# Presentations from WEO Upper GI Cancer Committee Meeting in Chicago on May 7, 2017

Esophagus - Squamous Cell Carcinoma, K. Goda (Japan)

Detection and Follow-up of Preneoplastic Gastric Lesions, R. Gonzalez (Chile)

Endoscopic Management of Barrett's Esophagus and Esophageal Cancer, S. T. Kothari (USA)

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# Upper GI Cancer Committee

## 2017-2020

## *-Esophagus-*

# Squamous Cell Carcinoma

Kenichi Goda
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Showa University Koto Toyosu Hospital, Tokyo, Japan

# *Our Goooooooal!*

**To develop concise recommendations/guidelines for upper GI endoscopy for early detection of upper GI cancer with global vision, and then reduce the worldwide mortality rate.**

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# Esophageal Cancer

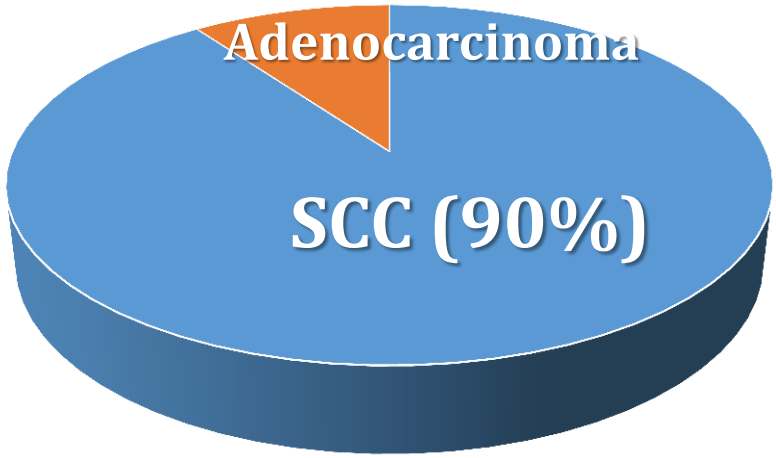
## Cancer statistics

| | | Deaths ($\times 10^3$) |
|---|---|---|
| 1. | Lung | 1590 |
| 2. | Liver | 745 |
| 3. | Stomach | 723 |
| 4. | Colorectum | 694 |
| 5. | Breast | 522 |
| *6.* | *Esophagus* | *400* |

Oral cavity, 145; Pharynx, 148

Ferlay J, et al. GLOBOCAN 2012. Int J Cancer 2014

## Histologic types




Jemal A, et al. Cancer statistics, 2009. CA Cancer J Clin 2009

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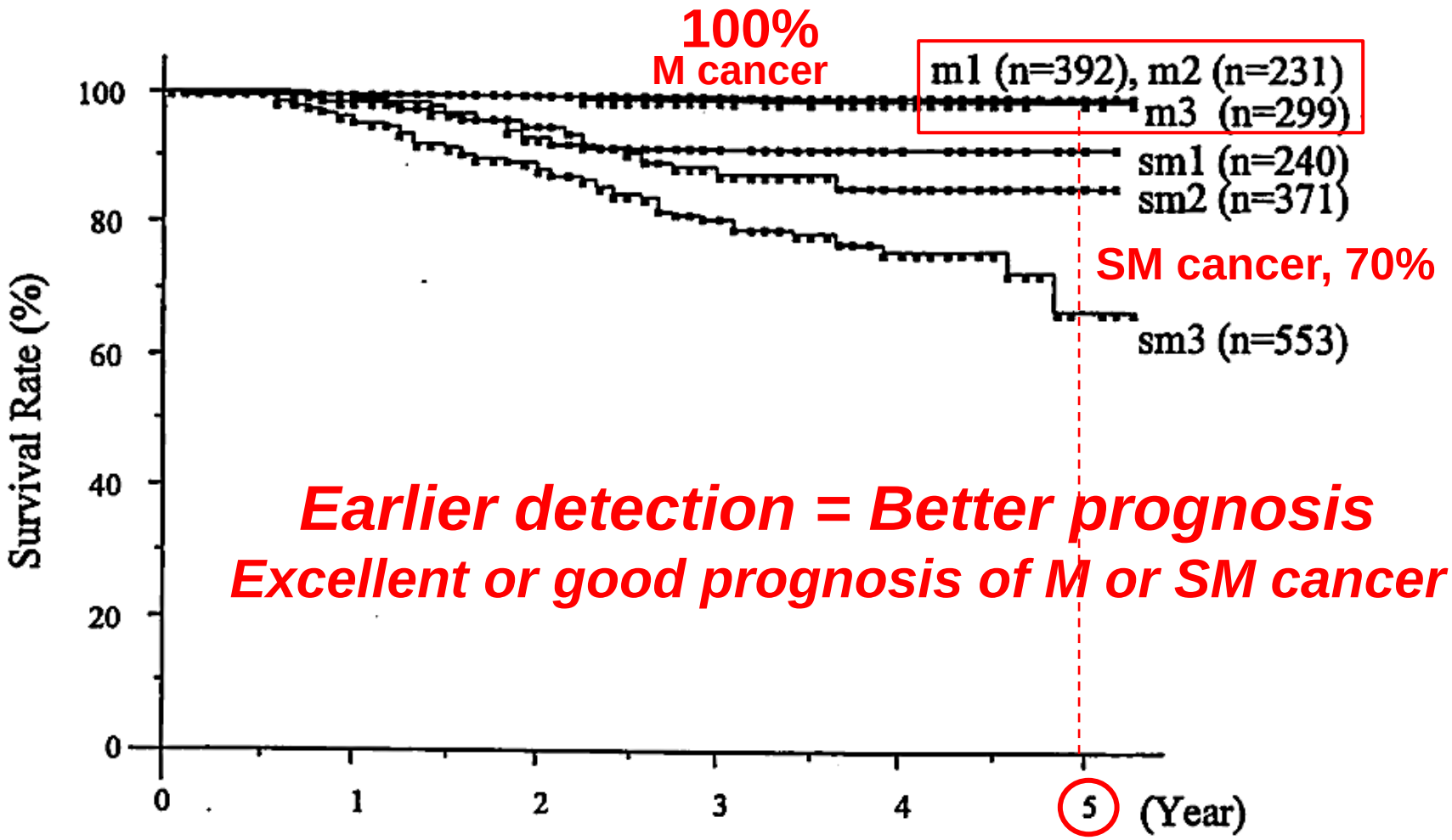
# Survival rates of *Superficial* Esophageal SCC after Esophagectomy and EMR in Japan

*Kodama M and Kakegawa T. Surgery 1998*




***Earlier detection = Better prognosis***

***Excellent or good prognosis of M or SM cancer***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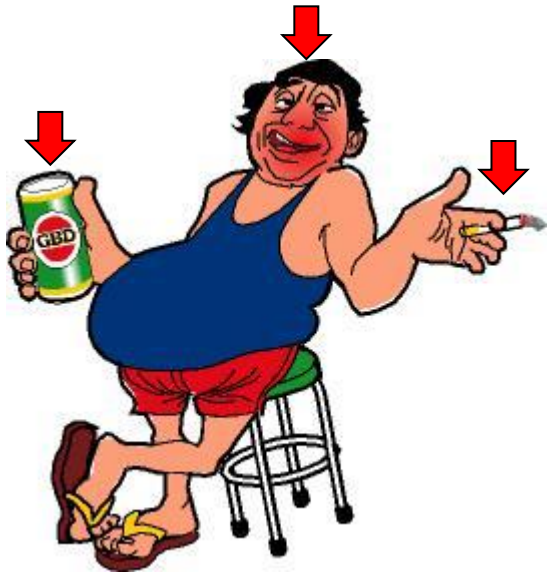
*Dangers!*

# What are high risk groups?



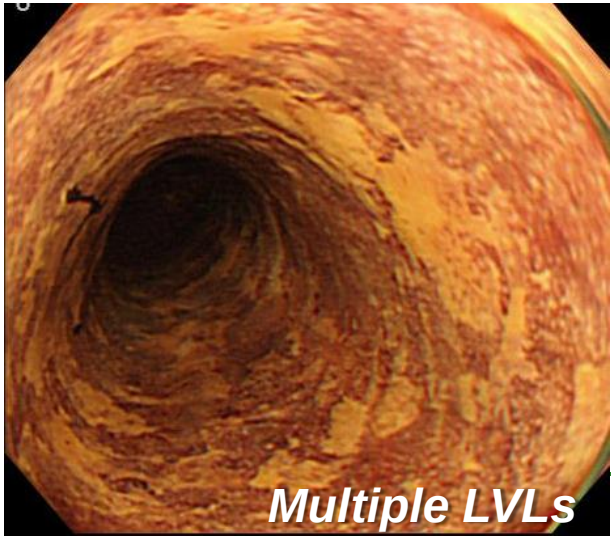

- **Old men** (> 60 years, ♂ : ♀ = 5 : 1)
- **Heavy drinker or smoker**
- **Flusher: inactive heterozygous ALDH2 and less-active ADH2 genotypes in East Asians**

  ***Yokoyama A. Jpn J Clin Oncol. 2003***
- **Pts with Multiple Lugol voiding lesions**

  ***Katada C, et al. Gastroenterology 2016***
- **Pts with Head and Neck cancer**

**Head & Neck** ⇄ **Esophagus** (11-12.5 %)

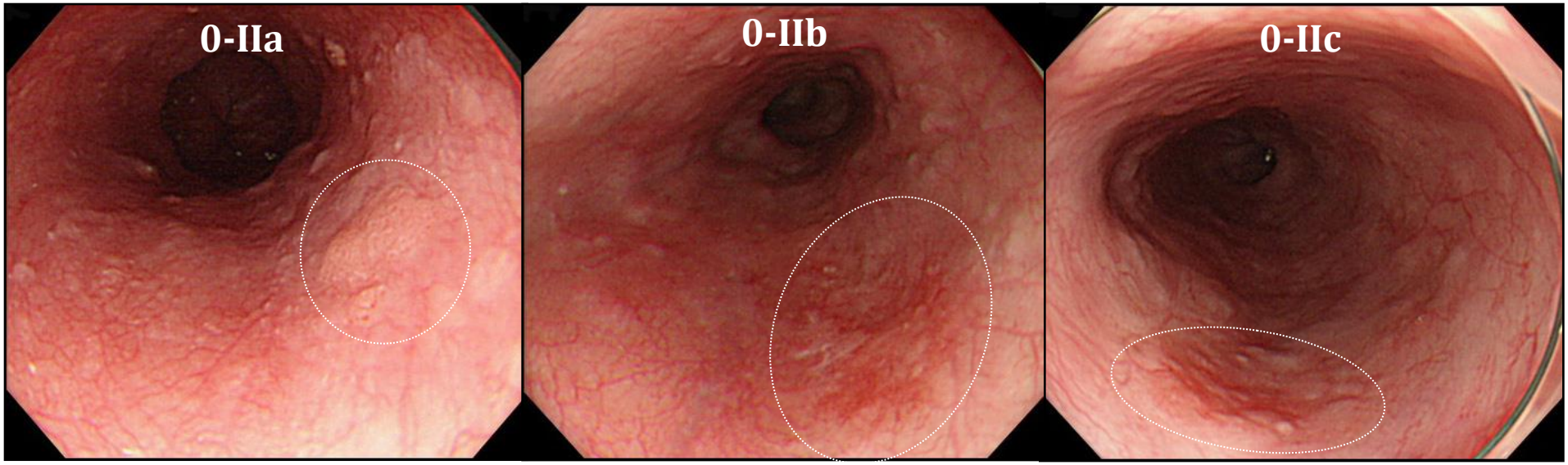
**6.7- 13% (3% before 1990)**




***Goda K, et al. Dig Endosc 2014***

## *White-light endoscopy…* Sometimes, Not easy to detect superficial SCC

**Small, Flat, or Isochromatic**




***Endoscopic features > 90% of early cancer: Reddish or slightly depressed/elevated area with decreased visibility of vessels.***

