Approach to cut up:

Upper GI

Marco Novelli

Overview

- General points
- Oesophagus
  - Oesophagectomy specimens
  - EMRs + ESDs
- Stomach
  - Specimen handling
    - Recent changes in clinical practice
    - TNM
    - OGJ tumours
- Gastrointestinal Stromal Tumours

General points

General points

- Check name, numbers, specimen labelling.
- Check in bottom of specimen pot.
  - Donuts, extra margin etc.
- Description.
  - Does specimen match clinical details?
  - Can you orientate specimen?

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- Check name, numbers, specimen labelling.
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  - Donuts, extra margin etc.
- Description.
  - Does specimen match clinical details?
  - Can you orientate specimen?

→ **IF NOT DO NOT CUT SPECIMEN**

General points

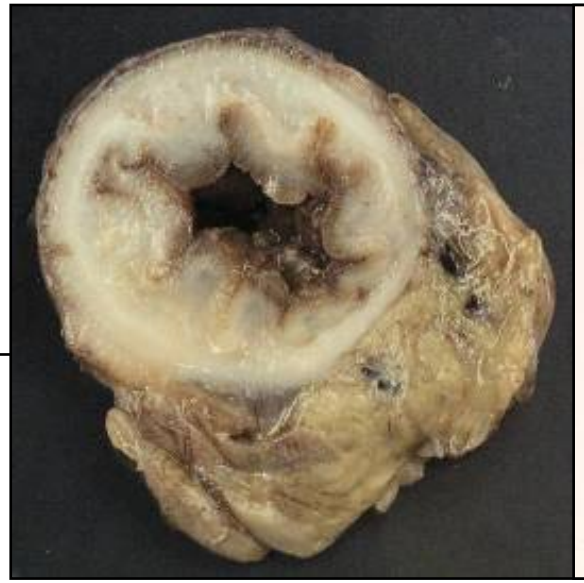
- No single “correct” way to cut a specimen
- RCPath datasets are very useful
    - Diagrams
    - Sampling guidelines
    - Read guideline BEFORE cutting specimen.
- Photograph resection specimens

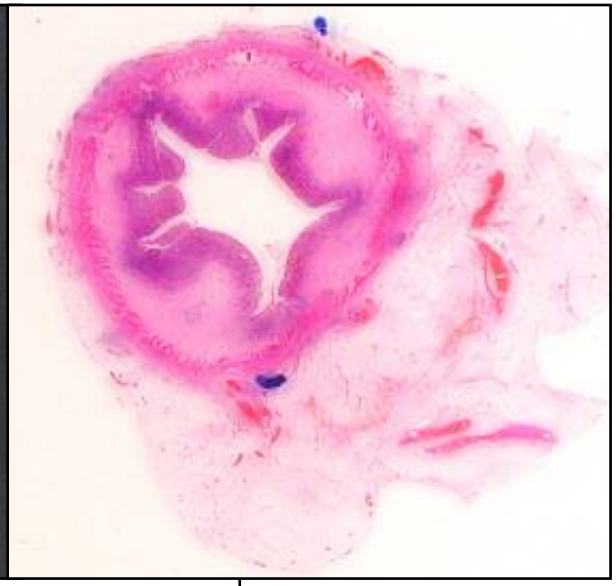
General points

Specimen dissection:

- Block order
  - Margins
  - Lymph nodes
  - Tumour (3+ blocks, ? 1 large block)
- Margins
  - Cut ends (full face)
  - Ducts, vessels etc
  - Circumferential margins
- Record block key in macroscopic report

General points



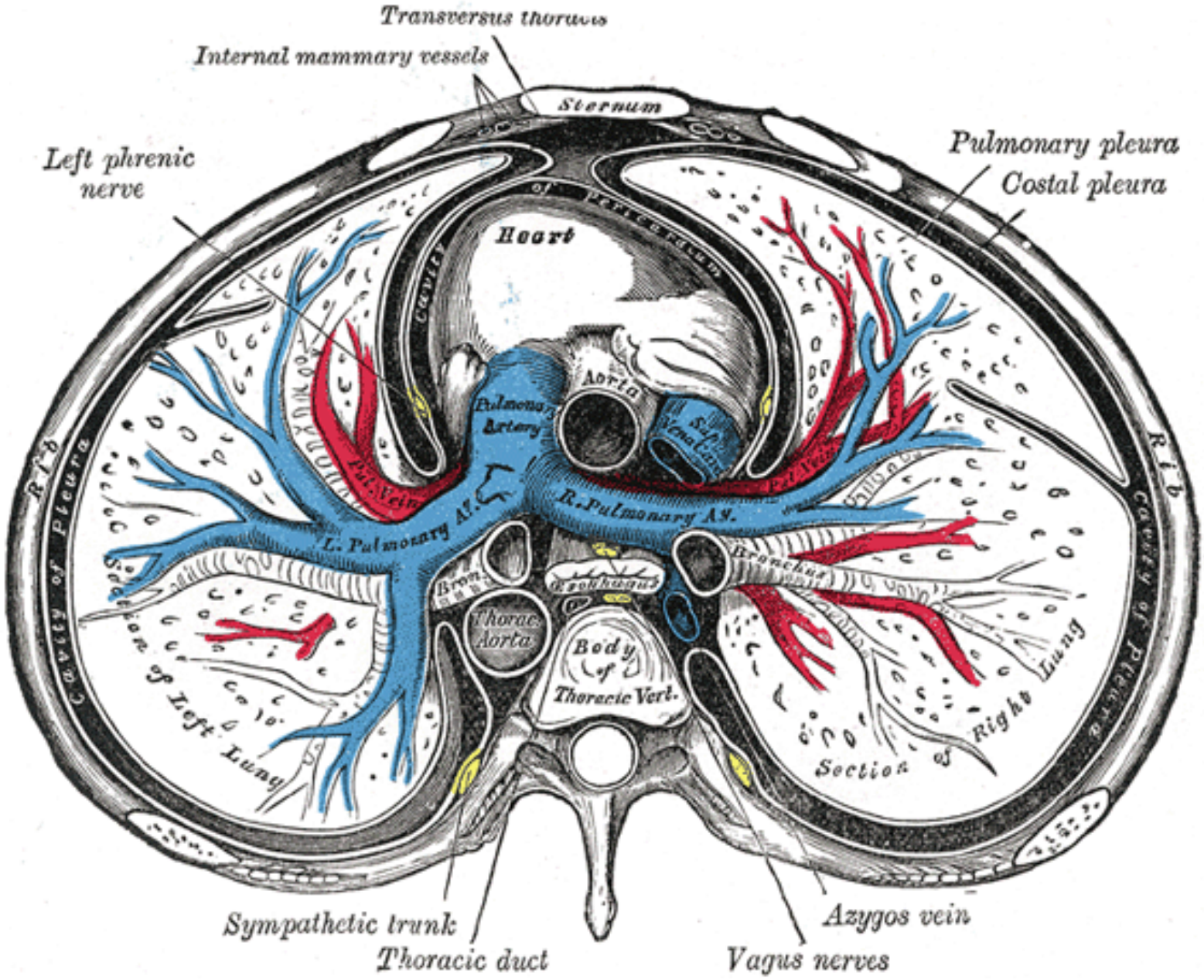


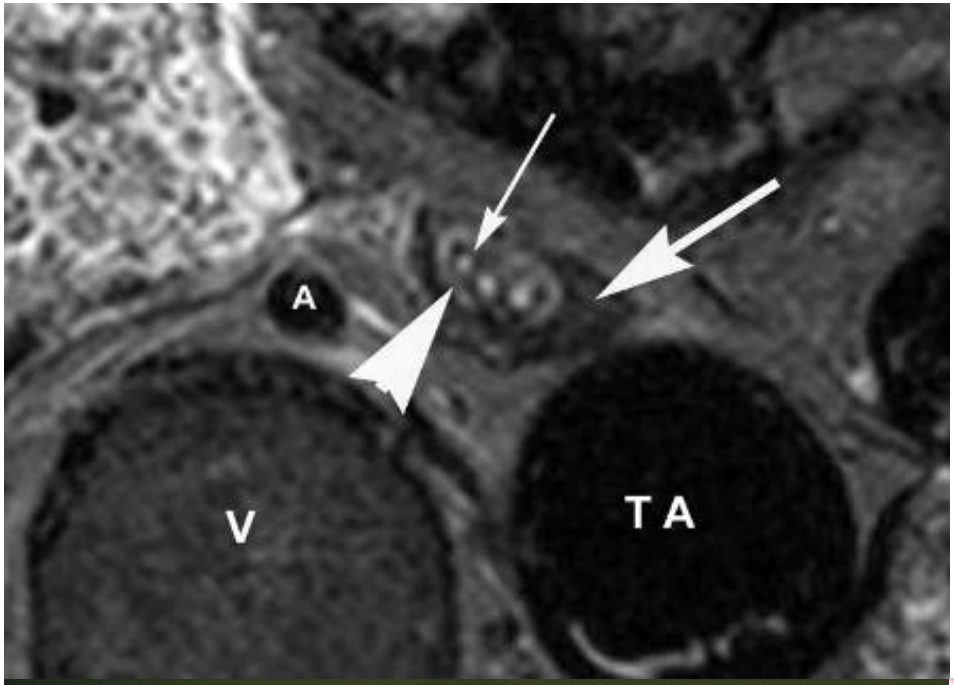
Mega blocks:

- Pros
  - Good macro-micro correlation
  - Useful for tumour mapping (e.g. prostates)
  - Useful for photographs/talks
- Cons
  - Relatively labour intensive
  - Difficult to store
  - Difficult to stain (immunocytochemistry)

