3 post-placements symptoms mean days duration

	Spatz	1st BIB	2nd BIB	<i>P</i> value
Nausea	3 (0–30)	3 (0–4)	4 (1–3)	Ns
Vomiting	1 (0–4)	2 (0–3)	3 (0–5)	Ns
Epigastric pain	3 (0–5)	3 (0–4)	4 (0–7)	Ns

Data were reported as mean (range). In two patients treated with Spatz, with persistent nausea, an uneventful adjustment with deflation was performed

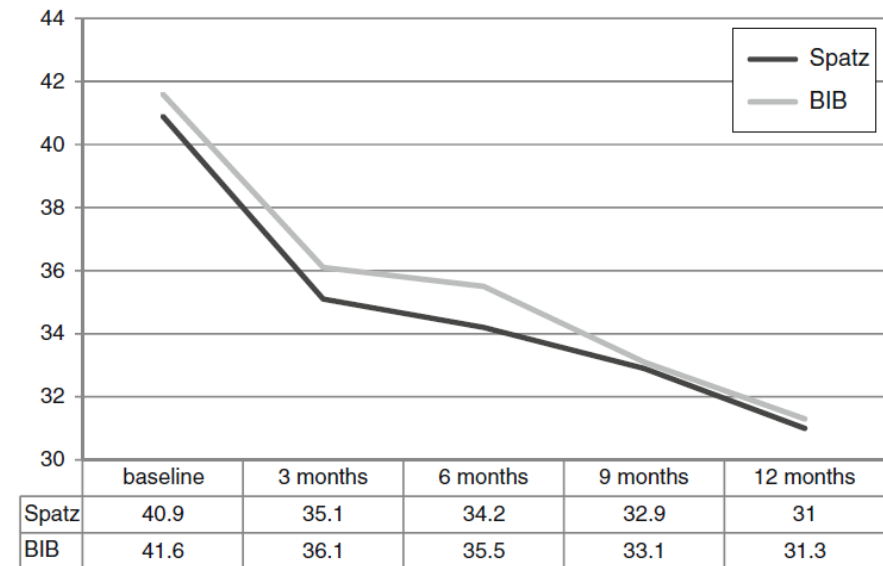


Fig. 1 Mean BMI during the study in Spatz- and BIB-treated patients

Table 4 Device-related complications

	Spatz	1st BIB	2ndBIB	<i>P</i> value
Migration	4 (10 %)	–	–	<0.001
Anchor system rupture	1 (0.25 %)	–	–	Ns
Deflation	1 (0.25 %)	–	–	Ns
Asymptomatic ulcer	1 (0.25 %)	–	–	Ns
Gastrectasy	–	–	1 (1.25 %)	Ns
Psychologic intolerance	–	–	1 (1.25 %)	Ns
TOTAL	7/40 (17.5 %)	–	2/80 (2.5 %)	<0.001

Data are reported as number (%). The Spatz was removed in 6/7 patients, and was left into the stomach of the patient with asymptomatic ulcer. BIBs were all removed

The Spatz balloon however can represent a really therapeutic advance for its possibility to stay into the stomach for a double period than currently used balloon. Moreover, at this time, there is no contraindication to use the Spatz for a sequential therapy as in BioEnterics intragastric balloon. At this time, low information on safety of Spatz are diffused through the bariatric community. Then the clinical perspective and therapeutic strategies are still unknown.

The idea of dynamic balloon therapy needs to be confirmed with wider series. Also, the rate of complication reported in the preliminary studies is very high, and at this time, several studies regarding safety and efficacy are needed.

Rischi e complicanze del dispositivo intragastrico

BIB

Complicanze maggiori

- Morte (n = 3) per:
 - perfor. gastrica (n =2)
 - broncoaspir.(n =1)
- Occlus. Intestin. da migrazione (0.17%)

Complicanze minori

- Intolleranza da parte del pz. (2.43%)
- Ipokaliemia (0.47%)
- Dolore addominale (0-16%)

Adjustable Balloon

Complicanze maggiori

- perforazione gastrica (n=0)
- Emorragia (n=0)
- Ostruzione Intest (n=0)

Complicanze minori

- Gastrite erosiva
- Migrazione del pallone
- Rottura della valvola
- Sgonfiamento

BAG

Complicanze maggiori

- Sgonfiamento con migrazione e ostruzione intestinale

EFFETTI COLLATERALI

248 pz.