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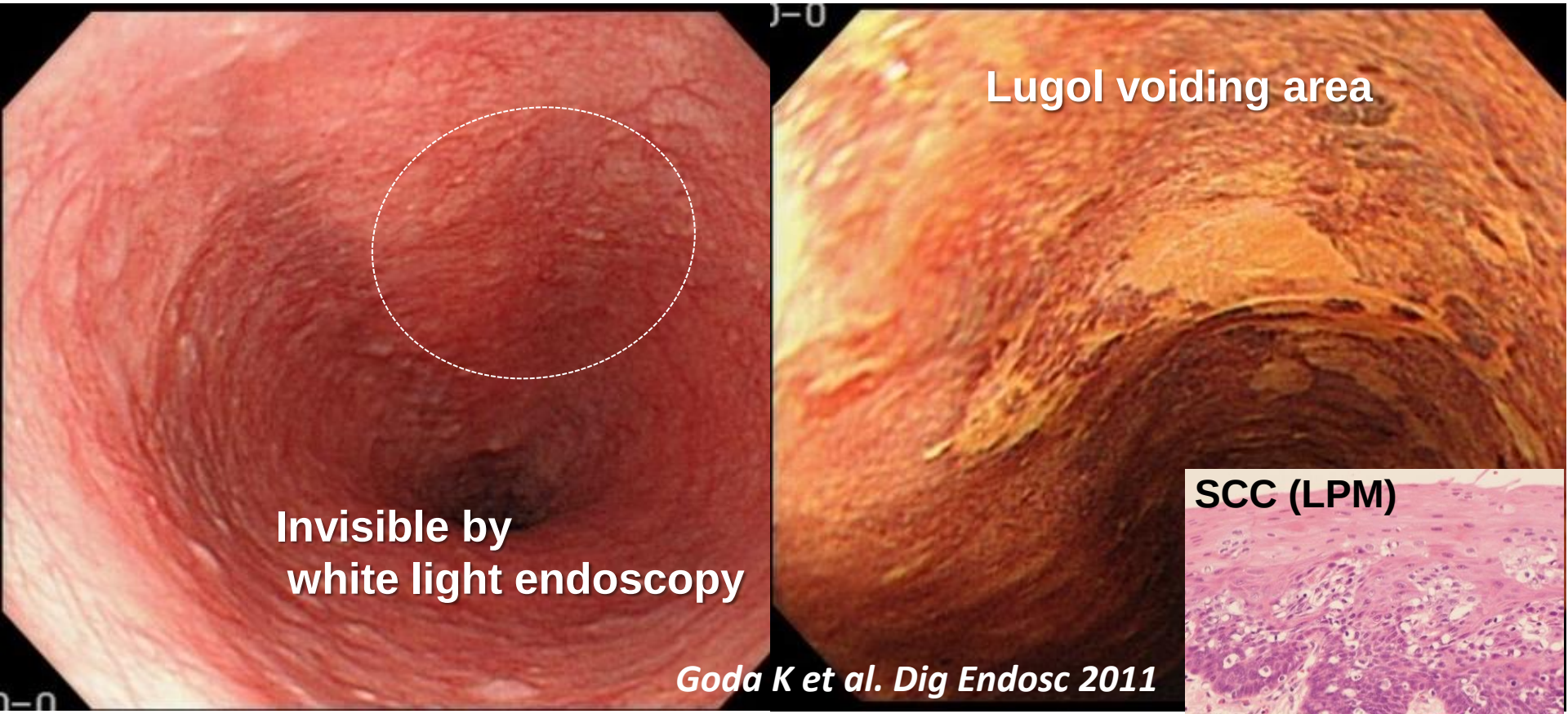
# *Lugol chromoendoscopy*

## Very helpful to visualize Superficial SCC, flat type

***Inoue H, et al. Endoscopy 2001***

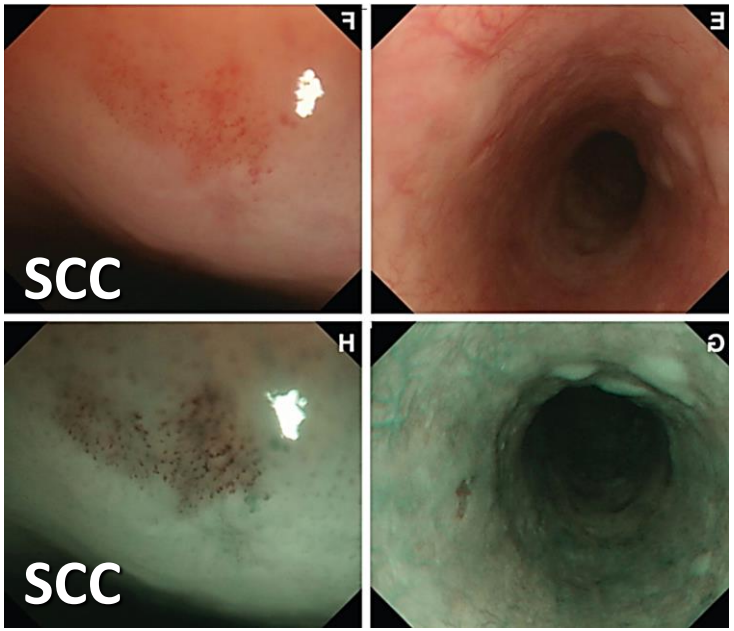



Showing Lugol voiding unstained area even in non-neoplasia or LGIN..
Chest burning sensation and esophageal spasm as well as Laryngitis and hypersensitivity to iodine

