

Pharyngoesophageal Strictures in Head and Neck Cancer

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11th Annual Conference on Head & Neck Rehabilitation:

Managing the Effects of Treatment

The Milton J. Dance, Jr. Head & Neck Center at GBMC

Baltimore, Maryland, Friday, October 24, 2008

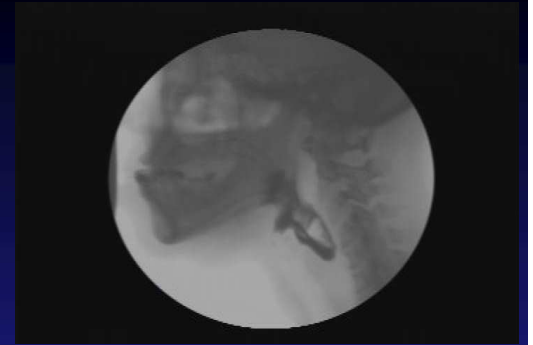
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Objectives

- Identify stricture rate after chemoradiation of HNSCC in a select cohort of patients.
- Evaluate our stricture management protocol.



Background



- 14 of 59 patients had narrowing (24%)
- 7 of 59 strictures required dilation (12%)¹

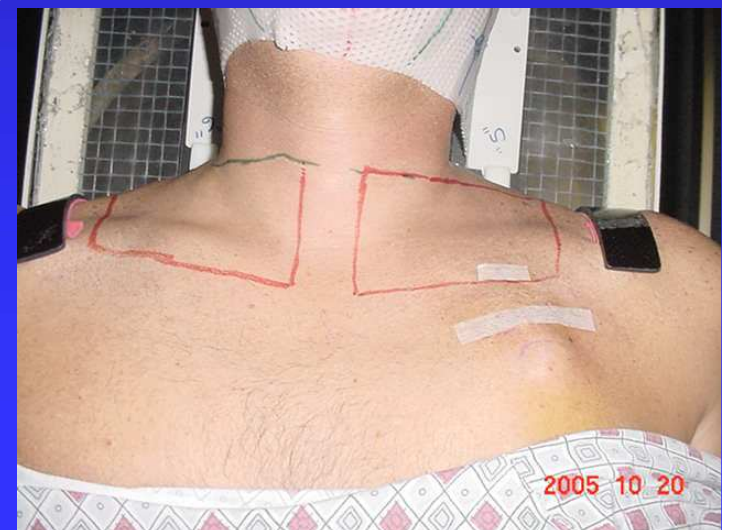
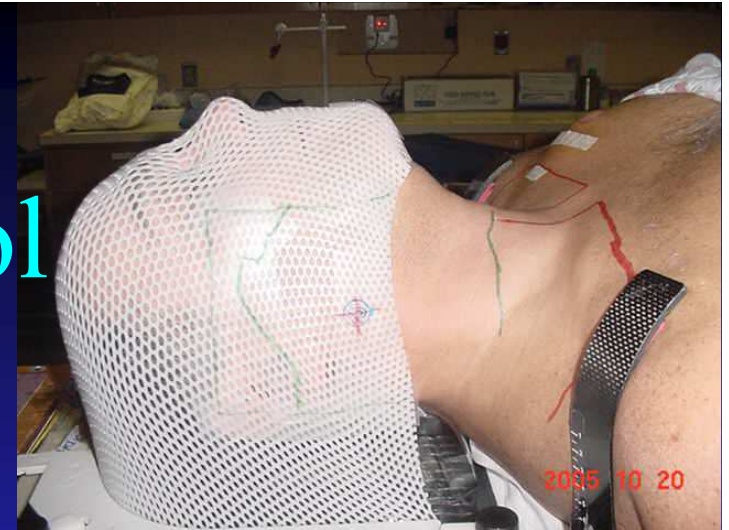
1. Goguen, L.A., et al, Head & Neck Surgery 134, 916-922, 2006

Background

- 41 of 199 had symptomatic strictures (21%)²
 - ◆ Predictive factors for stricture formation
 - ◆ b.i.d. XRT
 - ◆ Female
 - ◆ Hypopharyngeal