Esofagite Erosiva

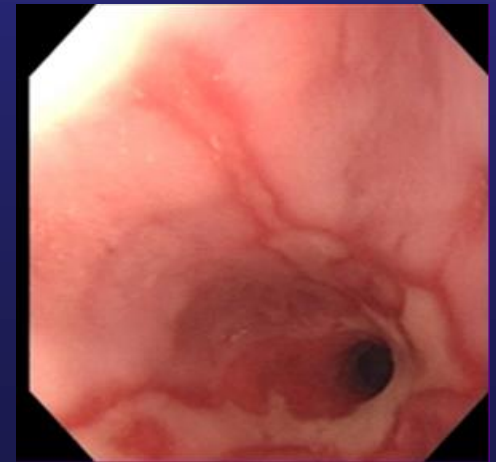
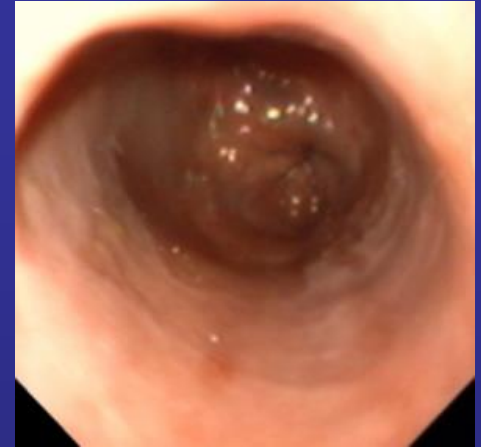
(LA class) :

35 EE- classe A



44 EE- classe C

(p = 0.003)



24-h pH-metry and Multichannel Intraluminal Impedance Monitoring in Obese Patients with and without Gastroesophageal Reflux Disease Symptoms

Giorgio Ricci · Calogero Amella · Edoardo Forti ·
Angelo Rossi · Gianluca Bersani · Silvia Dari ·
Veronica Pasini · Antonella Maimone · Vittorio Alvisi

...the prevalence of pathological GER findings in obese patients with low, almost absent, symptoms must be borne in mind in the clinical evaluation and follow-up of such patients. We suggest that functional and endoscopic investigations must be considered whenever surgical or endoscopic restrictive procedures are performed for obesity treatment. Moreover, it is still controversial whether bariatric treatment may influence the progression of GERD, even if previous studies excluded the possibility that surgical restrictive interventions could induce distal esophagus alterations.