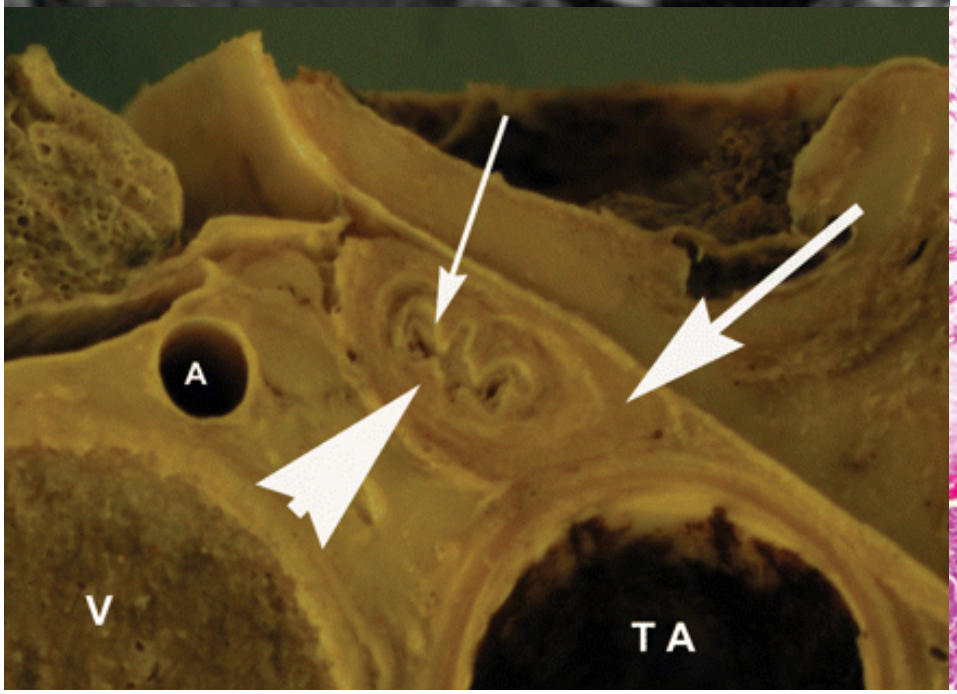
→ Check with lab staff before using

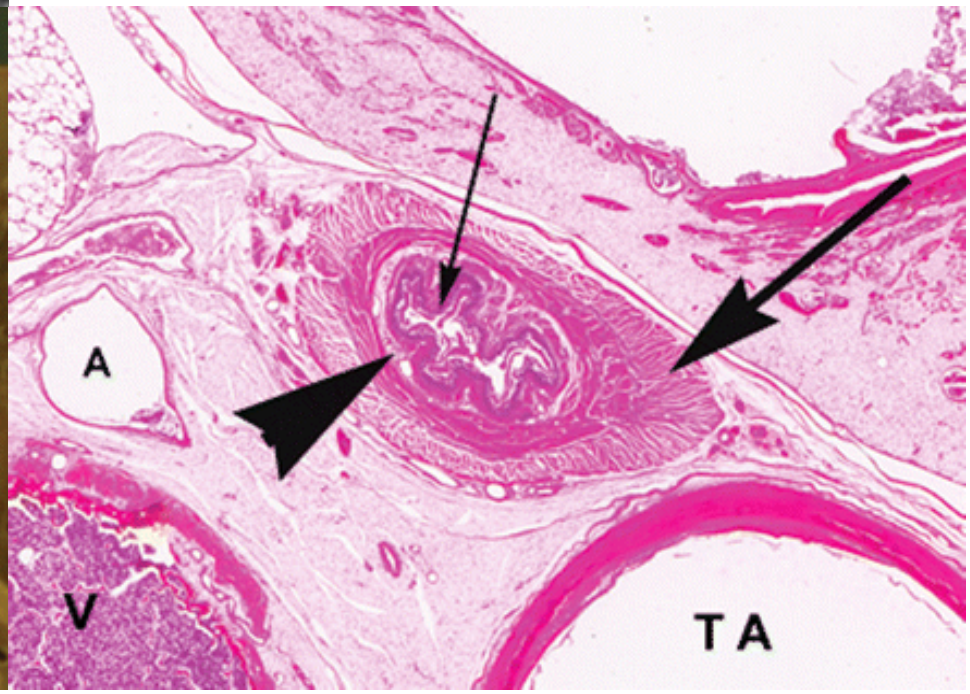
Oesophagus


Transversus thoracis
Internal mammary vessels
Sternum
Left phrenic nerve
Pulmonary pleura
Costal pleura
Heart
Aorta
Pulmonary Artery
L. Pulmonary Af.
R. Pulmonary Ay.
Thorac Aorta
Body of Thoracic Vert.
Section of Left Lung
Section of Right Lung
Rib
Cavity of Pleura
Sympathetic trunk
Thoracic duct
Azygos vein
Vagus nerves