GBMC Cohort CRT: Brizel Protocol

- 125 cGy bid 6 hrs apart
- mid treatment break after 4000cGy
- 7000-7500cGy to primary
- 6000 cGy to involved nodal region
- 5000 cGy to uninvolved node
- 2 cycles of chemotherapy:
 - ◆ Cisplatin & 5 FU
- PEG



Swallowing Protocol

- Modified Barium Swallow Study
 - ◆ pretreatment
 - ◆ 3 months post treatment – PET/CT time point
- Pre treatment counseling: interdisciplinary team
- Swallowing therapy and trismus management weekly during CRT as tolerated
- Follow up post treatment time points with intervention: 1, 2, 3, 6, 12 and 24 months



Patient Demographics

Brizel Group

N = 107

Mean age

57 (42-78 yrs)

Gender

Female 21%

Male 79%

Primary site

Oropharynx 76, 71%

Larynx 15, 14%

Hypopharynx 15, 14%

Unknown primary 1, 1%

T – stage

No T stage available x 1

Tx 1, 1%

T1 4, 4%

T2 35, 33%

T3 45, 42%

T4 21, 20%

Results

Patient with strictures

N = 14 (13%)

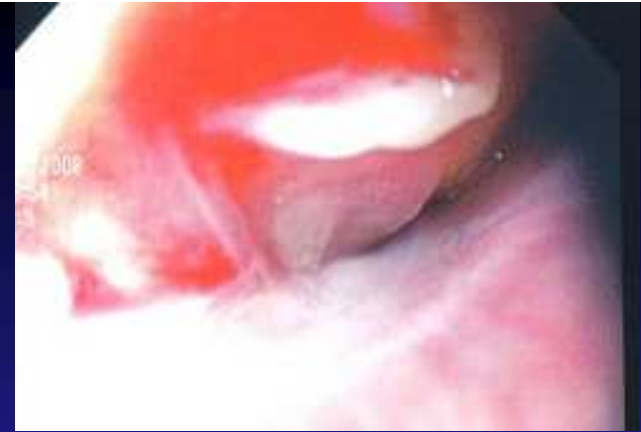
■ Mean age

59 (47 – 75)

■ Gender –stricture group

4 female

10 male



Primary site

Oropharynx 12

Hypopharynx 2

T – stage

T_x = 1

T₂ = 5

T₃ = 6

T₄ = 2

Criteria for Inclusion

- **Stricture:** obstruction of bolus transport through the pharyngoesophageal area requiring dilation

- **Modified Barium Swallow Studies**
 - ◆ 55 pre treatment baseline
 - ◆ 75 post treatment (0 – 7 per patient)


- **Excluded:**
 - ◆ non-obstructive narrowing (2)

Dilation Stats for Treatment of Esophageal Strictures

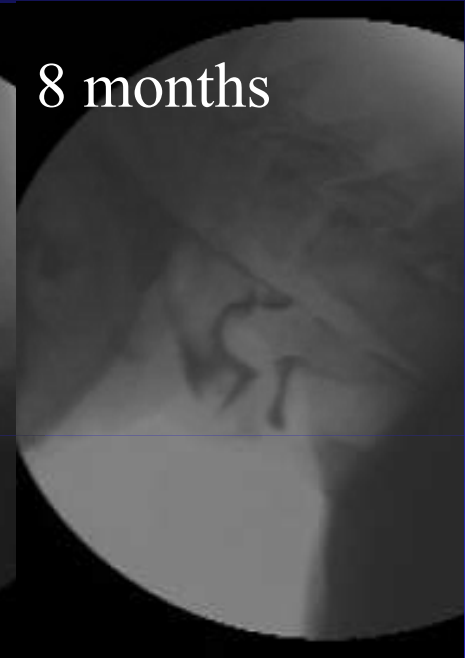
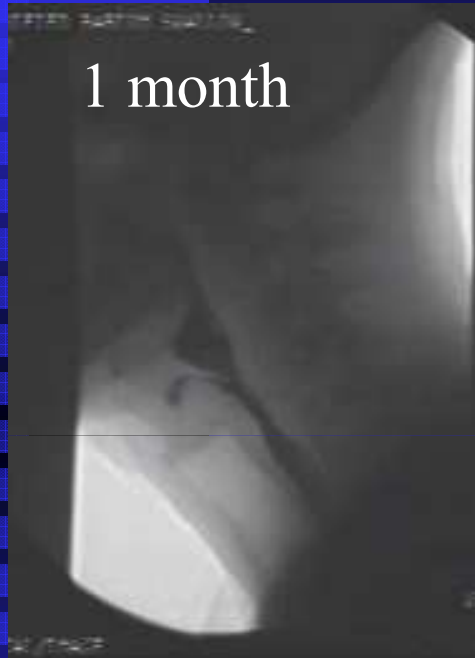
Number of dilations per patient	<u>Average</u>	<u>Range</u>
	3	1 – 11*
Time post final radiation treatment to 1st dilation	<u>Average</u>	<u>Range</u>
	7 months	2 - 19 months
Time since end of CRT to PEG tube removal	<u>Average</u>	<u>Range</u>
	12 months	5 – 32 months*

