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)
Upper GI Cancer Committee
2017-2020

-Esophagus-
Squamous Cell Carcinoma

Kenichi Goda
Digestive Diseases Center,
Showa University Koto Toyosu Hospital, Tokyo, Japan
Our Gooooooool!

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.
Esophageal Cancer

Cancer statistics

<table>
<thead>
<tr>
<th></th>
<th>Deaths ($\times 10^3$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Lung</td>
</tr>
<tr>
<td>2.</td>
<td>Liver</td>
</tr>
<tr>
<td>3.</td>
<td>Stomach</td>
</tr>
<tr>
<td>4.</td>
<td>Colorectum</td>
</tr>
<tr>
<td>5.</td>
<td>Breast</td>
</tr>
<tr>
<td>6.</td>
<td><strong>Esophagus</strong></td>
</tr>
</tbody>
</table>

Histologic types

- SCC (90%)
- Adenocarcinoma

Oral cavity, 145; Pharynx, 148
Survival rates of *Superficial* Esophageal SCC after Esophagectomy and EMR in Japan


**100%**

M cancer

- m1 (n=392)
- m2 (n=231)
- m3 (n=299)

**SM cancer, 70%**

- sm1 (n=240)
- sm2 (n=371)
- sm3 (n=553)

*Earlier detection = Better prognosis*

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

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

- **Pts with Head and Neck cancer**

  Head & Neck 11-12.5 %  
  Esophagus 6.7- 13% (3% before 1990)

**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.*
Lugol chromoendoscopy
Very helpful to visualize Superficial SCC, flat type

Goda K et al. Dig Endosc 2011

Invisible by white light endoscopy

Lugol voiding area

SCC (LPM)


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)


Detection rate

\[
P < 0.001\quad 97\%
\]

\[
55\%
\]

Overall accuracy

\[
P < 0.001\quad 88.9\%
\]

\[
56.5\%
\]
Intrapapillary Capillary Loops (IPCLs)

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

Normal IPCLs

Abnormal IPCLs in SCC
Difficult to detect by WLI

Easy to detect by NBI

Characterized by NBI with magnification

SCC, T1a-LPM
**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

Kenichi Goda
Digestive Disease Center, Showa University Koto Toyos
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
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 1\textsuperscript{st} 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 / Accessories

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

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

ANTONIO ROLLÁN¹, PABLO CORTÉS¹, ALFONSO CALVO², RAÚL ARAYA³, MARÍA ESTER BUFADEL⁴, ROBINSON GONZÁLEZ⁵, CAROLINA HEREDIA⁶, PABLO MUÑOZ⁷, FREDDY SQUELLA⁸, ROBERTO NAZAL⁹, MARÍA DE LOS ÁNGELES GATICA¹, JAQUELINA GOBELET¹, RENÉ ESTAY¹⁰, RAÚL PISANO¹¹, LUIS CONTRERAS¹², INGRID OSORIO¹³, RICARDO ESTELA¹⁴, FERNANDO FLUXÁ¹⁵, ADOLFO PARRA-BLANCO⁵
Schedule endoscopic follow-up according to the estimated risk

<table>
<thead>
<tr>
<th>OLGA/OLGIM Stage</th>
<th>Risk GC</th>
<th>UGIE Interval</th>
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</thead>
<tbody>
<tr>
<td>0, <em>H. pylori</em> (-)</td>
<td>Very Low</td>
<td>control no justified</td>
</tr>
<tr>
<td>0, Fam. Hx GC</td>
<td>Low</td>
<td>each 5 years</td>
</tr>
<tr>
<td>0, <em>H. pylori</em> (+)</td>
<td>Low</td>
<td>each 3 years</td>
</tr>
<tr>
<td>I – II</td>
<td>Low</td>
<td>each 3 years</td>
</tr>
<tr>
<td>III – IV (or LGD)</td>
<td>High</td>
<td>annual</td>
</tr>
<tr>
<td>HGD (without focal lesion)</td>
<td>Very High</td>
<td>each 6 months</td>
</tr>
</tbody>
</table>
Detection and follow-up of preneoplastic gastric lesions