--Cadaver of 86-year-old woman

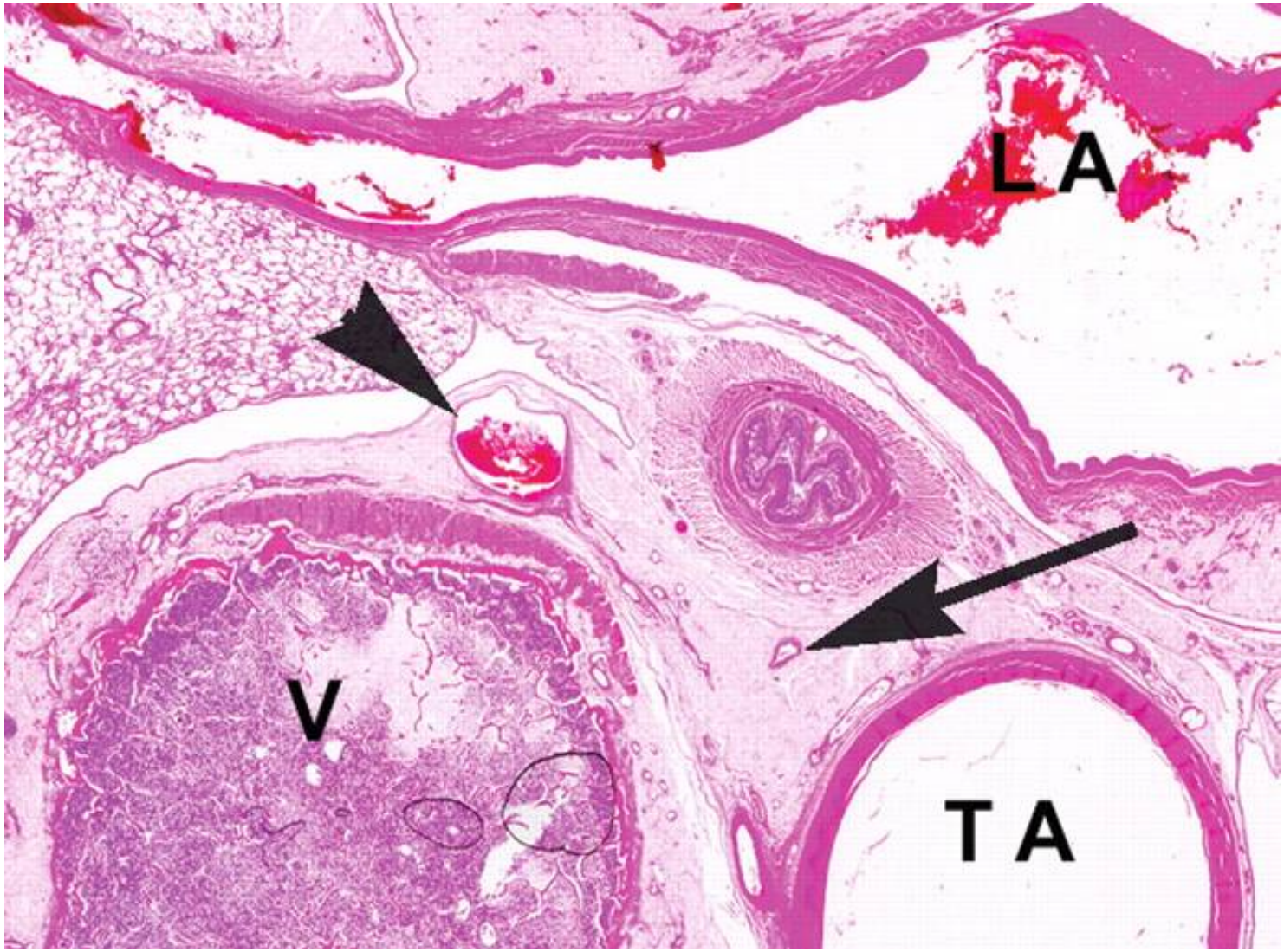




Riddell, A. M. et al. Am. J. Roentgenol. 2007;188:W37-W43

AJR

--Cadaver of 86-year-old woman



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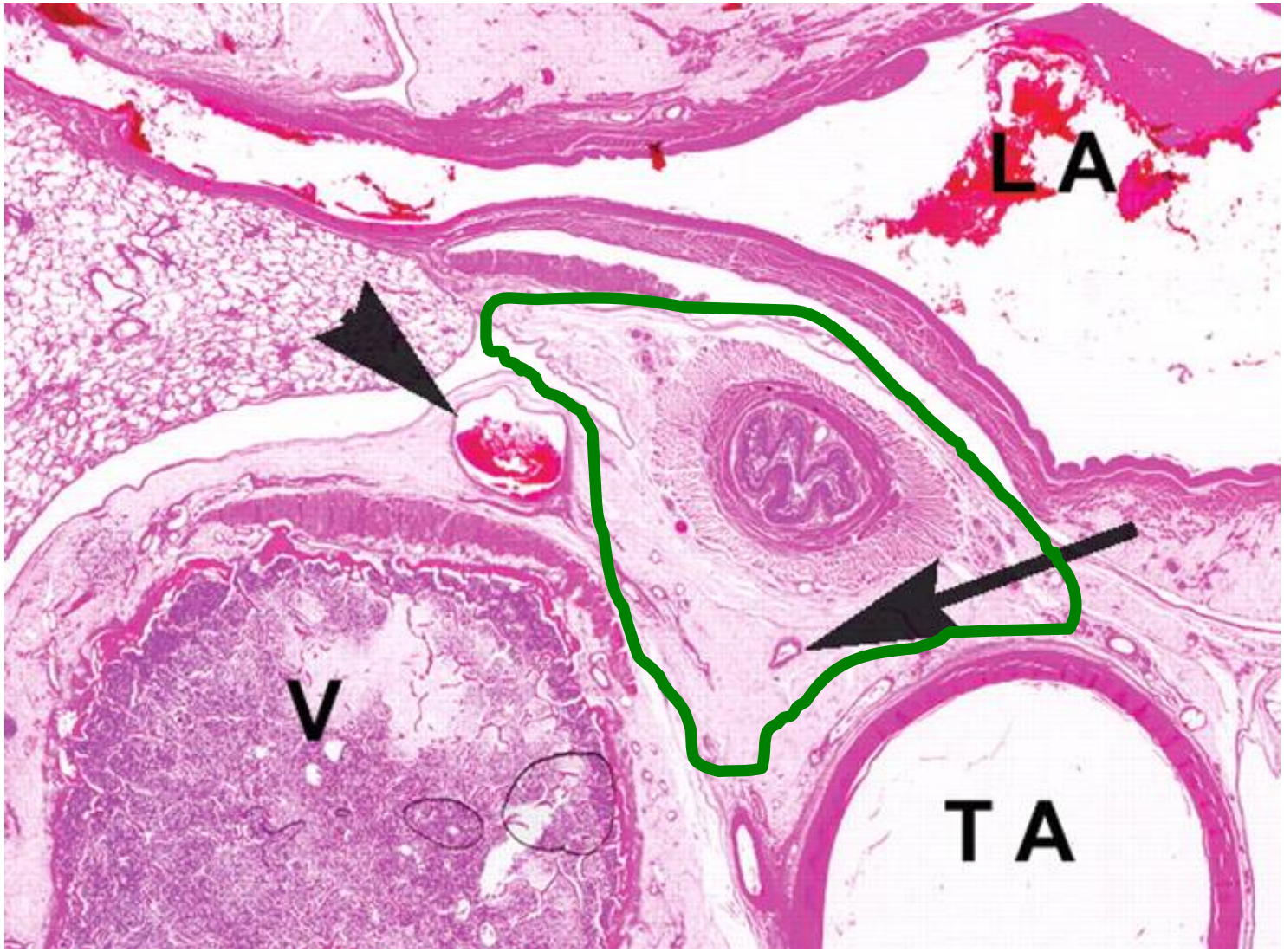
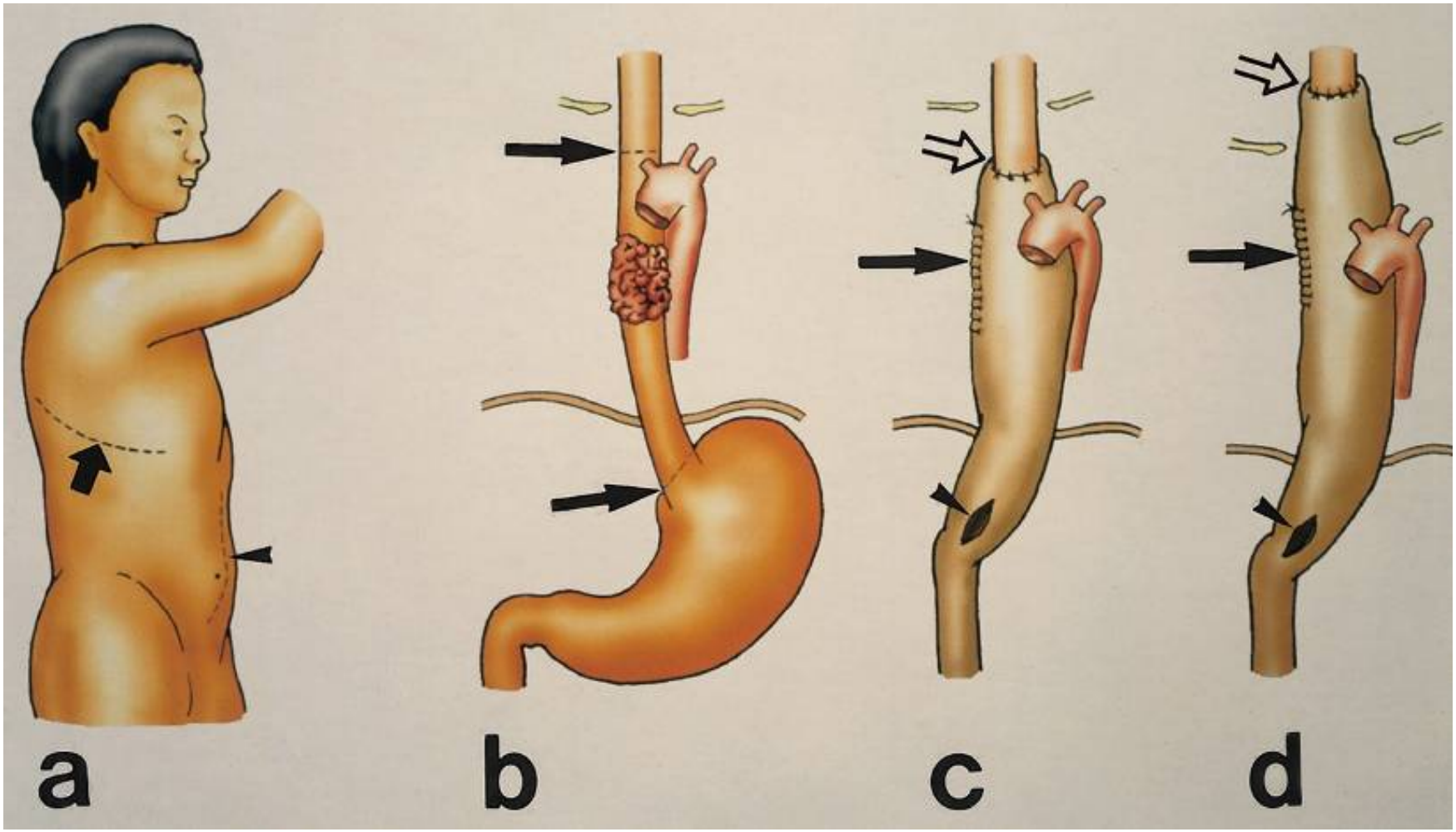


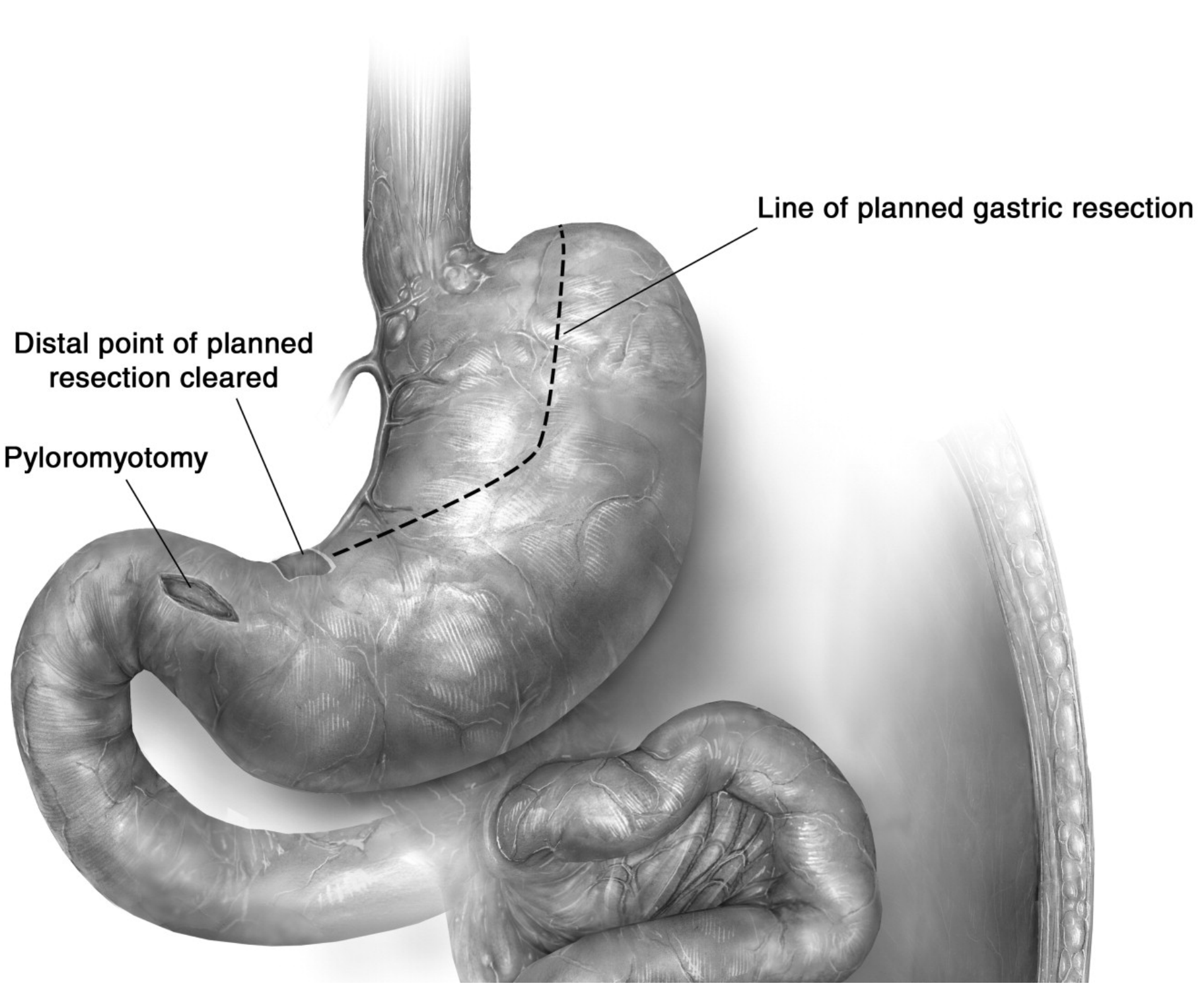
Riddell, A. M. et al. Am. J. Roentgenol. 2007;188:W37-W43

Figure 1. Drawings illustrate transthoracic esophagectomy through a right thoracotomy.

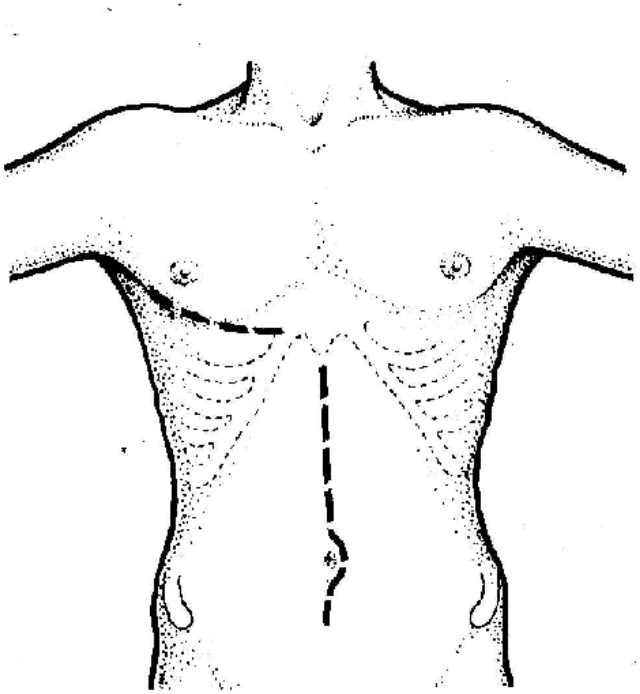


Kim S H et al. Radiographics 2001;21:1119-1137

RadioGraphics


Line of planned gastric resection
Distal point of planned resection cleared
Pyloromyotomy

Oesophagectomy



- Operative mortality 5%
- Immediate post operative morbidity
  - Respiratory complications 20 – 60%
  - Anastomotic leaks 0 – 50%