One patient has had 11 dilations and remains PEG dependent

Post Dilatation Outcomes in the 14 Patients

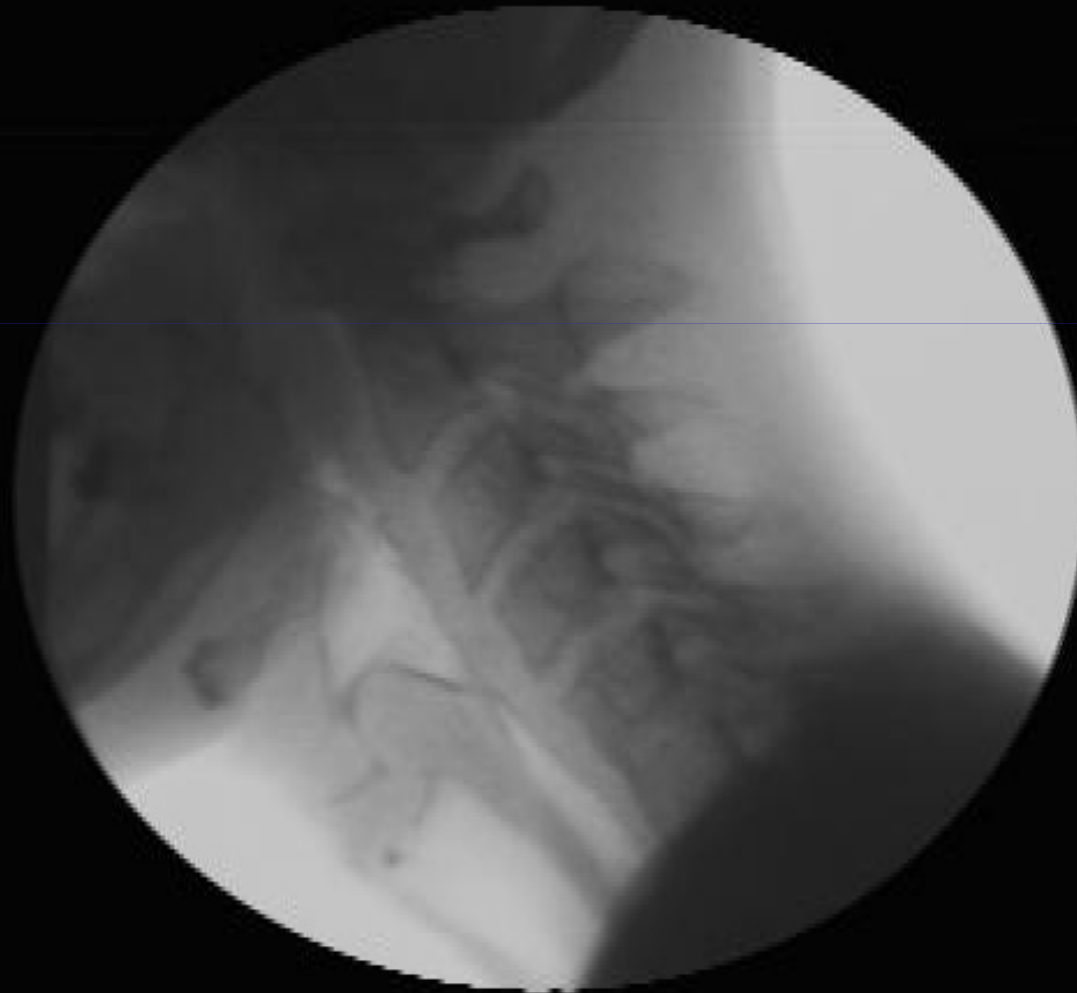
Complete stricture	0	
Partial stricture	2	*1 PEG dependent
Diet level	6	regular foods
	6	soft foods
	1	PEG + oral
		* 1 death of intercurrent illness