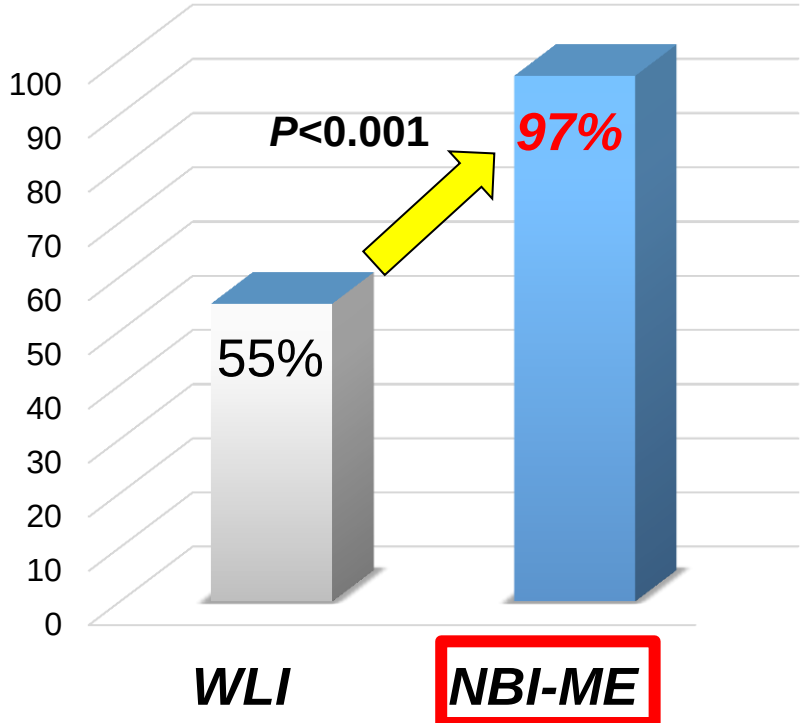
Multicenter RCT

# *NBI magnification* vs. *White-Light Imaging (WLI)*

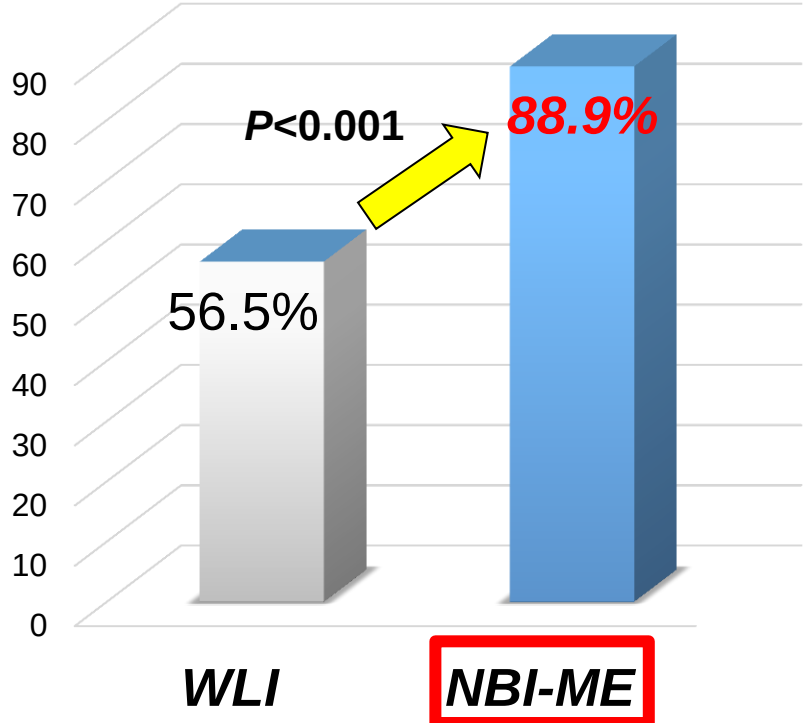
*Muto M, et al. J Clin Oncol 2010*



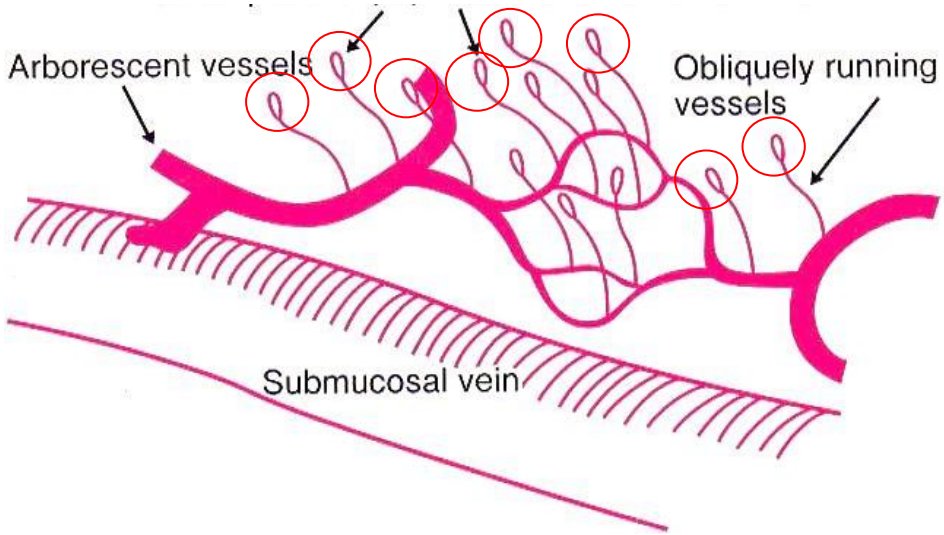

## Detection rate




## Overall accuracy

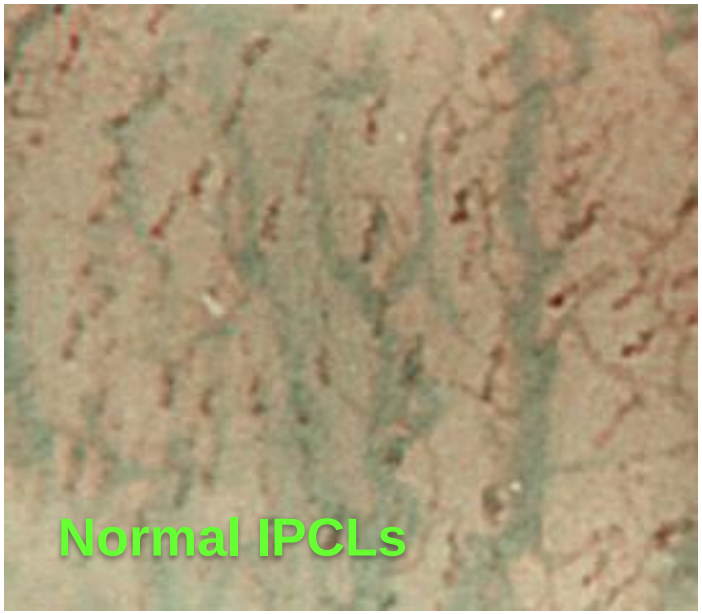


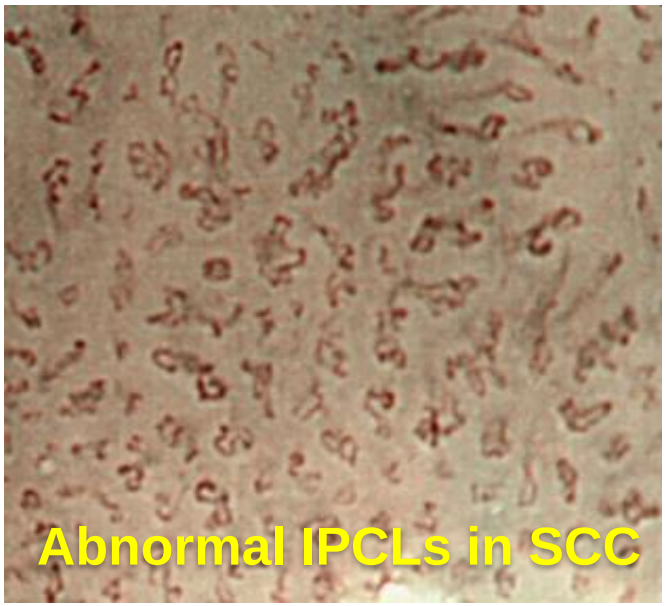
# Intrapapillary Capillary Loops (IPCLs)




*Inoue H, et al. Dig Endosc 1996, 1997*
*Yoshida T, Inoue H, et al. Gastrointest Endosc 2004*

**Morphological changes in IPCLs**
**: Inoue's criteria**
**1) Dilation**
**2) Tortuosity**
**3) Caliber changes**
**4) Various shapes**

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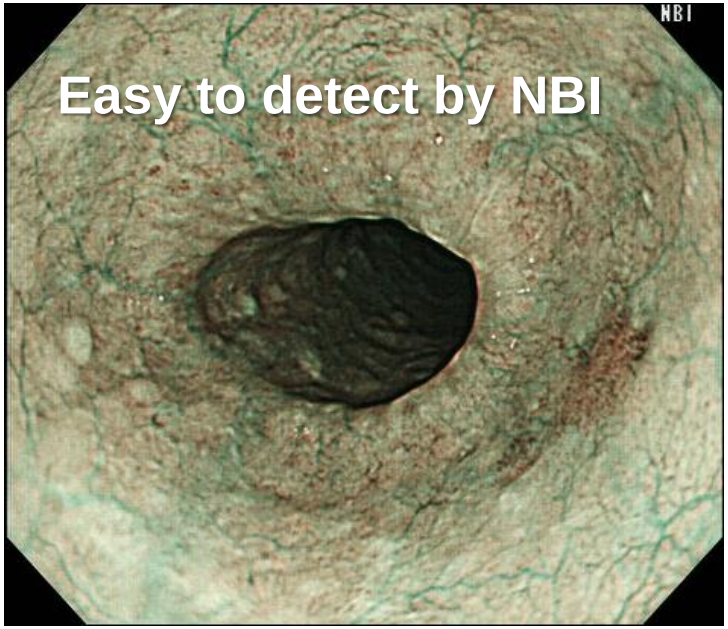


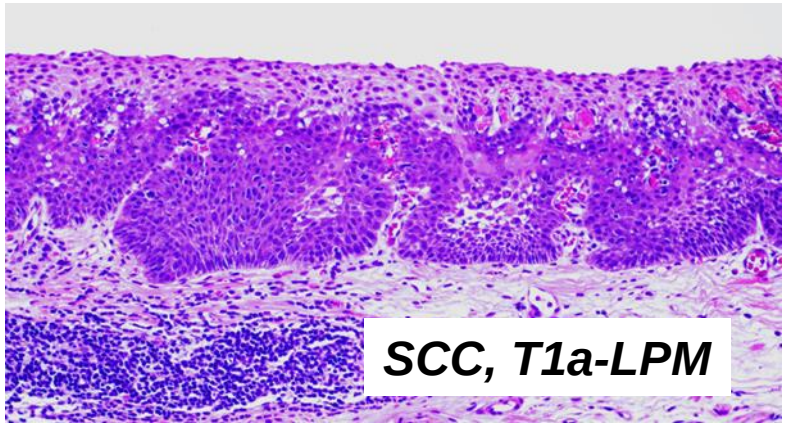


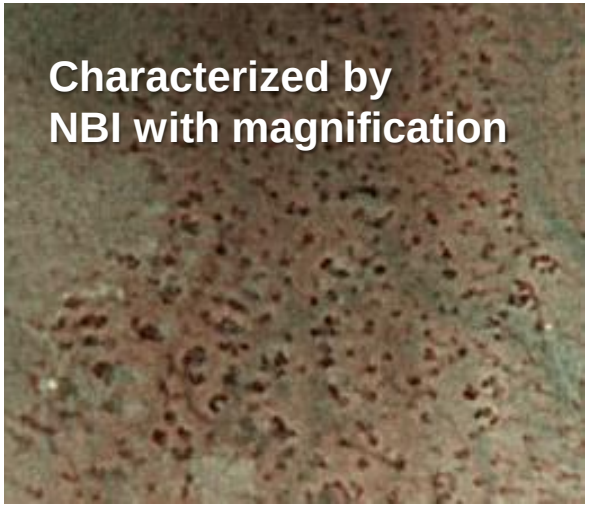


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# *NBI endoscopy*

## Recommended diagnostic flow for detecting SESCCs

### *Non-magnification*

Detection

**Brownish area**


### *Magnification*

Characterization

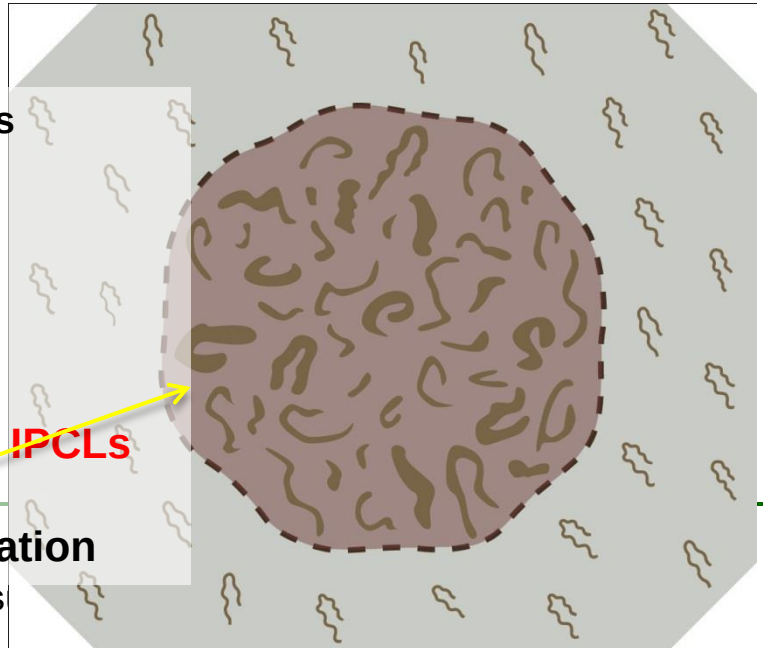
Staging (***invasion depth***)

**Morphological changes of IPCL**

***Focus points***

**Morphological changes**
**1) Dilation**
**2) Tortuosity**
**3) Caliber change**
**4) Various shapes**

**Other factors**
**1) Increase in No. of IPCLs**
**2) Intervascular background coloration**



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# Develop concise recommendations/guidelines for upper GI endoscopy for early detection of ESCC

- Who are high risk patients?
- What are endoscopic features of SESCCs?
- Utilize IEE with/without magnification
- Establish ideal flow charts adapted to each international region.

**IEE, image enhanced endoscopy using NBI, FICE, BLI, and i-SCAN**

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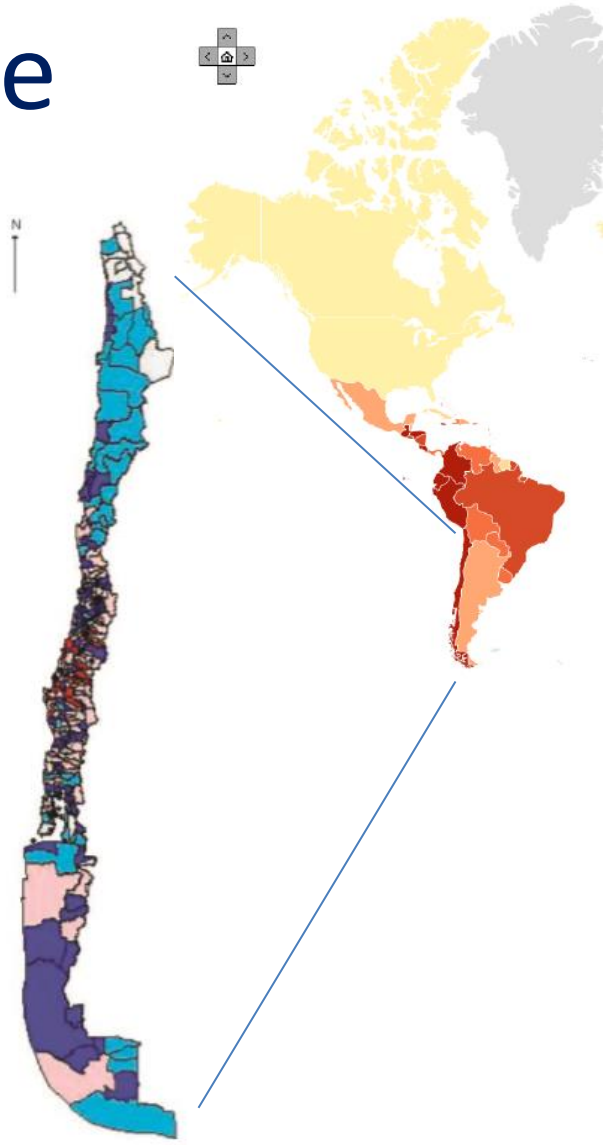
# Detection and Follow-up of Preneoplastic Gastric Lesions

Robinson González, M.D.
President

Chilean Association of Digestive Endoscopist
(ACHED)

# Gastric Cancer in Chile

- GC is the 1st cause of death for cancer among men and women
- Incidence 20/100000 inhabitants, causing 3,300 deaths per year
- Incidence is half compared to Japan but mortality rate is the same