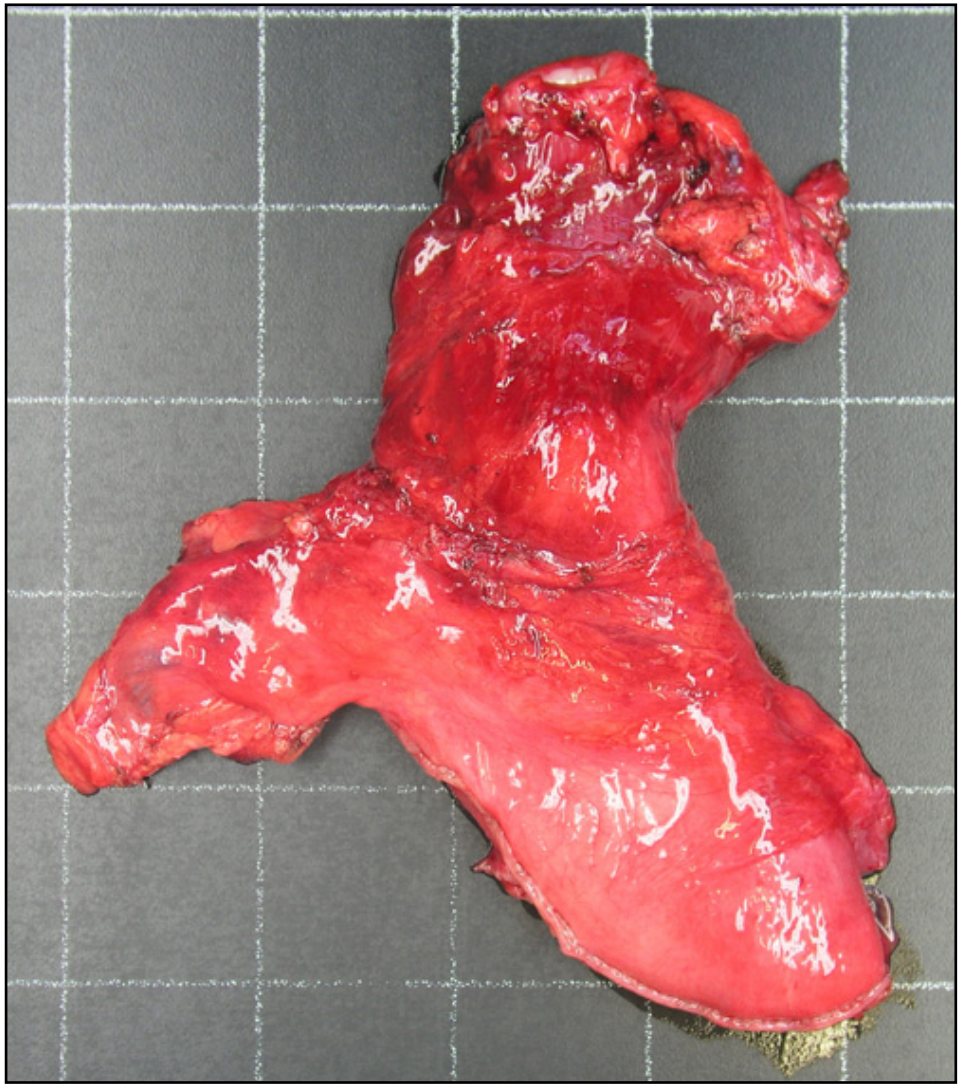
Oesophagectomy

- Longterm morbidity
  - Dysphagia
  - Reflux oesophagitis
  - Delayed gastric emptying
  - Dumping
  - Nausea
  - Diarrhoea
  - Vocal cord paralysis.

Oesophageal resections

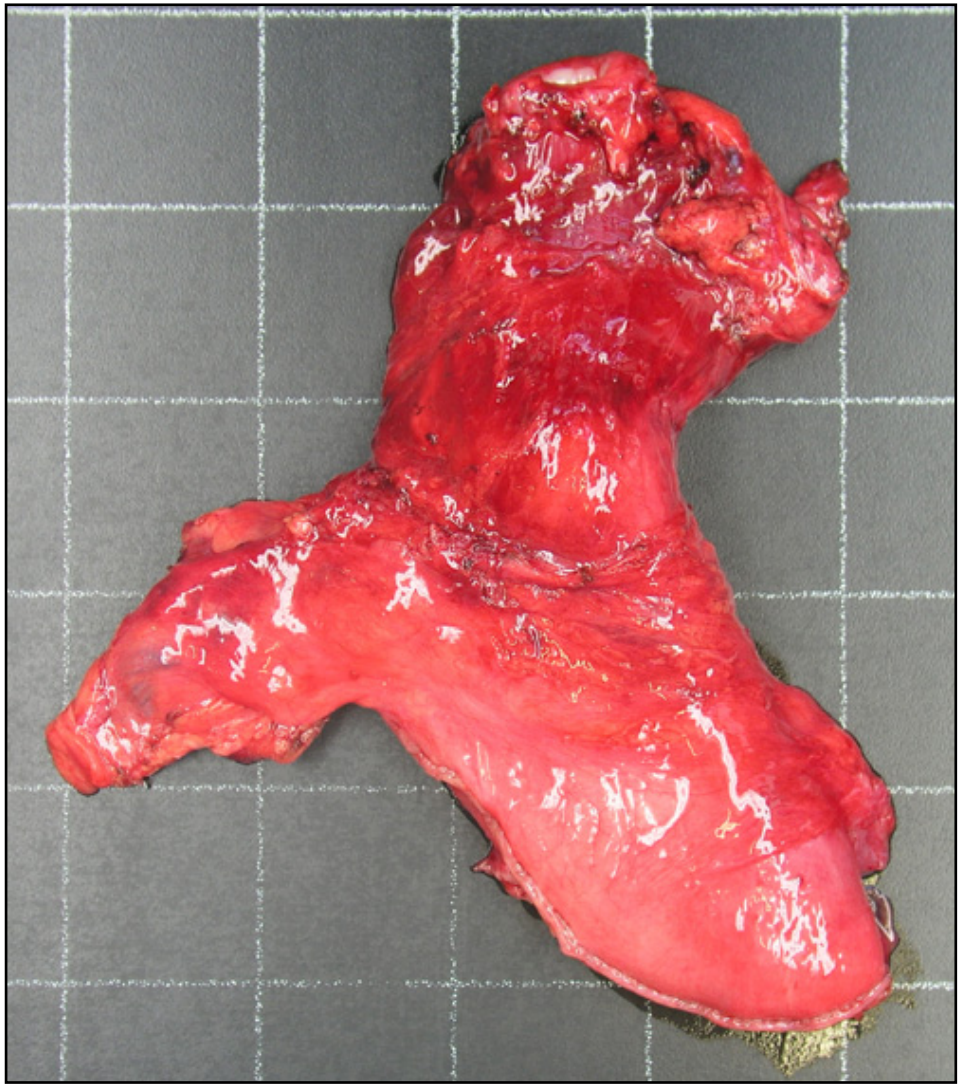
- Vast majority are oesophagectomies/ oesophagogastrectomies for adenocarcinoma.
- SCC oesophagus primarily treated by radical chemoradiotherapy.
- Increasing number of EMR specimens.

Oesophagectomy specimens



- Oesophagus shrinks 25% on removal from patient
- On fixation oesophagus may be 33% of original length

Oesophagectomy specimens



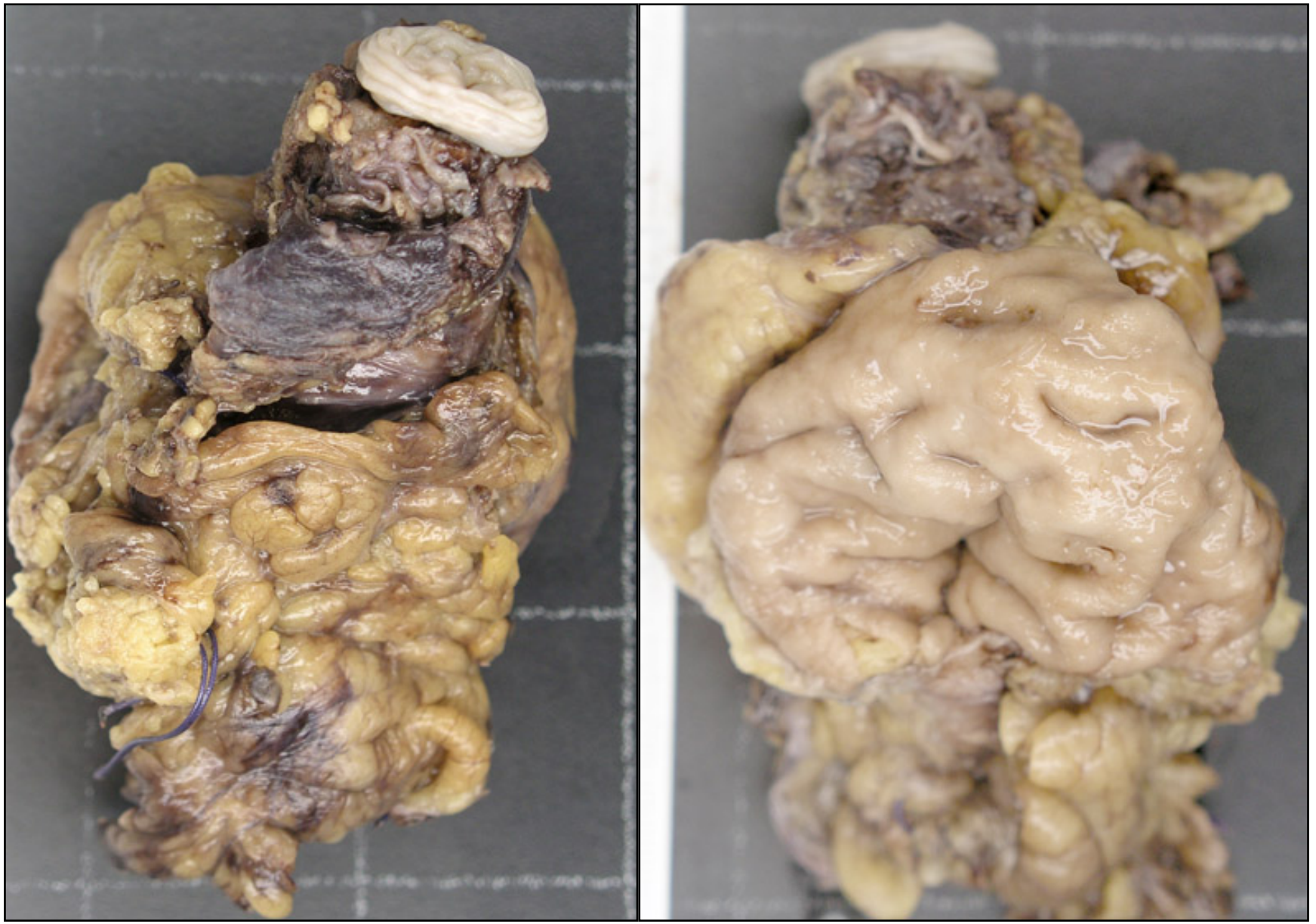
- Oesophagus shrinks 25% on removal from patient
- On fixation oesophagus may be 33% of original length