**ACHED Campaign 2016**

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


**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; Sandóval, 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
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, Gastrointestinal 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

Endoscopic Screening Campaign
in rural high-risk areas

Tertiary Hospitals
in Santiago

~10,000
symptomatic adults

Eligibility and consent

Upper GI chromoendoscopy and biopsy collection according to Sydney
System (5 biopsies) + 3 research biopsies

Subsample of negatives
N~20%

All positives
N~20%

Other negatives N~60%
to be excluded

CONTROLS N=600
Non-atrophic gastritis
matched by age, sex
and study site

CASES N=600
Complete-type IM with extension to corpus
Incomplete-type IM of any extent
Definite dysplasia

OTHERS
Multifocal atrophic gastritis
Antral complete-type IM
Gastric cancers

NEWLY DIAGNOSED
GASTRIC CANCER CASES
N=300

IM cases N~500
3-year follow-up with
biopsies, questionnaire
and biospecimens

Dysplasia cases
Referred for clinical
management

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

Chilean Association of Digestive Endoscopist (ACHED)

robgonza@med.puc.cl
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
Shivangi_kothari@urmc.rochester.edu
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 white males
- Squamous white males
- Adenocarcinoma black males
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.
Endoscopic Imaging in BE: Broad Classification

Advanced Endoscopic Imaging

Widefield Imaging
- HD-WLE
- NBI
- FICE
- I-SCAN
- AFI
- ETMI

High Resolution Imaging
- E-CLE
- p-CLE
- OCT

Molecular Imaging
- FDG BASED
- VEGF EGFR
- PEPTIDES
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$^3$D)

• 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 MD¹, Brandon Sprung MD², Vivek Kaul MD², Danielle Marino MD², Shivangi Kothari MD², Truptesh H. Kothari MD², Rahul D. Kataria MD³, Seth A. Gross MD⁴, Michael S. Smith MD, MBA¹

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
<table>
<thead>
<tr>
<th>Any IM/Dysplasia/Neoplasia</th>
<th>FB +</th>
<th>FB -</th>
<th>Total</th>
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<tbody>
<tr>
<td>WATS$^{3D}$ +</td>
<td>15</td>
<td>24</td>
<td>39</td>
</tr>
<tr>
<td>WATS$^{3D}$ -</td>
<td>24</td>
<td>145</td>
<td>169</td>
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<tr>
<td>Total</td>
<td>39</td>
<td>169</td>
<td>208</td>
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<table>
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<tr>
<th>Dysplasia/Neoplasia</th>
<th>FB +</th>
<th>FB -</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>WATS$^{3D}$ +</td>
<td>0</td>
<td>4</td>
<td>4</td>
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<tr>
<td>WATS$^{3D}$ -</td>
<td>7</td>
<td>197</td>
<td>204</td>
</tr>
<tr>
<td>Total</td>
<td>7</td>
<td>201</td>
<td>208</td>
</tr>
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</table>

- 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

% PATIENTS WITH CR-IM OR DYSPLASIA

Control Group
Ablation Group

Shaheen, NEJM 2009
# RFA: AIM DYSPLASIA TRIAL
## 2 & 3 Year Outcomes

<table>
<thead>
<tr>
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<th>CE-IM (ALL)</th>
<th>CE-HGD</th>
<th>CE-LGD</th>
</tr>
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<tbody>
<tr>
<td>Year 2</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>99/106</td>
<td>93</td>
<td>50/54</td>
</tr>
<tr>
<td>Year 3</td>
<td>51/56</td>
<td>91</td>
<td>23/24</td>
</tr>
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</table>

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
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\textsuperscript{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

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

CRIM in 5/5 (100%) patients confirmed with FB and WATS
Endoscopic Management of Esophageal Cancers: Curative Intent
EMR/ESD
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
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

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 Kathari, MD, Truptesh Kathari, MD, MS, Vivek Kaul, MD, FACP
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.

**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...
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!!

It takes guts to be a gastroenterologist