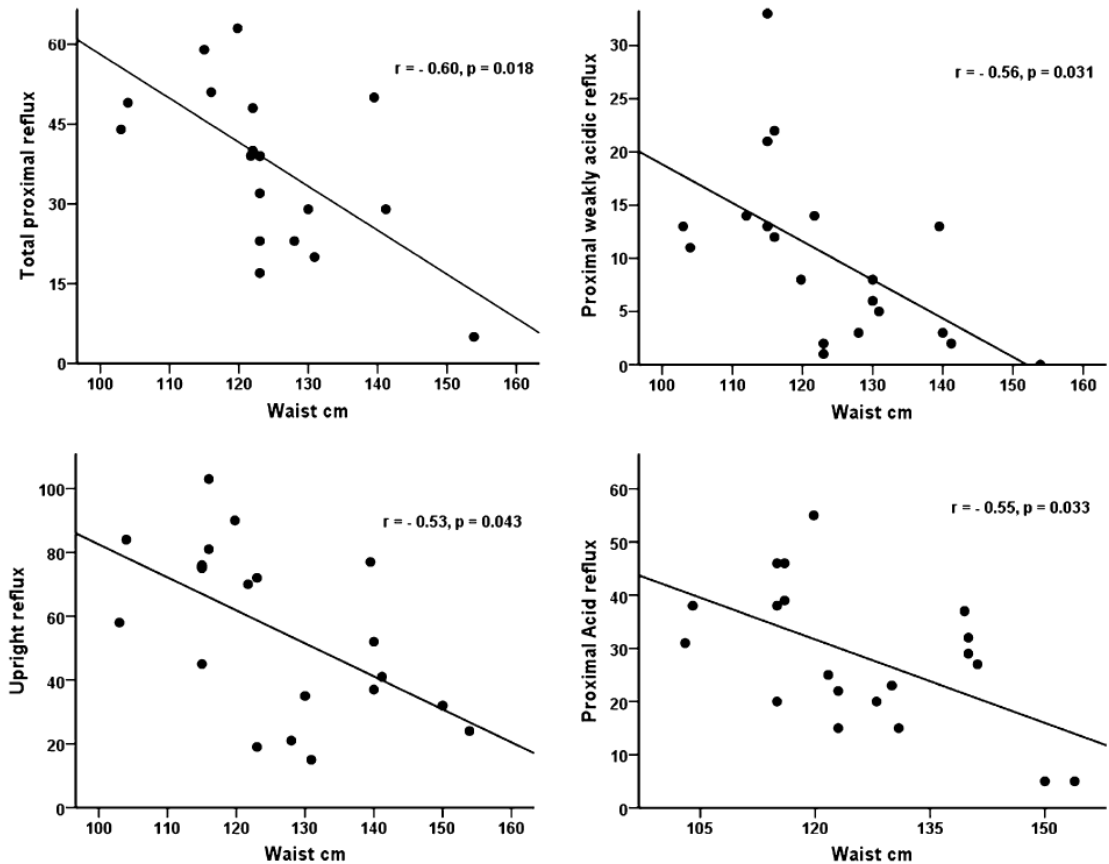
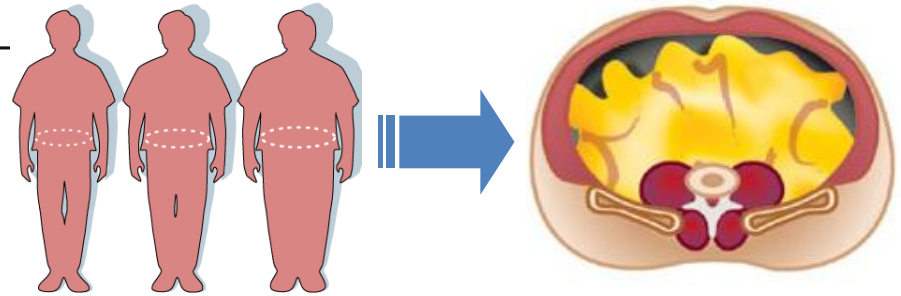
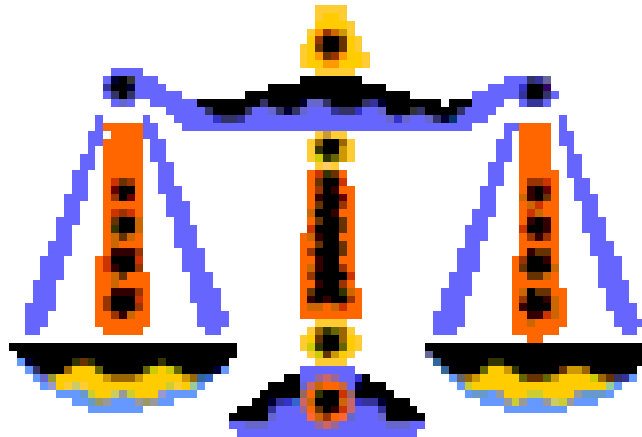


Fig. 1 The significant correlations between waist circumference and 24-h pH-metry+MII parameters in obese patients

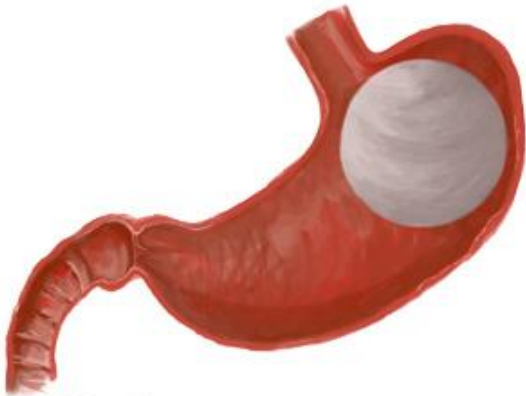
Pro

- > Safety, Compliance
- Co-morbidities
- High risk for Surgery
- < Kg, < BMI, > EWL%
- < Glu, < HOMA
- < Hypertens
- < Trigly
- > HDL
- >Psyco
- < NAFLD/NASH
- < Pre-operative risk