→ Pin specimen fresh if you can

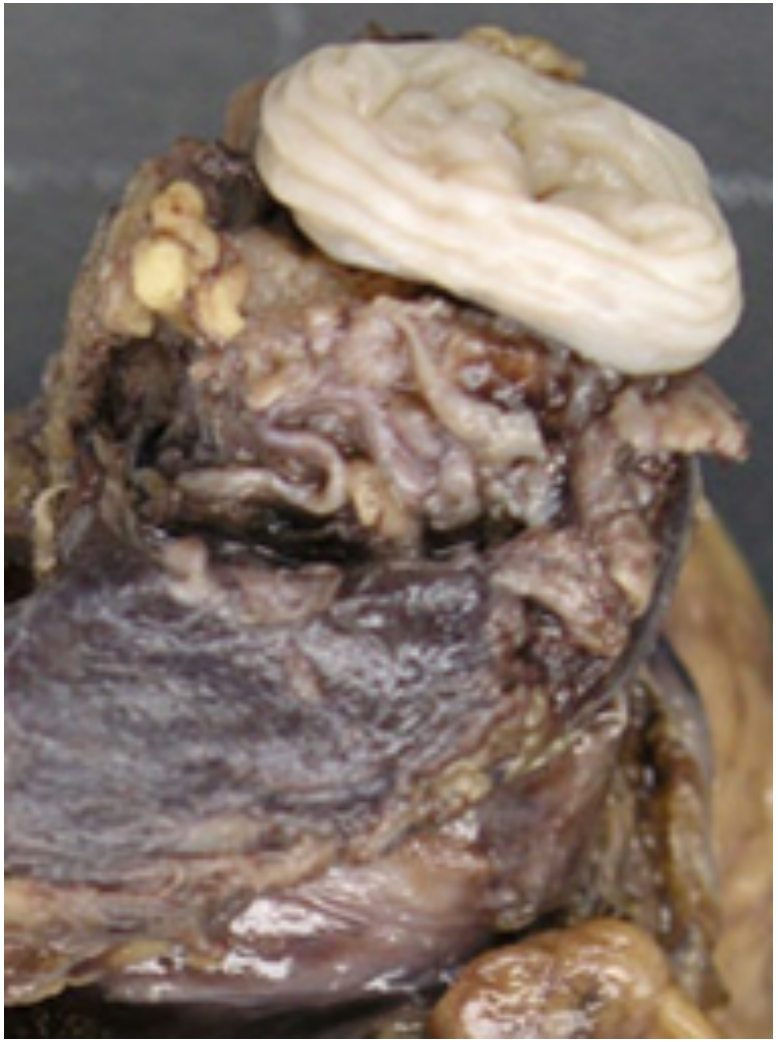
- Open gastric end (cut along staples) + pin on cork board

- Suboptimally pinned specimen

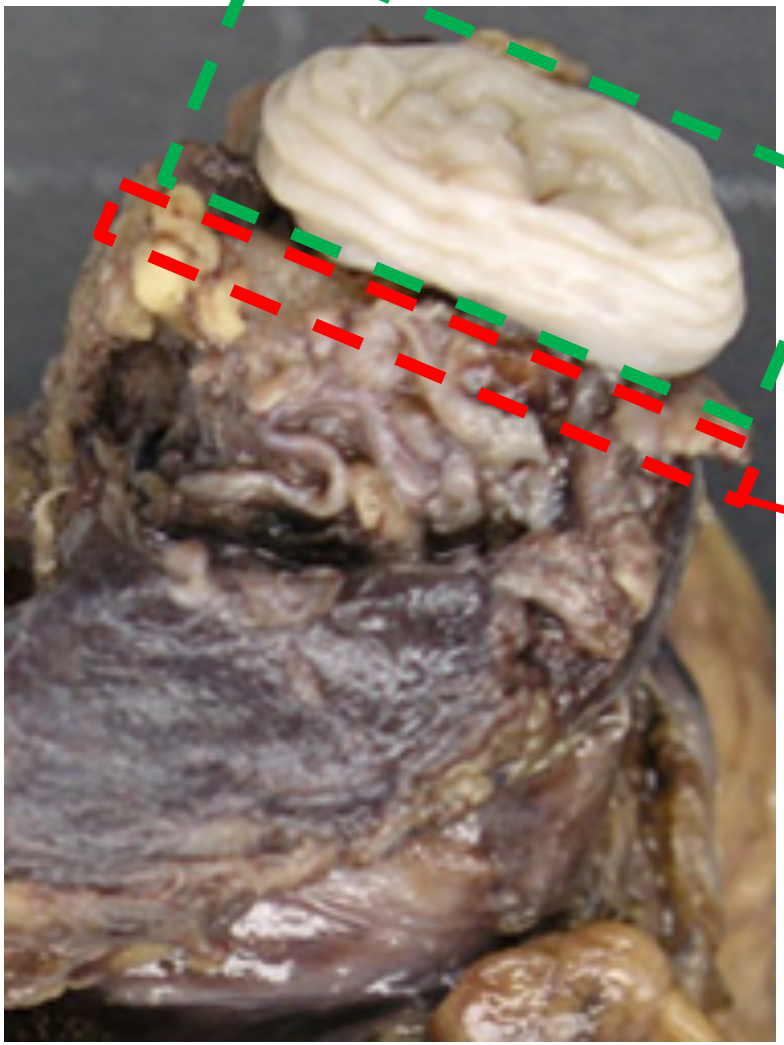
- Non-pinned specimen



Proximal margin assessment in non-pinned specimens



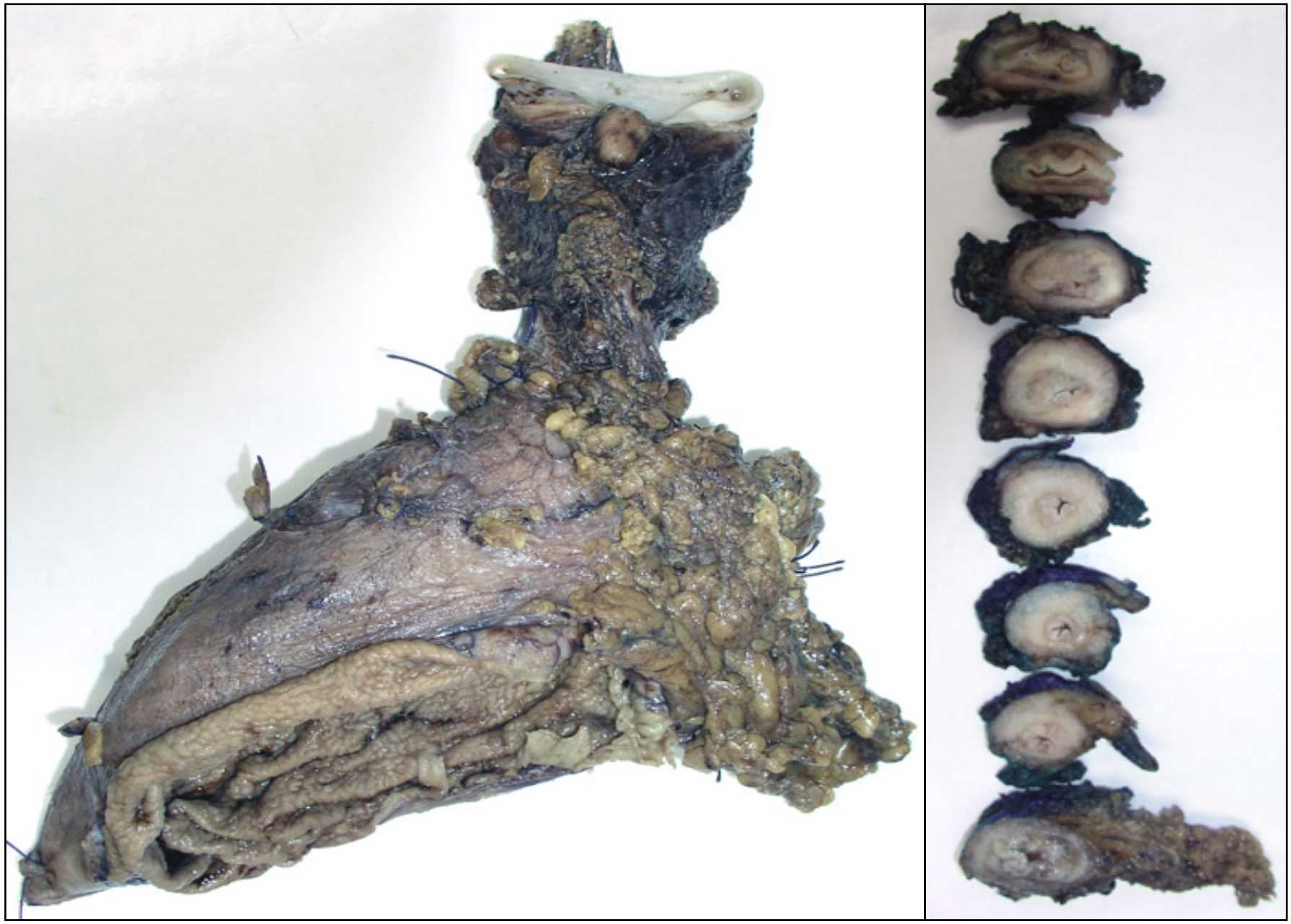
Proximal margin assessment in non-pinned specimens