# Improvement strategy:

# Early detection of GC

**“OPPORTUNISTIC SCREENING”**

Preparation / Accesories

+

Systematic Screening for the Stomach

+

Detect premalignant lesions and early GC

**“SELECTIVE SCREENING”**

Follow up according to the estimated risk

# Early Diagnostic of Gastric Cancer: Proposed measures for detection and follow up of premalignant lesions: ACHED Guidelines

Rev Med Chile 2014; 142: 1181-1192

## Diagnóstico precoz de cáncer gástrico. Propuesta de detección y seguimiento de lesiones premalignas gástricas: protocolo ACHED

ANTONIO ROLLÁN[1], PABLO CORTÉS[1], ALFONSO CALVO[2], RAÚL ARAYA[3], MARÍA ESTER BUFADEL[4], ROBINSON GONZÁLEZ[5], CAROLINA HEREDIA[6], PABLO MUÑOZ[7], FREDDY SQUELLA[8], ROBERTO NAZAL[9], MARÍA DE LOS ÁNGELES GATICA[1], JAQUELINA GOBELET[1], RENÉ ESTAY[10], RAÚL PISANO[11], LUIS CONTRERAS[12], INGRID OSORIO[13,a], RICARDO ESTELA[14], FERNANDO FLUXÁ[15], ADOLFO PARRA-BLANCO[5]

# ACHED Guidelines

Schedule endoscopic follow-up according to the estimated risk

| OLGA/OLGIM Stage | Risk GC | UGIE Interval |
|---|---|---|
| 0, *H. pylori* (-) | Very Low | control no justified |
| 0, Fam. Hx GC | Low | each 5 years |
| 0, *H. pylori* (+) | Low | each 3 years |
| I – II | Low | each 3 years |
| III – IV (or LGD) | High | annual |
| HGD (without focal lesion) | Very High | each 6 months |

# Detection and follow-up of preneoplastic gastric lesions

## ACHED Campaign 2016

*Place:* Nueva Imperial (Southern Chile, rural área, low access to UGI

***Endoscopists**: Cortés P, González R, Bufadel M, Araya R, Gobelet J, Heredia C, Rollán A, Navarro A, Stock R, Rojas C, Espino A, Rueda C, Monrroy H, Vial P, Sáenz M, Bustos C, Méndez L, Donoso A, Pérez R, Muñoz P, Sandoval A, Valladares H, Sharp A, Santelices R, González M, Agüero C, Calvo O, Valderrama R, Hernández C, Robles I, Pedrero P, De La Barra S, Valenzuela C, Jorquera A, Biel F, Ross G, Sierralta A, Naranjo J, Cordero J, Hofmann E*

***Pathologists**: Araya JC, Bellolio E, Villaseca MA*

***Molecular Biologist**: Corvalán A.*

***Engineer**: Zepeda A.*

# ACHED Campaign 2016 - Methods

- One month at the Nueva Imperial Hospital (Southern Chile)
- 735 Patients in the waiting list for UGIE (40 - 80 years old)
- Protocol of Endoscopy:
  - Preparation with N-acetylcysteine
  - Systematic Screening protocol for the Stomach (SSS)
  - Magnifying vascular and surface patterns classification (Yagi) in suprangular corpus.
  - Rapid Urease Test (RUT)
  - Gastric biopsy mapping (Sydney protocol)
- Histologic evaluation: Grading of atrophy and intestinal metaplasia
- Serological Biomarkers: methylated *Reprimo* gene, TFF3

ACHED task Force (GO-ACHED): Navarro, Alex; Gobelet, Jaqueline; Stock, Rodney; Rojas, Catalina; Espino, Alberto; Rueda, Carlos; Monroy, Hugo; Vial, Paula; Sáenz, Marcela; Bustos, Carlos; Méndez, Luis; Donoso, Andrés; Pérez, Rosa; Muñoz, Pablo; Sandoval, Alfonso; Valladares, Héctor; Sharp, Alan; Santelices, Rolando; González, Mauricio; Agüero, Carlos; Calvo, Alfonso; Valderrama, Rodrigo; Hernández, Cristian; Robles, Ignacio; Pedrero, Pamela; De la Barra, Sergio; Valenzuela, Carlos ; Jorquera, Andrés; Biel, Francisco; Ross, Gonzalo; Sierralta, Armando; Naranjo, Jorge; Cordero, Jorge; Hofmann, Edmundo; Zepeda, Alfredo.

# ACHED Campaign 2016 - Results

- We detected 5 patients with GC in 735 endoscopies:
  - Diagnostic yield of endoscopy 0,7%
  - 1 advanced GC (20%), 4 Early CG (80%)
- 20% of patients showed intensive and extensive atrophy (OLGA III-IV): annual endoscopy

# ACHED Campaign 2016

## Abstracts presented at DDW 2017

Mo1167: Magnifying Image-enhanced Endoscopy For Diagnosis Of Gastric Atrophy And H. Pylori Infection In A Amerindian Population With A High-risk Of Gastric Cancer

Tu1982: Plasma Methylated Reprimo As A Non-invasive Biomarker For Precancerous Gastric Lesions: A Cross Sectional Study In An Amerindian/Hispanic Population From An Endemic Region Of Chile

Tu1999: Trefoil-family-factor-3 As A Non-invasive Biomarker Of Gastric Intestinal Metaplasia And Gastric Cancer In A Country With High Prevalence Of Gastric Cancer

# Detection and follow-up of preneoplastic gastric lesions

## ACHED Campaign 2017

Soluciones Colaborativas

++zepeda TRADICIÓN EN SERVICIO

Servicio de Salud Araucanía Sur
Región de La Araucanía
Ministerio de Salud

SCG-E Sociedad Chilena de Gastroenterología

Ilustre Municipalidad Nueva Imperial

NIH National Cancer Institute

accdis

# ACHED Campaign 2017 - Methods

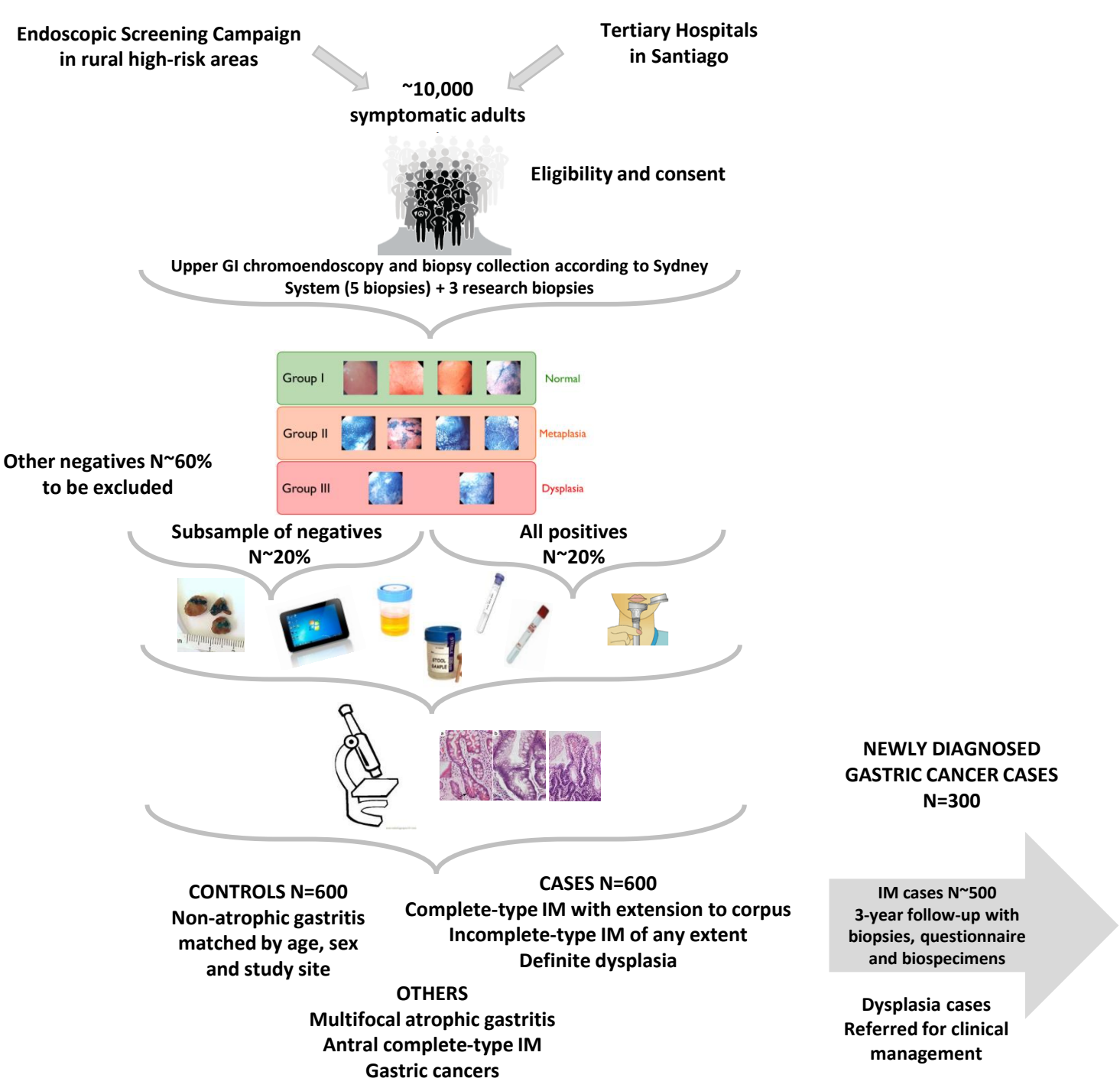
- Two months (May 2nd to June 22th, 2017)
- 1200 patients
- 65 endoscopists
- Four consulting foreign endoscopists 1 week each.
  - Dr. Parra-Blanco ( Nottingham University)
  - Dr.  Ishida ( Kobe University)
  - Dr. Odagaky (Tokyo Medical and Dental University)
  - Dr. Moriyama (Kyushu University)
- Gastrin, pepsinogens, anti-Hp Ab, Gatrointestinal and sex hormones, methylated Reprimo gene, TFF3, Salivary microRNAs of host, bacterial and viral origin and others (GCPL Project: Constanza Camargo, NIH/NCI).
- Results will be presented at DDW 2018

Gastric Cancer Precursor Lesions (GCPL) Project:

NIH/NCI PI:
Constanza Camargo

Chilean PI
Alejandro Corvalan

Co-PIs
Robinson Gonzalez
Arnoldo Riquelme



# Detection and Follow-up of Preneoplastic Gastric Lesions

Robinson González, M.D.
President

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# WEO Upper GI cancer Committee: Endoscopic Management of Barrett's Esophagus and Esophageal Cancer

May 7, 2017


Shivangi T. Kothari, MD

Assistant Professor, Medicine

Associate Director of Endoscopy

Co-Director Developmental Endoscopy Lab at UR (DELUR)