Progression of Pharyngoesophageal Stricture Following CRT



Maximum opening

16 months post Brizel Protocol of concomitant chemotherapy and hyperfractionated radiation therapy



Narrowing persists but opening
appears improved at 17 months

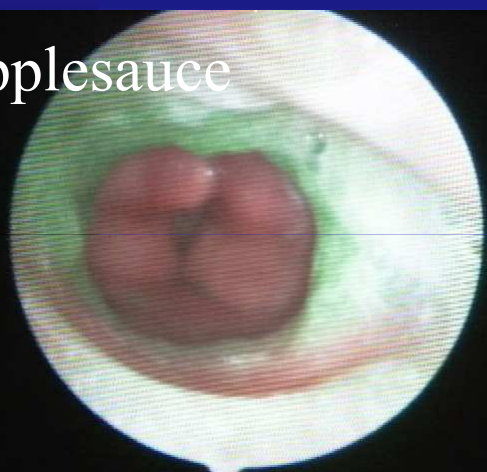


March 2008 Endoscopic View

Pooling of secretions at baseline



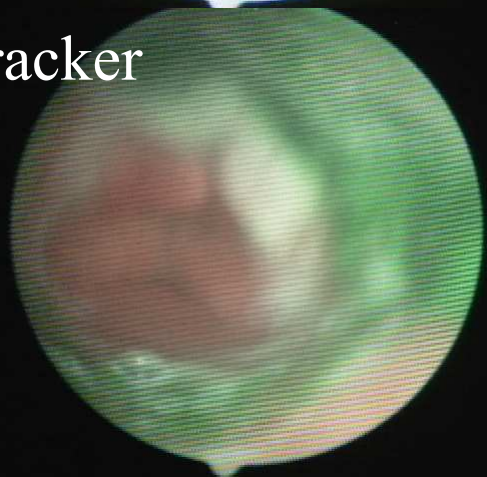
applesauce



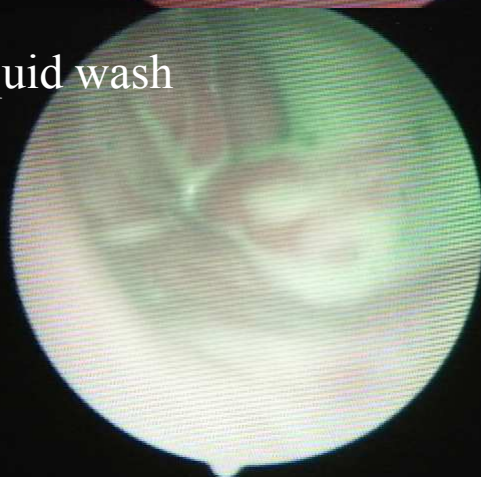
Post repetitive swallows



cracker



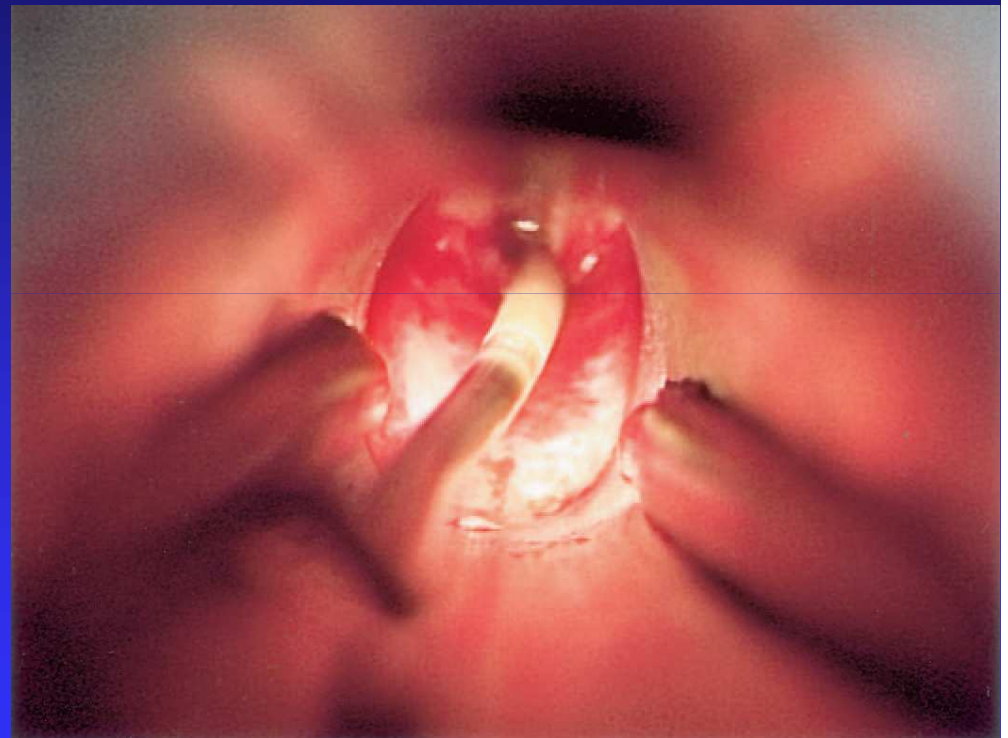
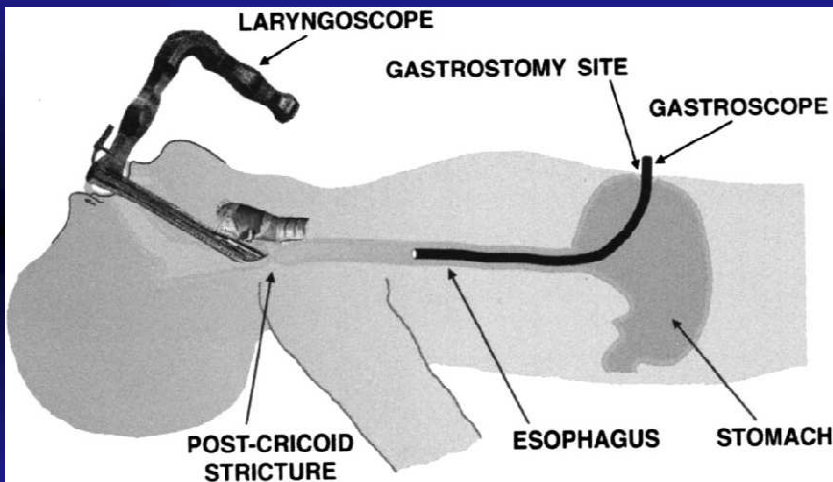
Liquid wash