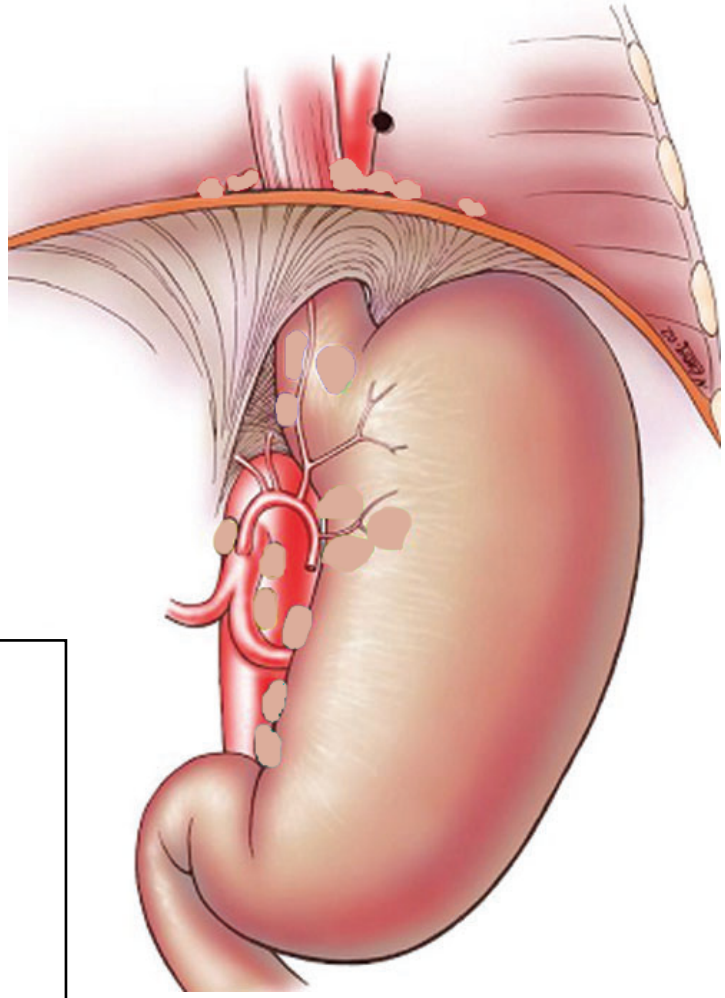
Mucosal/submucosal margin

Muscularis propria/subserosal margin

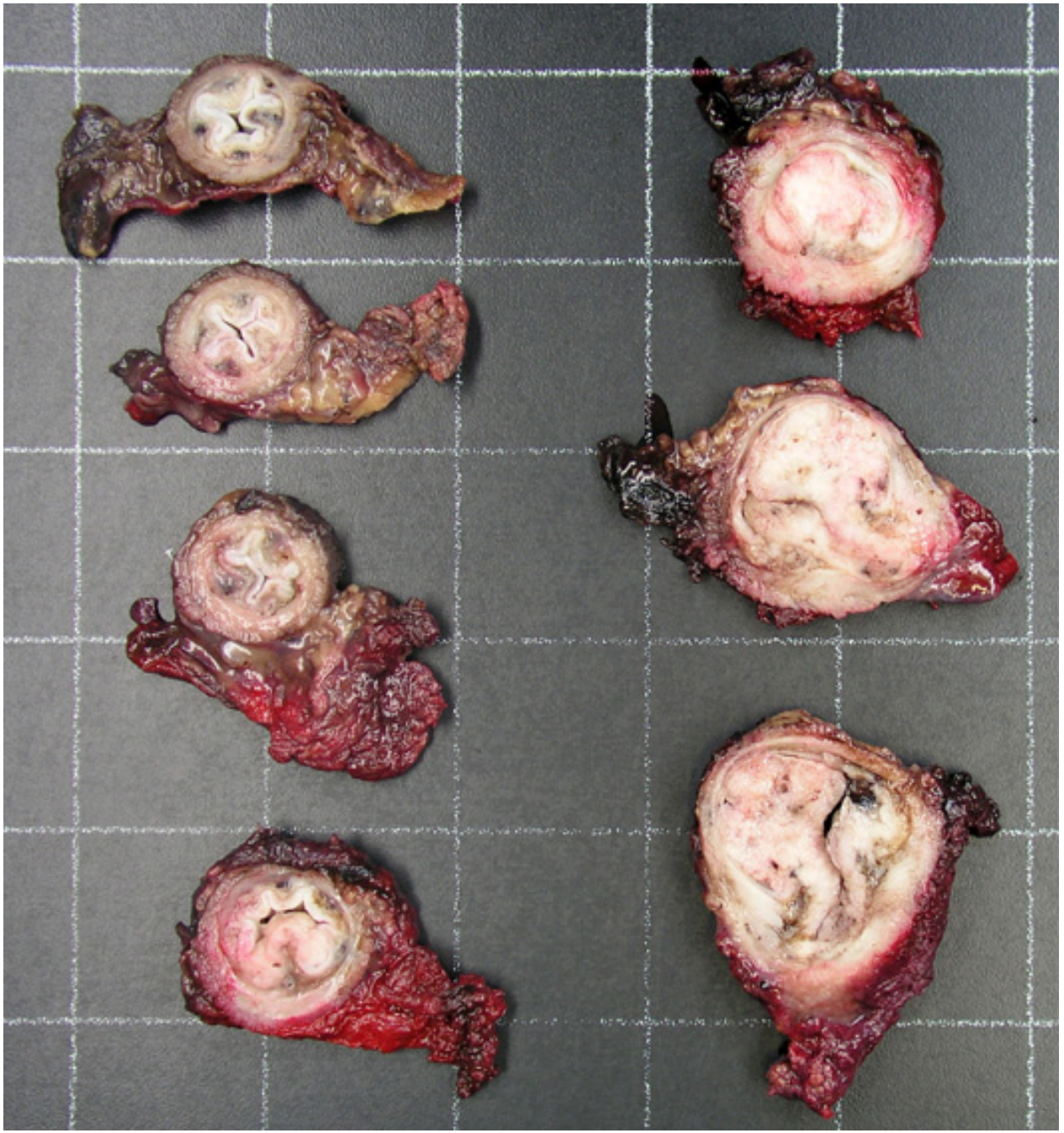
- Ink circumferential margin



Circumferential margins



- Almost entire length of oesophagus.
  (≈ 1cm intra-abdominal peritonealised)
- At OGJ for gastric tumours.



Systematic review and meta-analysis of the influence of circumferential resection margin involvement on survival in patients with operable oesophageal cancer.
Chan DS, Reid TD, Howell I, Lewis WG.
Br J Surg. 2013 Mar;100(4):456-64.

- Meta-analysis – 5 year mortality
- The College of American Pathologists (Tumour at CRM)
  - OR 4·02, 95% CI - 2·25 to 7·20; P < 0·001.
- The Royal College of Pathologists (Tumour <1mm from CRM)
  - OR 2·52, 95% CI - 1·96 to 3·25; P < 0·001.

CRM positivity rates

Histopathology

Histopathology 2013, **62**, 752–763. DOI: 10.1111/his.12078

Prognostic value of added stratification of circumferential resection margin status in oesophageal carcinoma

Jawad Ahmad,[1,*] Maurice B Loughrey,[1,2,*] David Donnelly,[3] Lisa Ranaghan,[3] Rajeev Shah,[1] Giulio Napolitano[3] & Andrew J Kennedy[1]

[1]*Royal Victoria Hospital/Belfast Health and Social Care Trust, Belfast,* [2]*Northern Ireland Molecular Pathology Laboratory, Centre for Cancer Research and Cell Biology, Queens University Belfast, Belfast, and* [3]*Centre for Public Health, Mulhouse Building, Belfast, UK*

RCPath CRM status	
R0	50 (26)
R1	145 (74)
CAP CRM status	
R0	137 (70)
R1	58 (30)

RCPath <1mm: 74%

Defining a positive circumferential resection margin in oesophageal cancer and its implications for adjuvant treatment

J. R. O'Neill[1], N. A. Stephens[1], V. Save[2], H. M. Kamel[4], H. A. Phillips[3], P. J. Driscoll[5] and S. Paterson-Brown[1]

Departments of [1]General Surgery and [2]Pathology, Royal Infirmary of Edinburgh, and [3]Department of Oncology, Western General Hospital, Edinburgh, [4]Department of Pathology, Wishaw General Hospital, Glasgow, and [5]Department of General Surgery, Victoria Hospital, Kirkcaldy, UK
Correspondence to: Mr J. R. O'Neill, Department of General Surgery, Royal Infirmary of Edinburgh, 51 Little France Crescent, Old Dalkeith Road, Edinburgh EH16 4SA, UK (e-mail: roneill1@staffmail.ed.ac.uk)

CRM (mm)	
0	47 (20·8)
0·1–0·9	83 (36·7)
≥ 1	96 (42·5)

RCPath <1mm: 57.5%

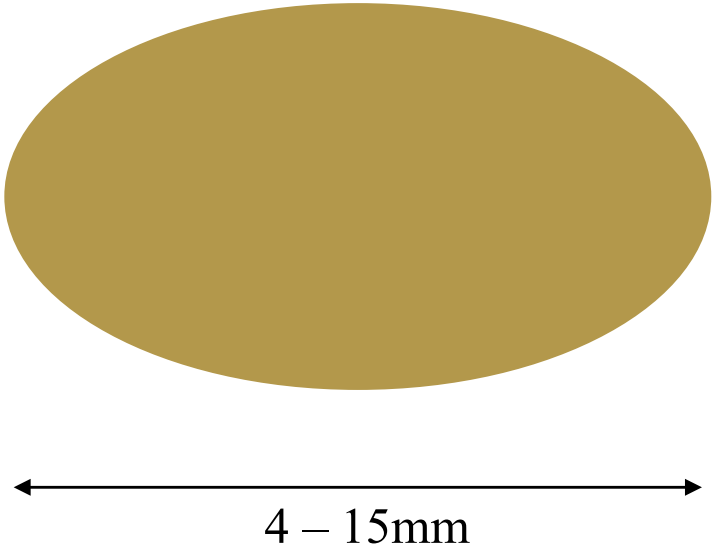
Blocks

- Proximal and distal margins (full thickness).
- Circumferential margin.
- Lymph nodes.
- Tumour (4+).
- Background oesophagus, stomach etc

Handling and reporting EMRs

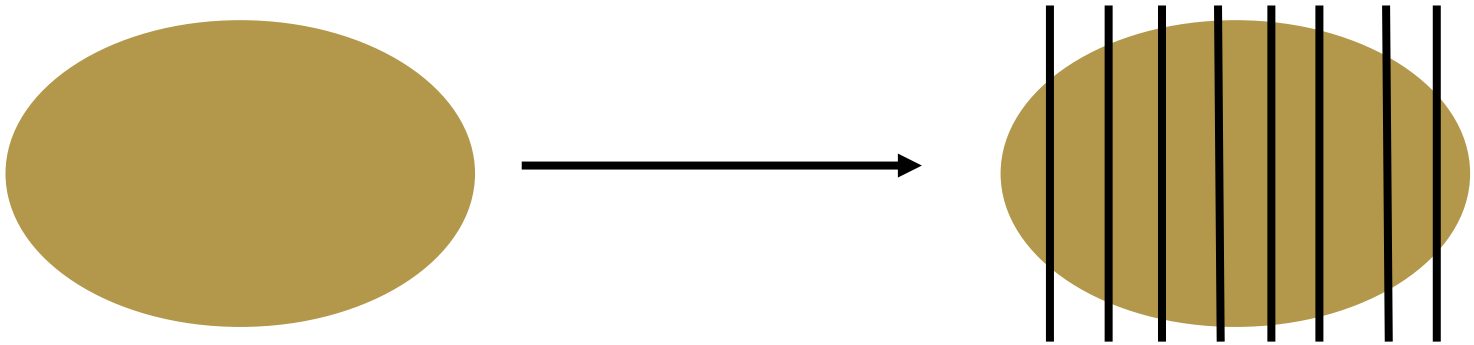
Endoscopic mucosal resection (EMR) + Endoscopic submucosal dissection (ESD)

Endoscopic mucosal resection (EMR)