Center For Advanced Therapeutic Endoscopy

Division of Gastroenterology & Hepatology

University of Rochester Medical Center , Rochester NY

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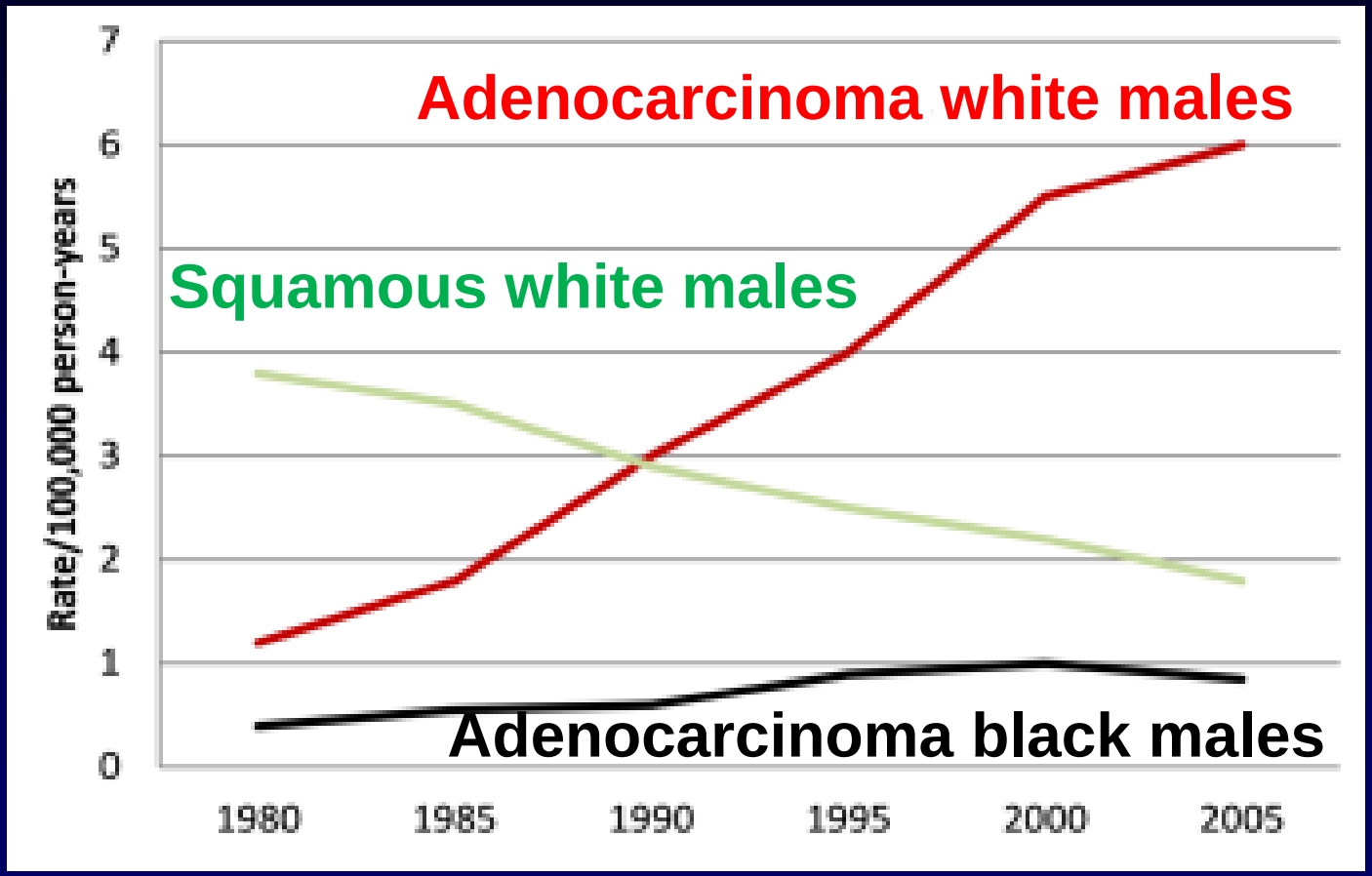
# OBJECTIVES

- Describe role of endoscopy in evaluation and management of patients with Barrett's esophagus
- Discuss role of endoscopy in esophageal cancer
- Describe impact of curative and palliative endoscopic interventions in esophageal cancer
- Briefly discuss shift in paradigms in the management of esophageal neoplasia

# Esophageal cancer

- 17,000 cases per year in the US
- Most cases are “adenocarcinomas” and are present at the gastroesophageal junction
- Most of these are probably related to Barrett’s esophagus
- Nearly 50% are advanced beyond local-regional
- >20 years ago, most cases were squamous cell carcinoma, and present in the mid-esophagus

# Trends in the US for Esophagus Cancer



# Adenocarcinoma

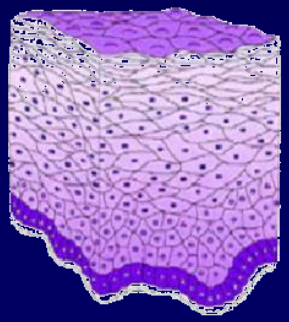
- Obesity and a high Body Mass Index (BMI) are high risk factors
- Very high BMI risk is 7.6 X higher
- GERD (gastroesophageal reflux) high risk
- Barrett's esophagus increases the risk to 30 – 60 X higher

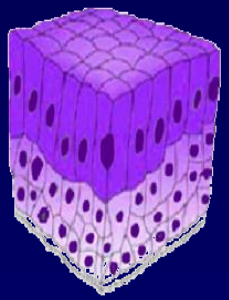
# Metaplasia of the esophagus: Barrett's esophagus

- **Definition:** A pre-malignant change in the epithelial lining of the esophagus from squamous histology to specialized intestinal metaplasia.

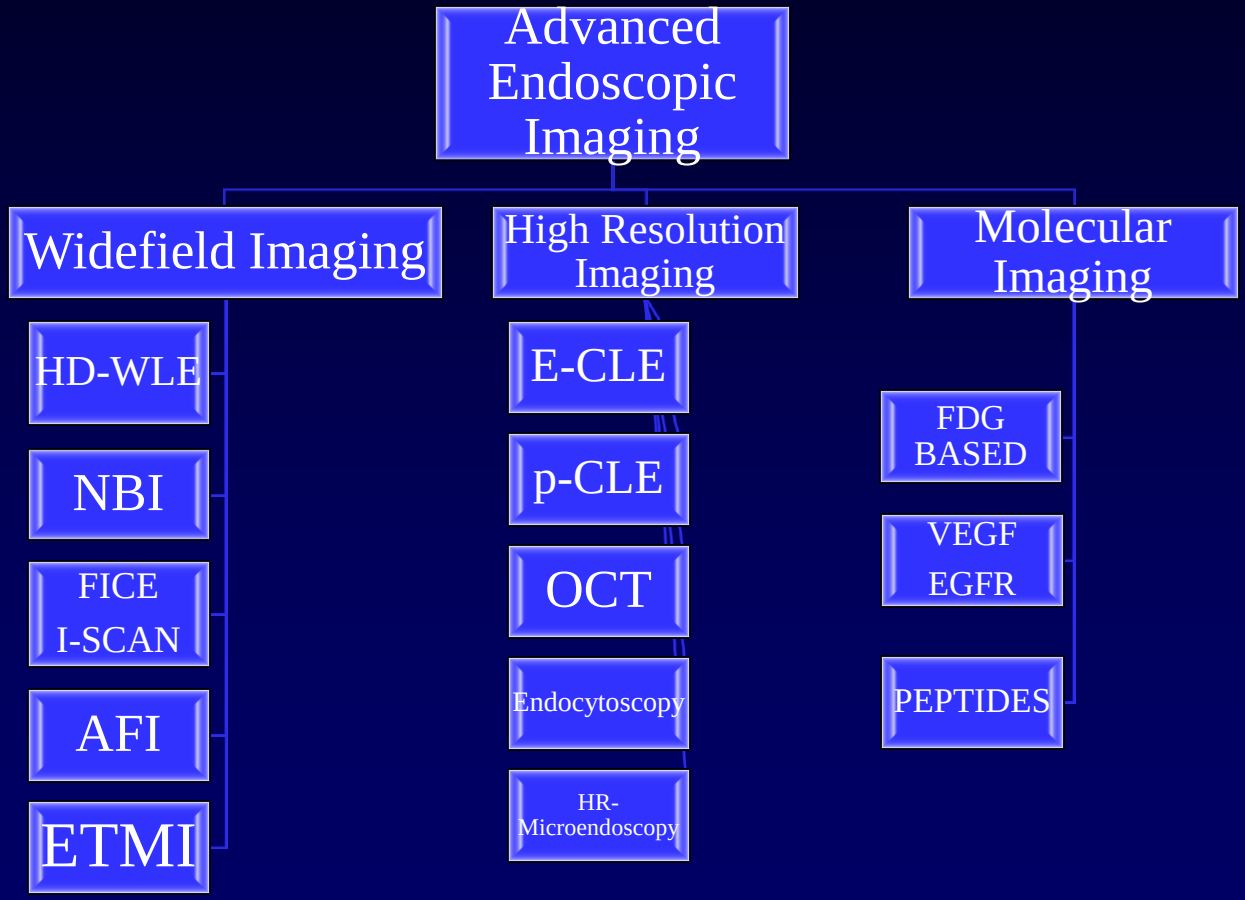
Squamous epithelium

Columnar epithelium

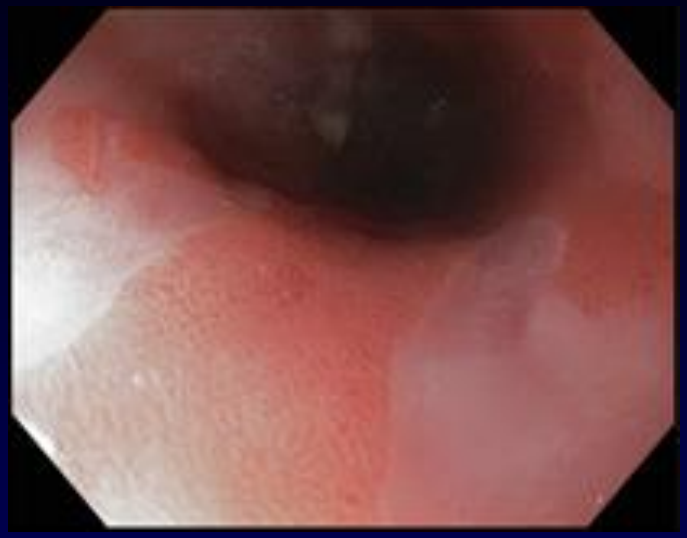


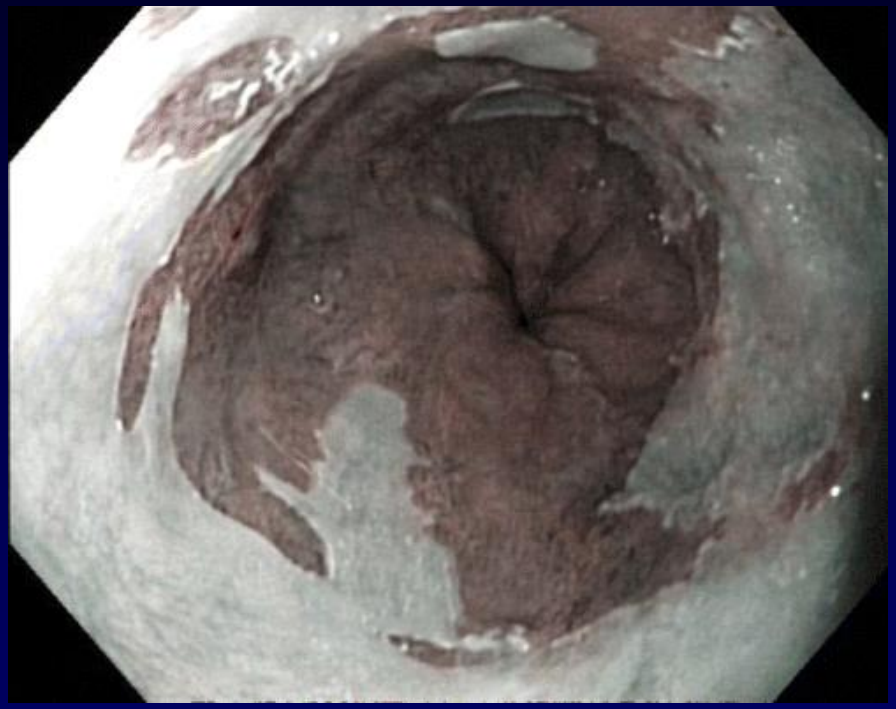


# Endoscopic Imaging in BE: Broad Classification



# NBI IMAGING





# High Resolution Imaging

- Confocal Laser Endomicroscopy
- Optical Coherence Tomography
- Endocytoscopy
- High Resolution Microendoscopy