Post repetitive swallows

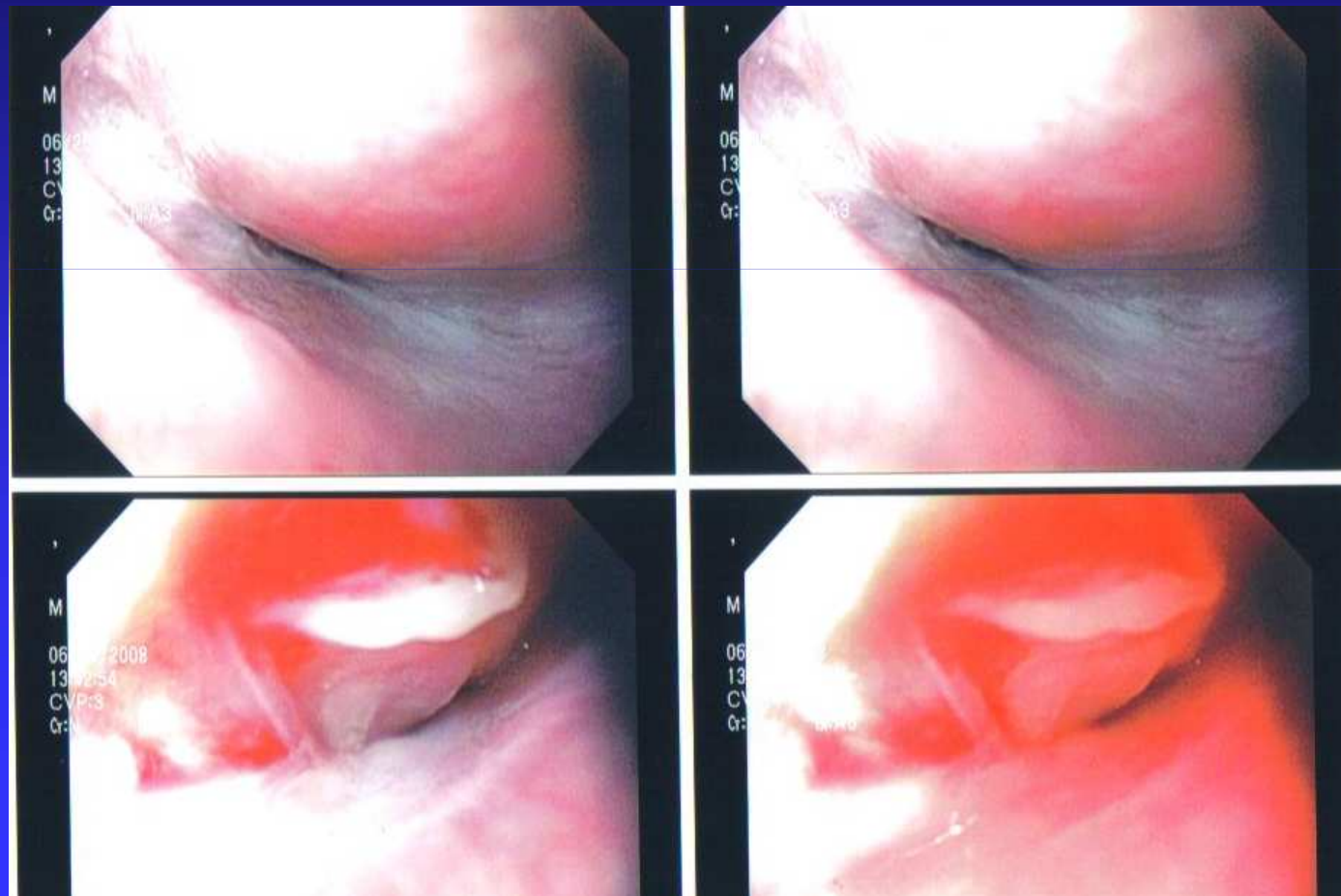


Transgastric retrograde esophagoscopy with anterograde dilatation (TREAD)



•Laryngoscope 114: Nov 2004 Sullivan et al.: Endoscopic Mgmt of Hypopharyngeal St

Pt #9: Stricture (Tread) 6-22-2008



The Impact of Pharyngoesophageal Strictures in Head and Neck Cancer

- Causes: chemoradiation-induced mucositis
 - ulceration of opposing surfaces of redundant post cricoid mucosa
 - healing of opposing surfaces lead to circumferential cicatrix and contraction of fibrous tissue
- Result: Partial or complete stenosis of the postcricoid hypopharynx leads to inability to swallow with aspiration and gastrostomy tube (g-tube) dependence.
- Treatment: dilation, mitomycin C, reconstructive surgery, steroid injection
 - Laryngoscope 114: Nov 2004 Sullivan et al.:
 - Endoscopic Mgmt of Hypopharyngeal Stenosis
 - HEAD & NECK—DOI 10.1002/hed Jan 2007, M. Boyd Gillespie, MD, et al Mitomycin in Upper Digestive Tract Stricture

Conclusions...

- A structured protocol for evaluation and treatment of HNSCC
- Early identification of patients who have developed a stricture
- Collaborative approach
- Oral feedings / no PEG = 99%