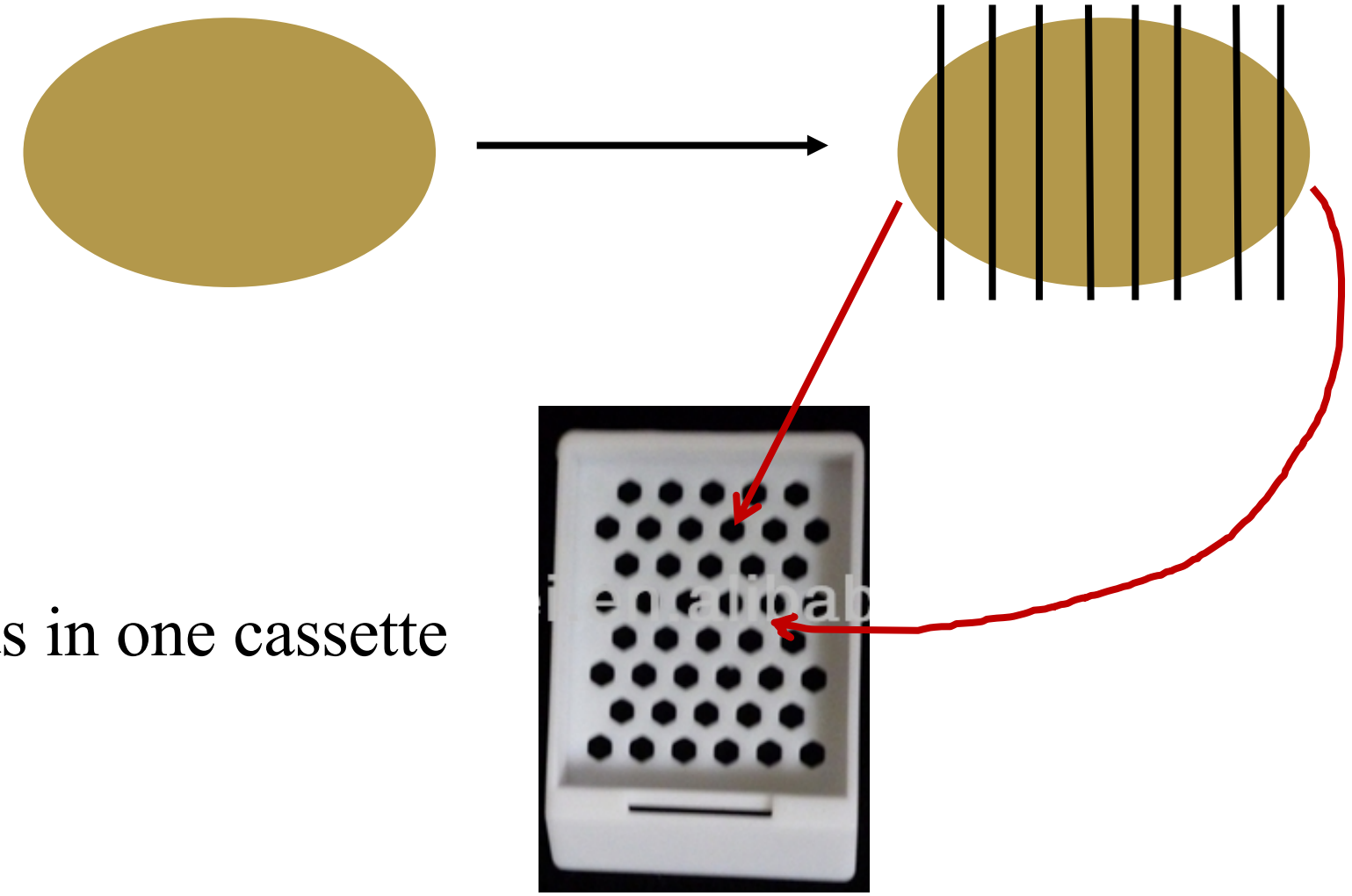
- Resection not a biopsy.
- Treat like a cervical cone (do NOT bisect!).
- If received orientated – ink margins.

Endoscopic mucosal resection (EMR)



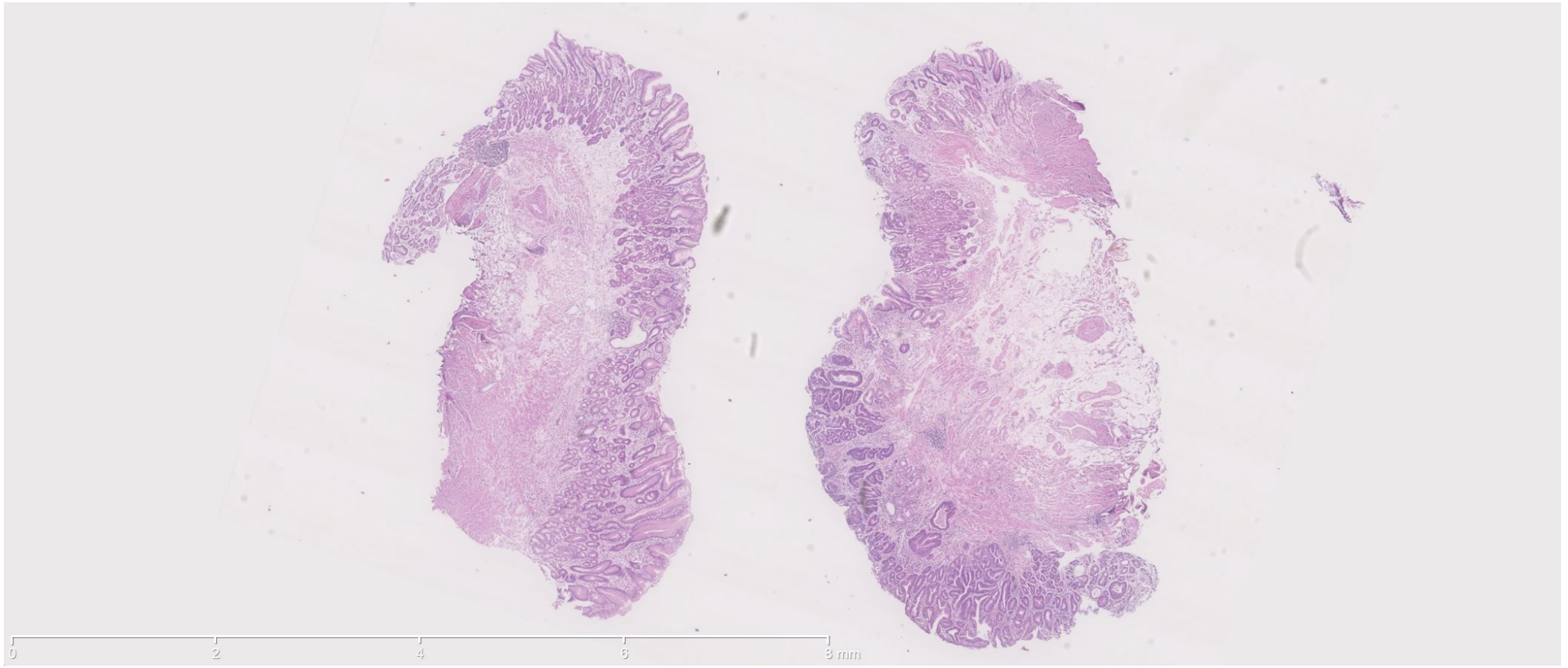
- Often multiple with site range (e.g 32-36cm).
- Serially section, process all, ends in 1 cassette.
- Ideally no more than 2 sections a cassette.

Endoscopic mucosal resection (EMR)