# Wide Area Transepithelial Sample with 3 Dimensional (WATS 3D) Tissue Analysis

WATS-3D: BRUSH BIOPSY TISSUE SAMPLING

# Wide Area Transepithelial Sampling (WATS$^{3D}$)

- Abrasive brush instrument samples entire thickness of squamous or glandular epithelium down to the lamina propria

- Microscopic examination is aided by a multi-plane, neural network-based computer-assisted scan of each slide, highlighting potentially abnormal cells for pathologist review

# Transepithelial Brush Biopsy With Computer-Assisted Tissue Analysis Increases Detection Of Residual Or Recurrent Intestinal Metaplasia And Dysplasia Following Endoscopic Ablation Of Barrett's Esophagus

Natalya Iorio MD[1], Brandon Sprung MD[2], Vivek Kaul MD[2], Danielle Marino MD[2], Shivangi Kothari MD[2], Truptesh H. Kothari MD[2], Rahul D. Kataria MD[3], Seth A. Gross MD[4], Michael S. Smith MD, MBA[1]

1. Medicine/Gastroenterology, Temple University School of Medicine, Philadelphia, PA
2. Medicine/Gastroenterology & Hepatology, University of Rochester Medical Center, Rochester, NY
3. Medicine, Jackson Memorial Hospital, Miami ,FL
4. Medicine/Gastroenterology, NYU Langone Medical center, New York, NY

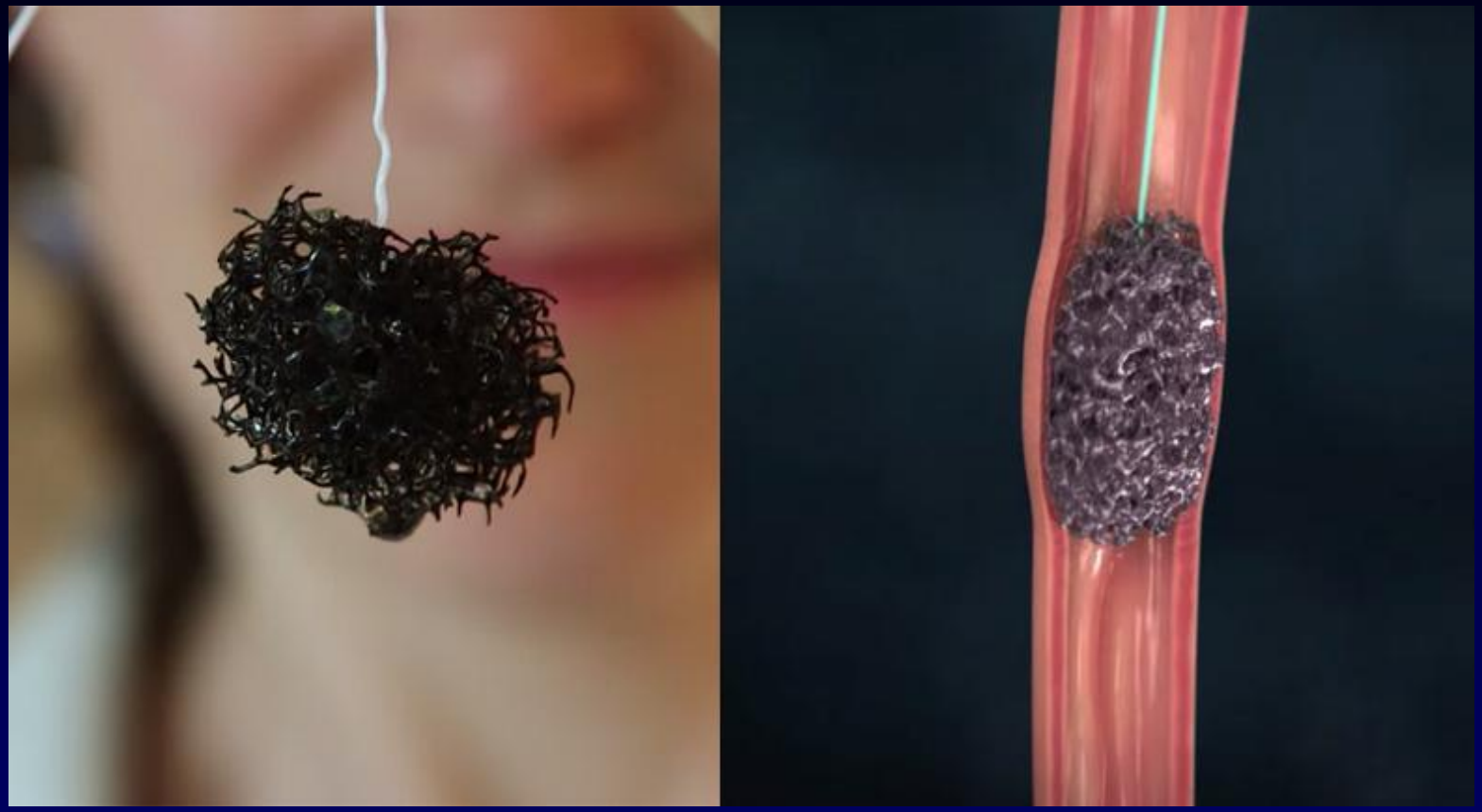
UNIVERSITY of ROCHESTER

| Any IM/Dysplasia/ Neoplasia | FB + | FB - | Total |
|---|---|---|---|
| WATS$^{3D}$ + | 15 | **24** | 39 |
| WATS$^{3D}$ - | 24 | 145 | 169 |

| Dysplasia/ Neoplasia | FB + | FB - | Total |
|---|---|---|---|
| WATS$^{3D}$ + | 0 | **4** | 4 |
| WATS$^{3D}$ - | 7 | 197 | 204 |
| **Total** | 7 | 201 | 208 |

- IM or dysplasia/neoplasia was found in 18.8% (39/208) of cases with FB
- WATS$^{3D}$ identified 24 cases of IM and 4 cases of dysplasia missed by FB

# Cytosponge



> 90% sensitivity and specificity for BE > 2cms

Kadri SR et al. BMJ 2010

# Endoscopic Therapy of Dysplastic Barrett's & Early Esophageal Cancer

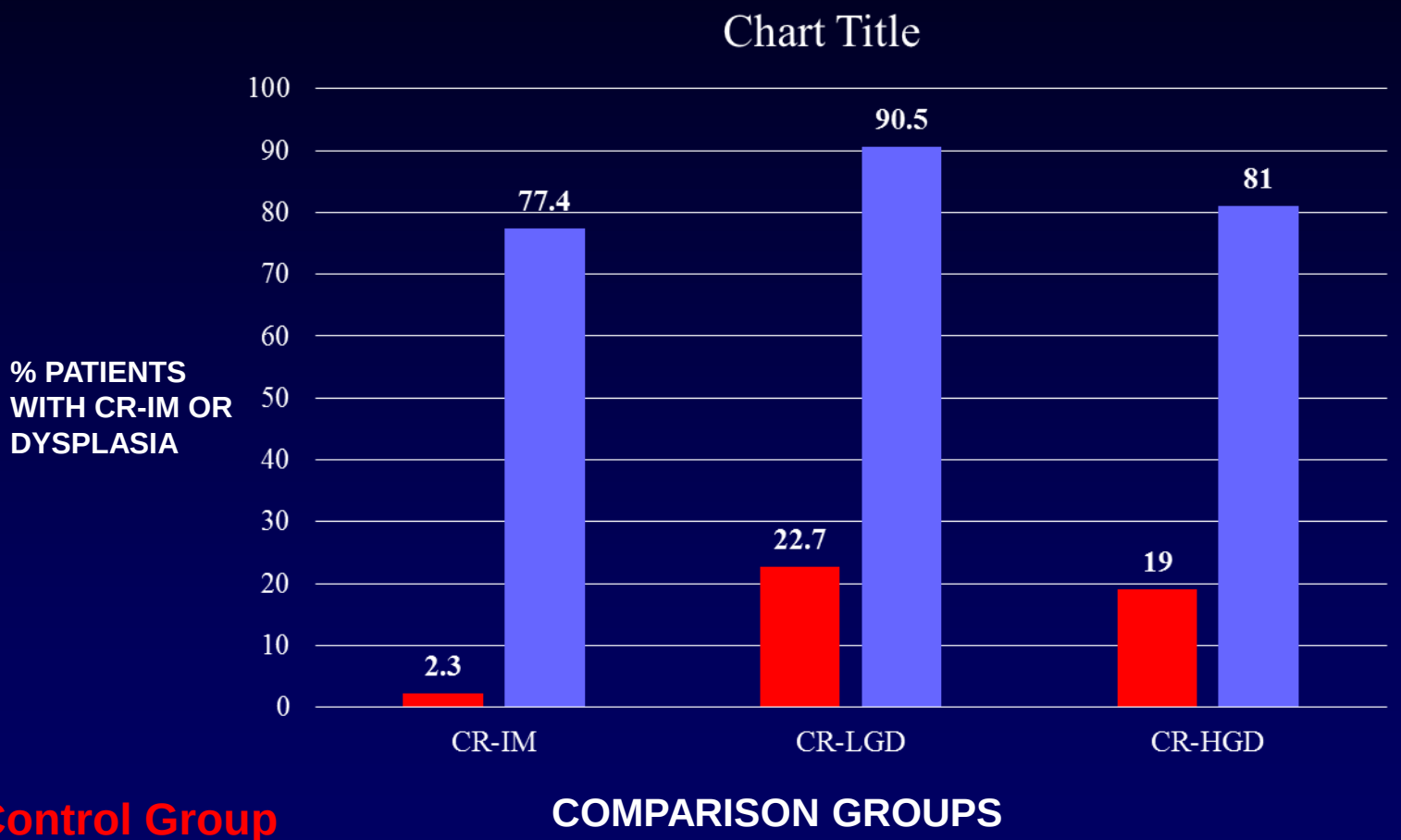
# Endoscopic Therapy of Dysplastic Barrett's & Early Esophageal Cancer

- HGD (high grade dysplasia), CIS (carcinoma in-situ) & Early (T1a) carcinoma:
  - Conventionally treated like invasive adenocarcinoma
  - So far Standard of care has been "esophagectomy"
  - Paradigm shifted to endoscopic resection and ablation
  - EMR, ESD
  - RFA
  - CRYOTHERAPY
  - MULTIMODAL THERAPY

# Dysplastic Barrett's: Endoscopic Ablation Modalities

- Photodynamic Therapy (PDT)
- Multipolar Electrocoagulation (MPEC)
- Argon Plasma Coagulation (APC)
- Endoscopic (mucosal) Resection (EMR or ER)
- Radiofrequency Ablation (RFA)
- Spray Cryotherapy (Cryo)
- Endoscopic Submucosal Dissection (ESD)

# RFA: AIM DYSPLASIA TRIAL: RESULTS




*Shaheen, NEJM 2009*

# RFA: AIM DYSPLASIA TRIAL
# 2 & 3 Year Outcomes

| | CE-IM (ALL) | | CE-HGD | | CE-LGD | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| **Year 2** | 99/106 | **93** | 50/54 | **95** | 51/52 | **98** |
| **Year 3** | 51/56 | **91** | 23/24 | **96** | 32/32 | **100** |