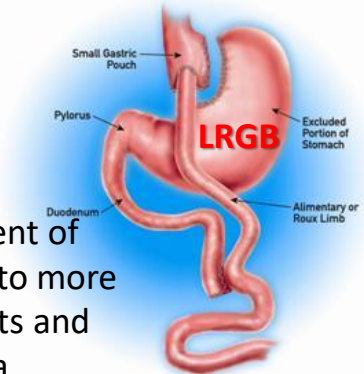
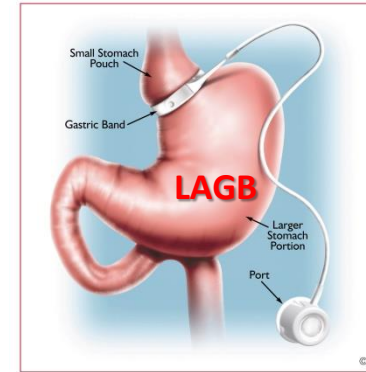
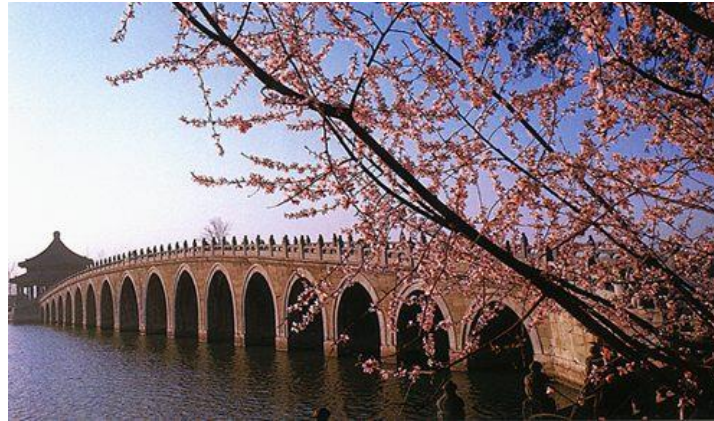
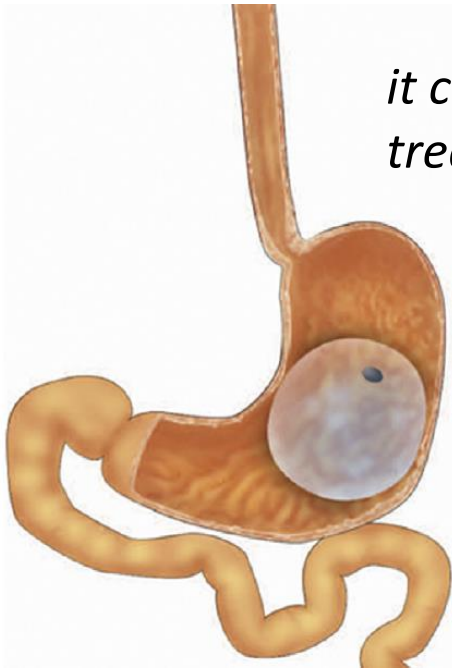


Cons

- < Compliance: Vomit, Pain
- Perforation, Rupture
- Deflating
- Migration
- Bowel obstruction
- > GER
- > LA class. Esophagitis
- Transient BW decrease



it can be considered a useful bridge treatment in bariatric surgery



REVIEW

Endoscopic treatment of obesity

Agnieszka Swidnicka-Siergiejko MD, Eugeniusz Wróblewski MD PhD, Andrzej Dabrowski MD

A Swidnicka-Siergiejko, E Wróblewski, A Dabrowski. Endoscopic treatment of obesity. Can J Gastroenterol 2011;25(11):627-633.

Le traitement endoscopique de l'obésité

HISTORIQUE : L'incidence croissante d'obésité et d'embonpoint chez

Endoscopic treatment may constitute one of the essential components of the complex management of obese patients. Restrictive methods may be a supplementary therapy or may be used as a bridge to more durable, definitive procedures. The restrictive methods can also provide excellent long-term results and avoid complications related to the presence of a foreign body in the stomach. However, more data regarding the efficacy and safety of endoscopic devices are necessary before they are widely used in the future. In addition to the development of new, minimally invasive endoscopic techniques, gastroenterologists will play a greater and perhaps the central, role in the management of obese patients