*Shaheen, Gastro 2011*

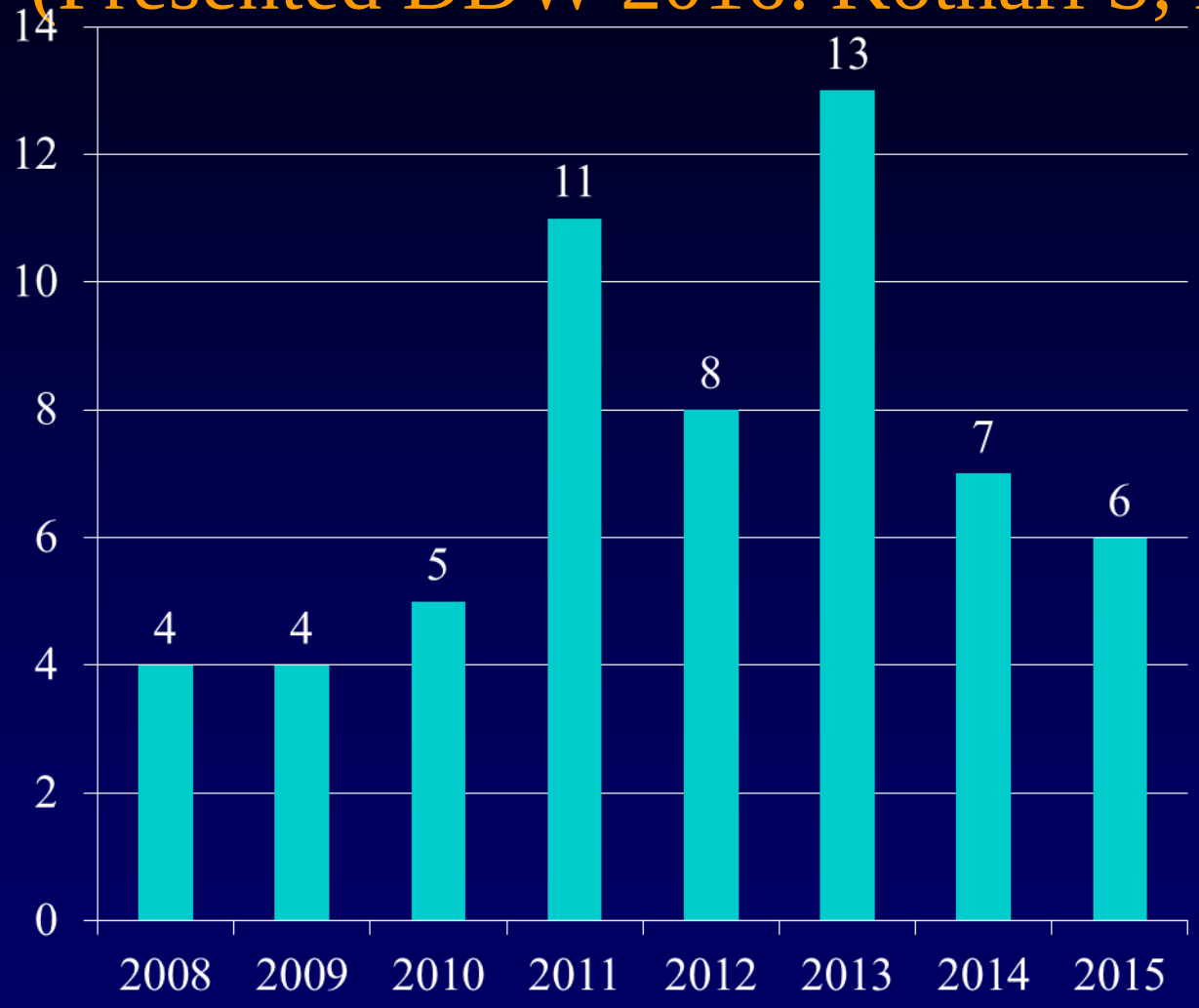
# CRYOTHERAPY

# ENDOSCOPIC CRYOTHERAPY: 2 SYSTEMS

- **CSA MEDICAL**
- Liquid Nitrogen
- -196 deg Celsius
- Low Pressure (2-4 psi)
- Suction-decompression tube

- **GI SUPPLY**
- "Polar Wand"
- Carbon Dioxide
- -80 deg Celsius
- Suction device

# Patients endoscopically treated with SCT for Barrett's neoplasia: 2008 – March 2015 (Presented DDW 2016: Kothari S, Kaul V et al.)




Total = 58

# Procedure Details

- 30 patients with ImCA, BE +HGD/LGD
- CRD: 96.6%
- CR-IM (FB +WATS): 22/30: 76%
  - 25 Male, 5 female
  - Average procedures = 3.5 (total 105)
  - Mean follow up = 22.6 months (2-63 months)
- 8 patients still undergoing Cryotherapy
- Total 177 SCT procedures

# Safety And Efficacy Of Liquid Nitrogen Cryospray Ablation Of Residual Barrett's Esophagus After Endoscopic Resection of Intramucosal Adenocarcinoma: A Multicenter Study

Arvind J Trindade, Douglas K Pleskow, Neil Sengupta, Shivangi Kothari, Sumant Inamdar, Vivek Kaul

- 24 patients BE with T1a tumors
- Median Prague score was C3M5 (range C0M1- C14M14).
- 19/24 patients (79%) achieved CE-D after EMR + cryotherapy

# Role of Spray Cryotherapy and WATS$^{3D}$ in Dysplastic Barrett's Esophagus Refractory to Radiofrequency Ablation

*Brandon Sprung, MD, Christine Granato MD, Shivangi Kothari MD, Truptesh Kothari MD, and Vivek Kaul MD, FACG, FASGE*
*Center for Advanced Therapeutic Endoscopy, Division of Gastroenterology and Hepatology, University of Rochester Medical Center, Rochester, NY*

| Patient Number | Pre-RFA Histology | # RFA sessions | Duration of RFA (months) | Post-RFA Histology | # Cryotherapy sessions | Post-Cryotherapy Histology | Follow-up after first negative biopsy (months) |
|---|---|---|---|---|---|---|---|
| **1** | BE+HGD+LGD +ImCa | 5 | 31 | BE+ HGD | 1 | Neosquamous mucosa | 13 |
| **2** | BE+LGD+HGD | 7 | 15 | BE+LGD+HGD | 6 | Neosquamous mucosa | 33 |
| **3** | BE+LGD | 8 | 33 | BE+LGD+HGD | 5 | Neosquamous mucosa | 9 |
| **4** | BE+LGD | 10 | 36 | BE+LGD | 6 | Neosquamous mucosa | 3 |
| **5** | BE with LGD | 7 | 10 | BE with LGD | 2 | Neosquamous mucosa | 7 |

CRIM in 5/5 (100%) patients confirmed with FB and WATS

# Endoscopic Management of Esophageal Cancers: Curative Intent

# EMR/ESD

# Clinics Review Articles

GASTROENTEROLOGY CLINICS
OF NORTH AMERICA

# Barrett's Esophagus

Endoscopic Mucosal Resection and Endoscopic Submucosal Dissection
Endoscopic Therapy of Barrett's Esophagus-related Neoplasia

Shivangi Kothari and Vivek Kaul

# Endoscopic Resection

- Focal EMR
- Multi-band Mucosectomy (MBM)
- w-EMR (widespread EMR)
- Complete Barrett's Eradication (CBE-EMR)

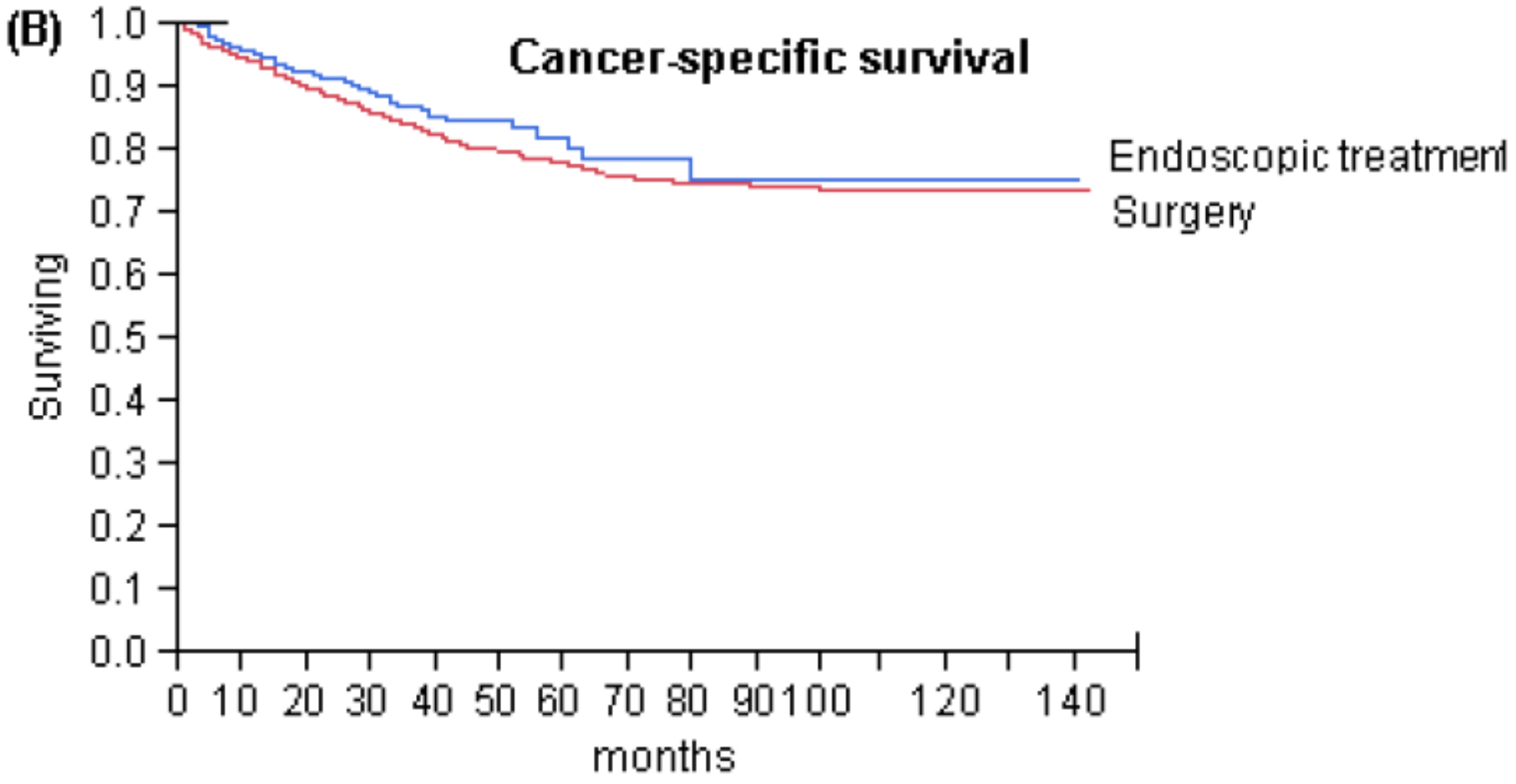
*Rajan, GIE 2004*
*Chennat, AJG 2009*

# ESD vs EMR

- Significantly higher en bloc resection & histologically complete resection for tumors with different diameters (92% vs 52%)
- Significantly lower recurrence rate (0.76% vs 6.4%)
- No difference in bleeding risk
- Higher risk of perforation
- Longer procedure time
- Performed at expert centers

Lian et al. Gastrointest Endosc.2012

# Endoscopic vs Surgical resection of T1 Esophageal adenocarcinoma: Similar Survival




Ngamruengphong. CGH 2013

# Esophageal Endotherapy vs Surgery for Barrett's & Early Esophageal Cancer

- Meta analysis of 7 studies and 860 patient
- No difference in:
  - Neoplasia remission rate
  - Similar 1, 3 and 5 year survival
  - Neoplasia related mortality
- Fewer major adverse events with endotherapy

J. Wu et al. Gastrointest Endosc 2013

# EUS Fine Needle Injection:

## Fiducial placement

# Gold fiducial placement for Cyberknife frameless radiation

- Traditionally placed by CT or surgery
- With advent of EUS fiducials can be easily and safely placed in:
  - Esophagus
  - Pancreas
  - Celiac nodes
  - Adrenal glands
  - Mediastinum

Pishvaian AC,et al. Endosc 2006;64(3):412–7.

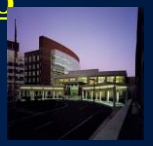
# Endoscopic Management of Esophageal Cancers: Palliative Intent

# Dysphagia Palliation
# Esophageal Cancer

- Esophageal Stenting
- Endoscopic Cryoablation
- PDT
- Laser

# Complete Esophageal Stenting With Stent Anchoring: A Case Report and Video

*Shivangi Kothari, MD, Truptesh Kothari, MD, MS, Vivek Kaul, MD, FACG*
*Division of Gastroenterology and Hepatology, University of Rochester Medical Center, Rochester, NY*



## Introduction:

- Esophageal stents are commonly used for palliation of malignant dysphagia. Novel through the scope stents enable precise placement without fluoroscopy. A new endoscopic suturing device helps anchor esophageal stents, reducing migration risk.
- We present a case of near total esophageal occlusion due to advanced metastatic esophageal adenocarcinoma managed with multiple esophageal stents anchored proximally with the suturing device.

## Case:

- A 69-year-old male with h/o distal migration of 18 mm x 15 cms fully covered distal esophageal stent and persistent dysphagia despite placement of 18 mm x 7 cms uncovered self-expanding metal stent (SEMS) for metastatic distal esophageal carcinoma was referred to our center for further management.
- Barium swallow revealed multiple strictures and levels of obstruction in the esophagus starting almost from the UES to the GE junction. Luminal obstruction was due to combination of tumor and radiation stenosis. Patient refused feeding tube placement and expressed a strong desire to be able to eat, especially given his poor prognosis.
- At EGD, the UES was seen at 20 cms, the proximal stricture was seen at 23cms, allowing just enough room for the proximal stent flange. Multiple areas of severe luminal narrowing were seen throughout the esophagus with evidence of tumor ingrowth into previously placed SEMS. A total of 2 new stents were placed: 18 mm x 10 cms uncovered SEMS distally and a novel "through the scope" partially covered 18 mm x 12 cms SEMS placed proximally. To decrease risk of migration, proximal flange of the stent just below the UES was anchored using the suturing device.

**Figure 1: Barium swallow revealing multiple strictures**

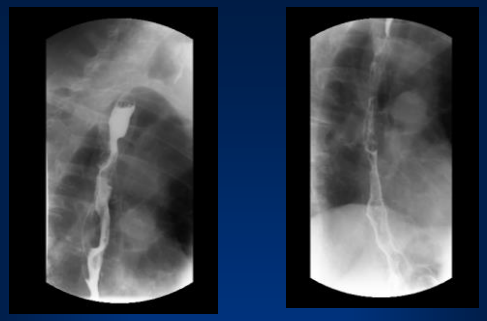


**Figure 2: Endoscopy view of the tumor, stent and then the proximal end of esophagus stent before and after suturing.**

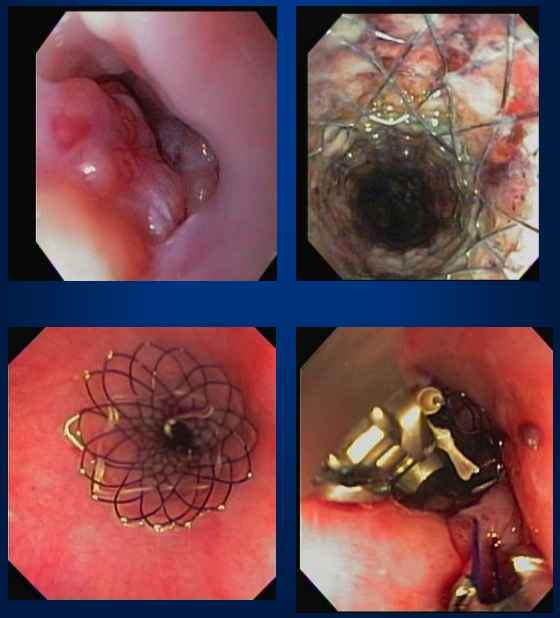
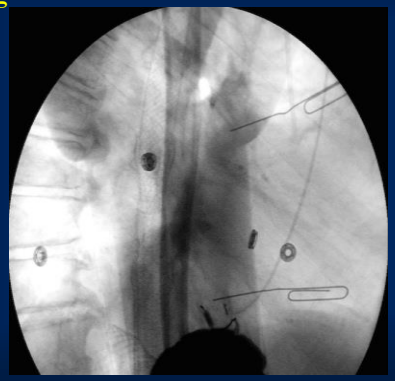


**Figure 3: Fluoroscopy image of complete esophageal stenting**



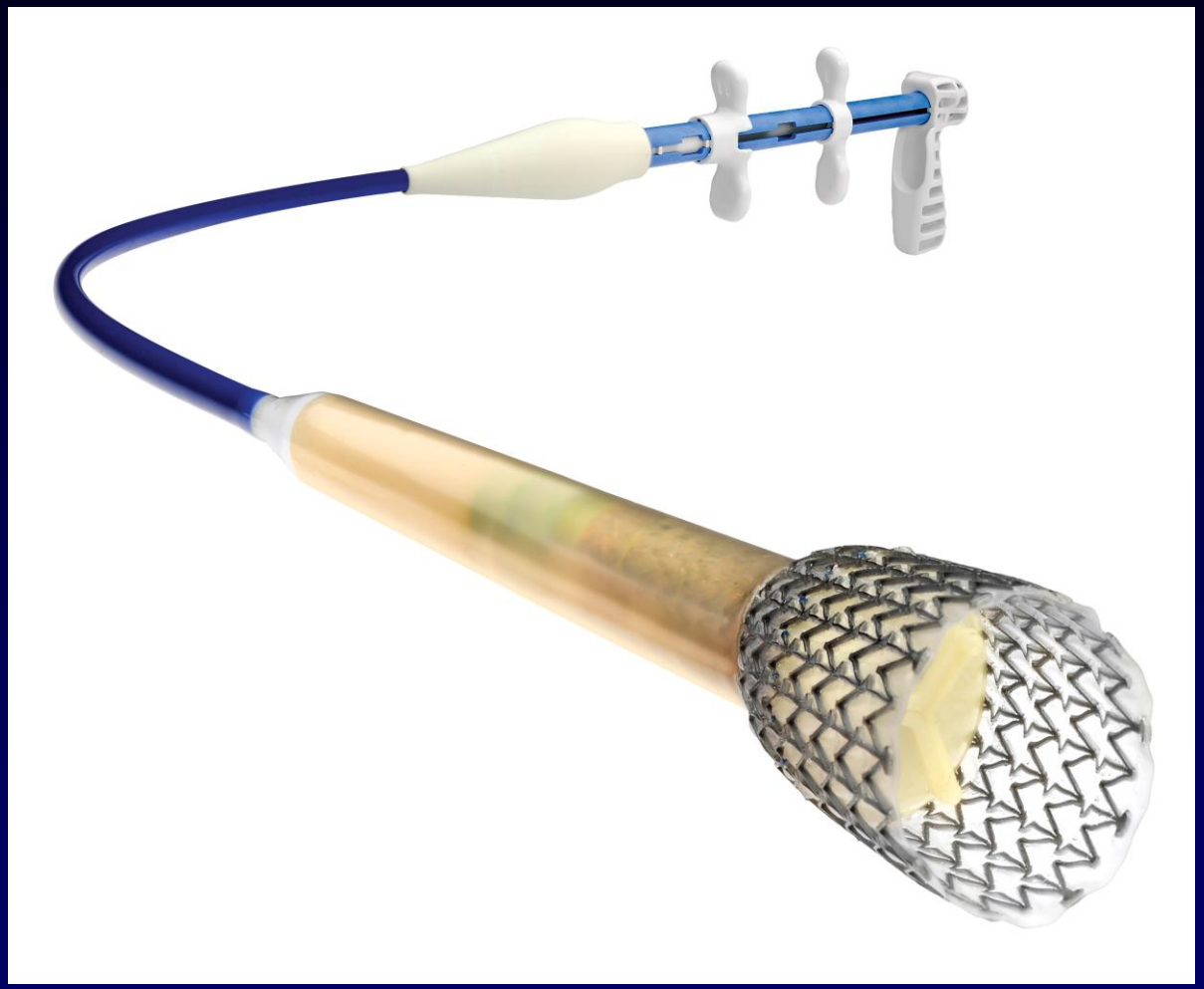
## Discussion:

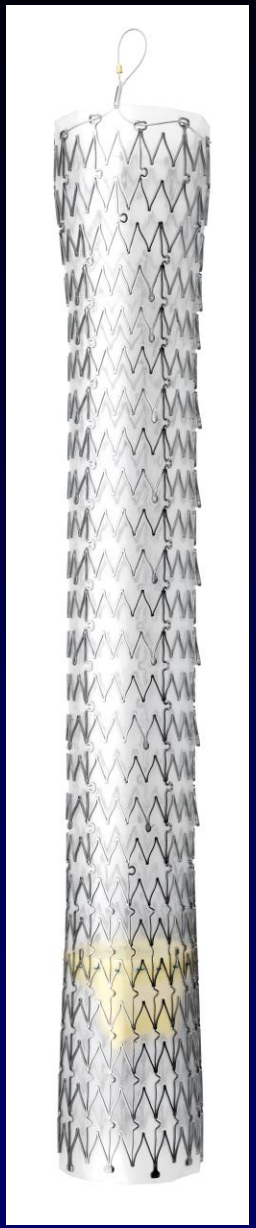
- Esophageal stenting allows for improving nutritional status and quality of life, especially in end stage esophageal cancer. However, it can be technically challenging and has risk of migration and occlusion, as in our patient. The new through the scope stents can reduce technical difficulty and need for fluoroscopy.
- The new suturing device can help anchor stents to prevent migration. Successful palliation of dysphagia was achieved in our patient without any procedure related complication or patient discomfort. The proximal stent flange was anchored successfully using the suturing device.

## Conclusion:

-To our knowledge, this is the first reported case of near total esophageal metal stenting with endoscopic suture anchoring of the proximal stent to successfully palliate malignant dysphagia in a patient with advanced

# EndoMAXX EVT





# Other means to palliate malignant dysphagia

- Cryoablation
  - Liquid Nitrogen (Cryospray)
  - Liquid Nitrous oxide (Cryoballoon)

- Studies are being planned looking at cryoablation for palliation (instead of stents) in the neoadjuvant setting.

# Summary

- Endoscopy has a key role in the care of BE and esophageal cancer patient
- From tissue diagnosis to palliation
- Multidisciplinary management is critical
- Significant advantage in era of health care reform (reduced cost/morbidity/LOS)
- Minimally invasive therapeutic endoscopy options continue to develop

# THANK YOU!!