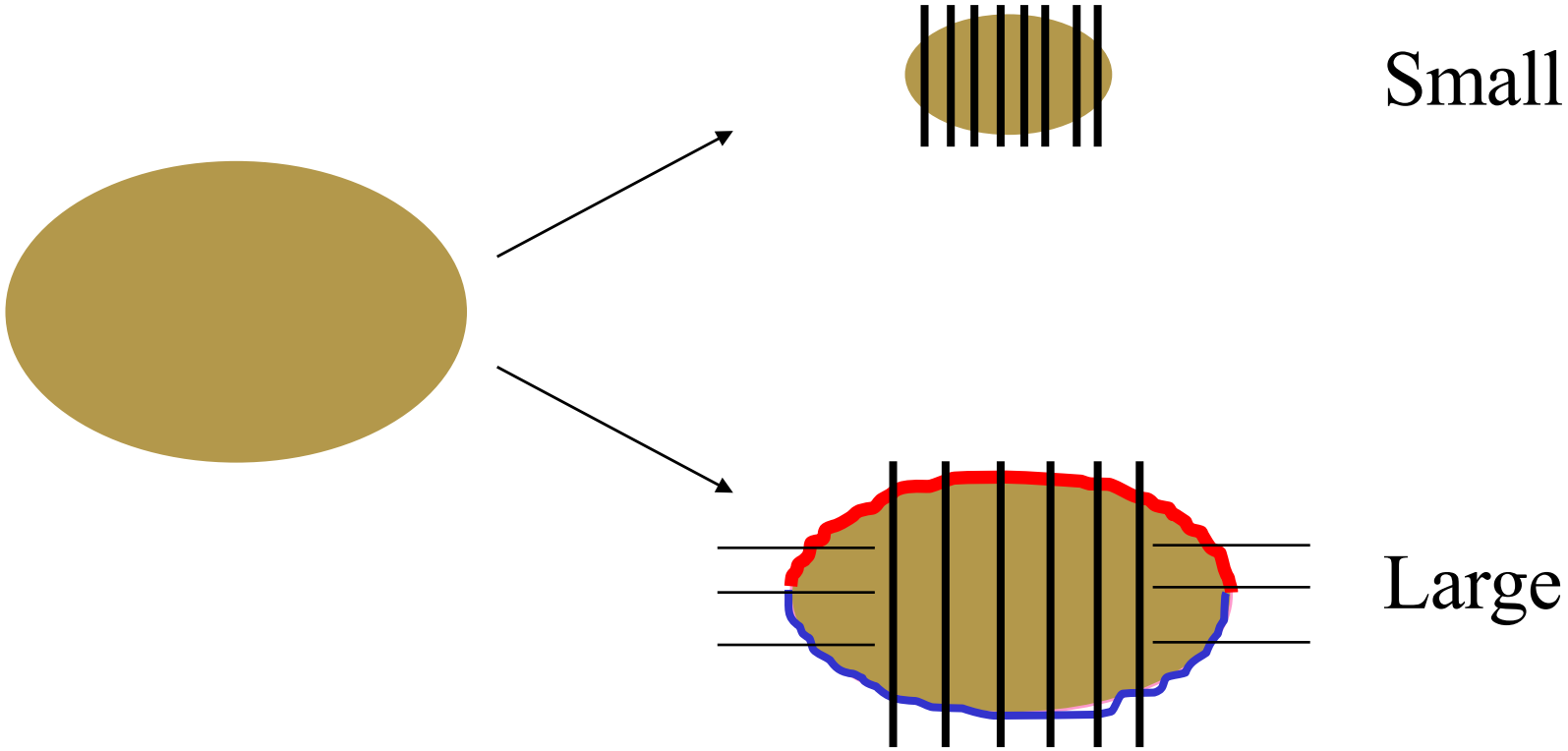


- Ends in one cassette

Ideally only 2 sections a cassette to optimise orientation

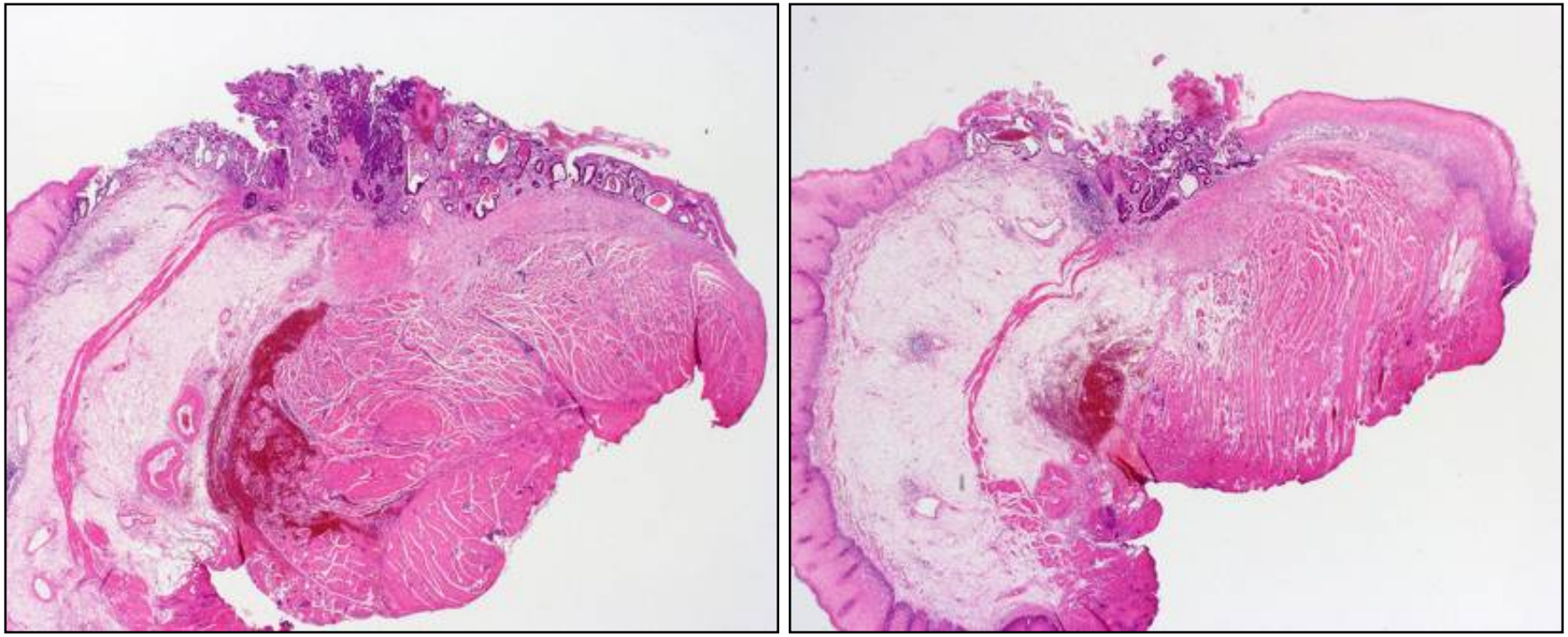

0
2
4
6
8 mm

ESDs



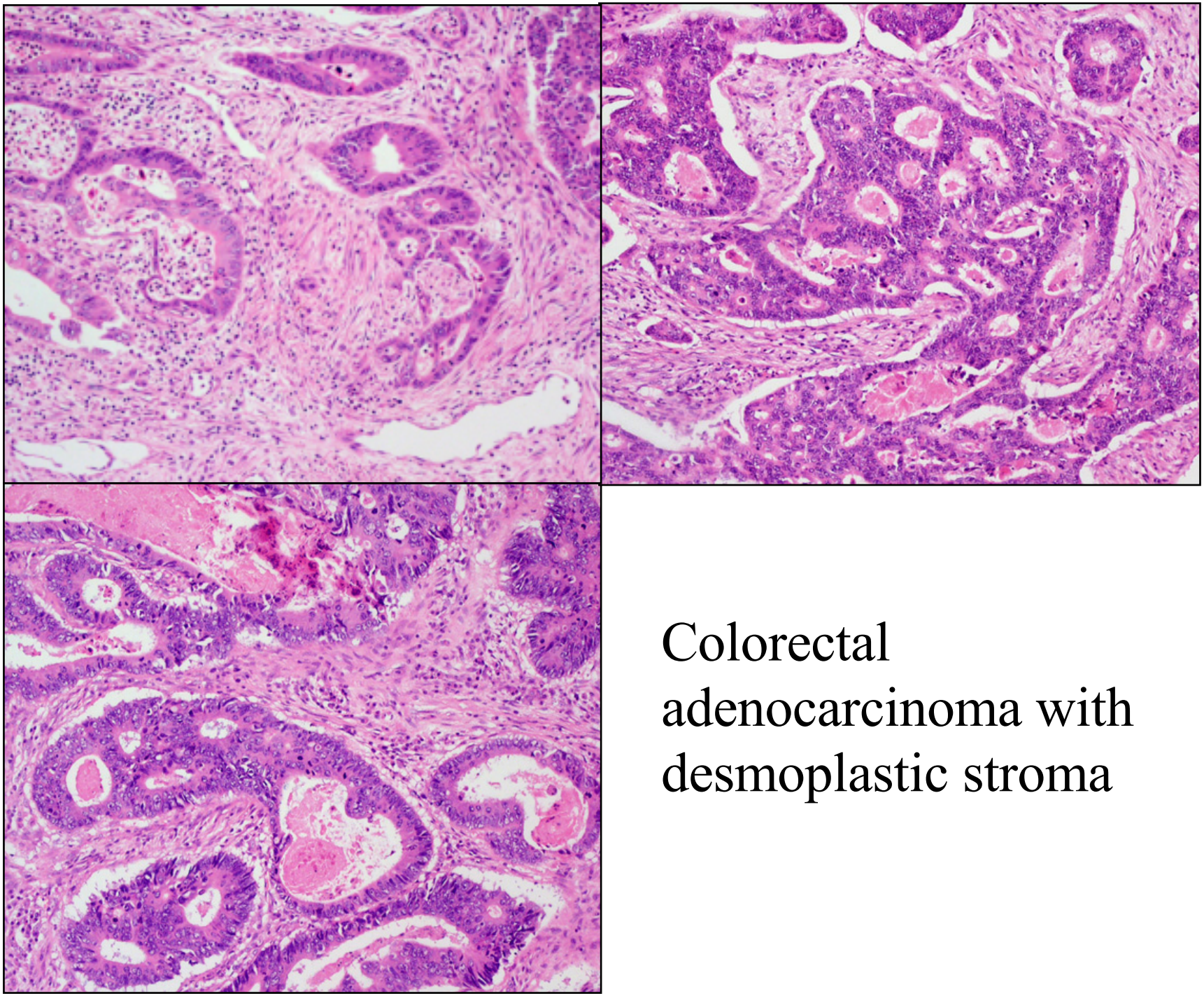
- Ink if orientated and large enough.
- Serially / cruciate section.

Endoscopic mucosal resection (EMR)

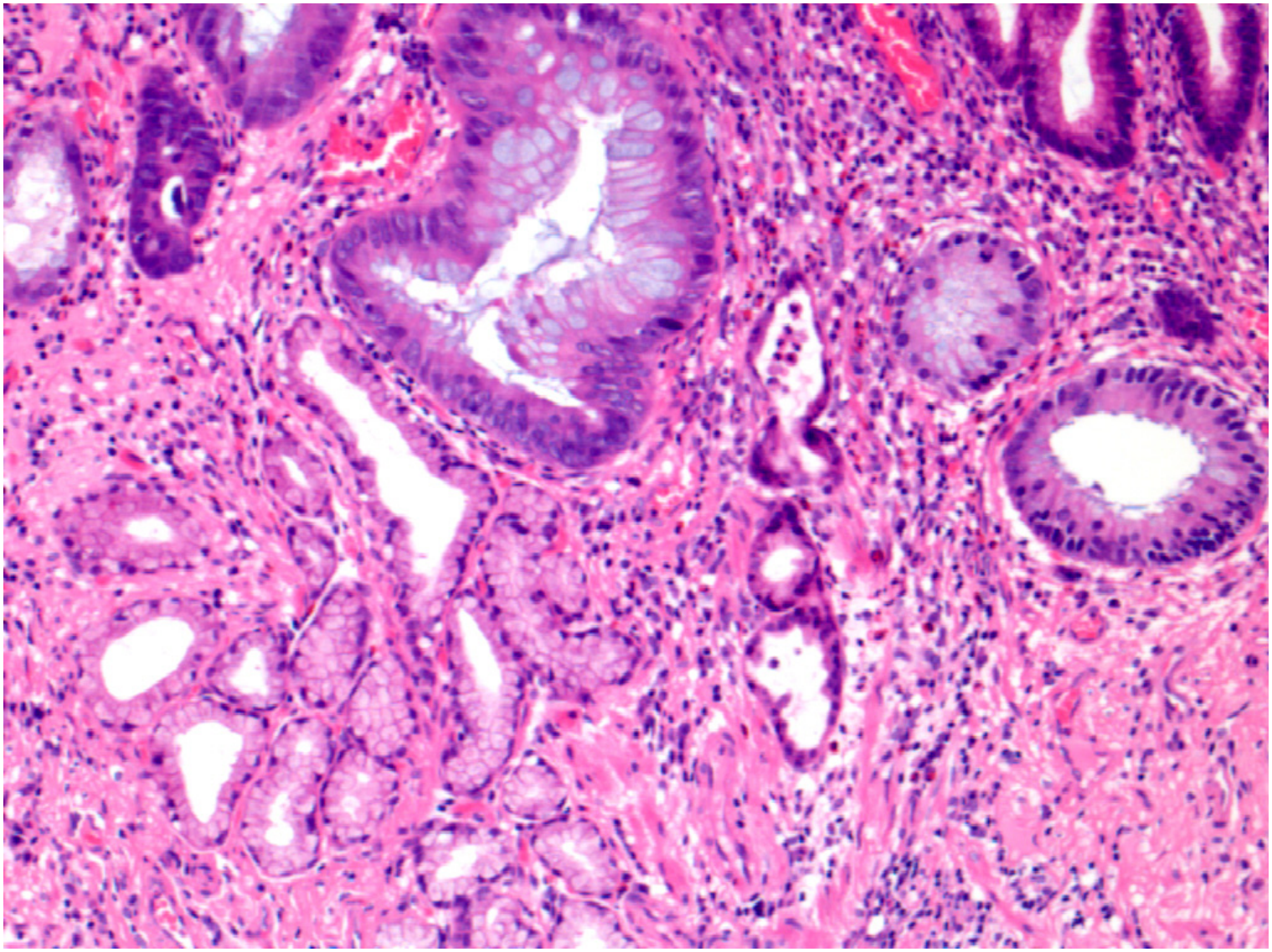


- Usually lots of diathermy artefact.
- Dysplasia often reaches circumferential margin.
- Diagnostic and “debulking” procedure!!

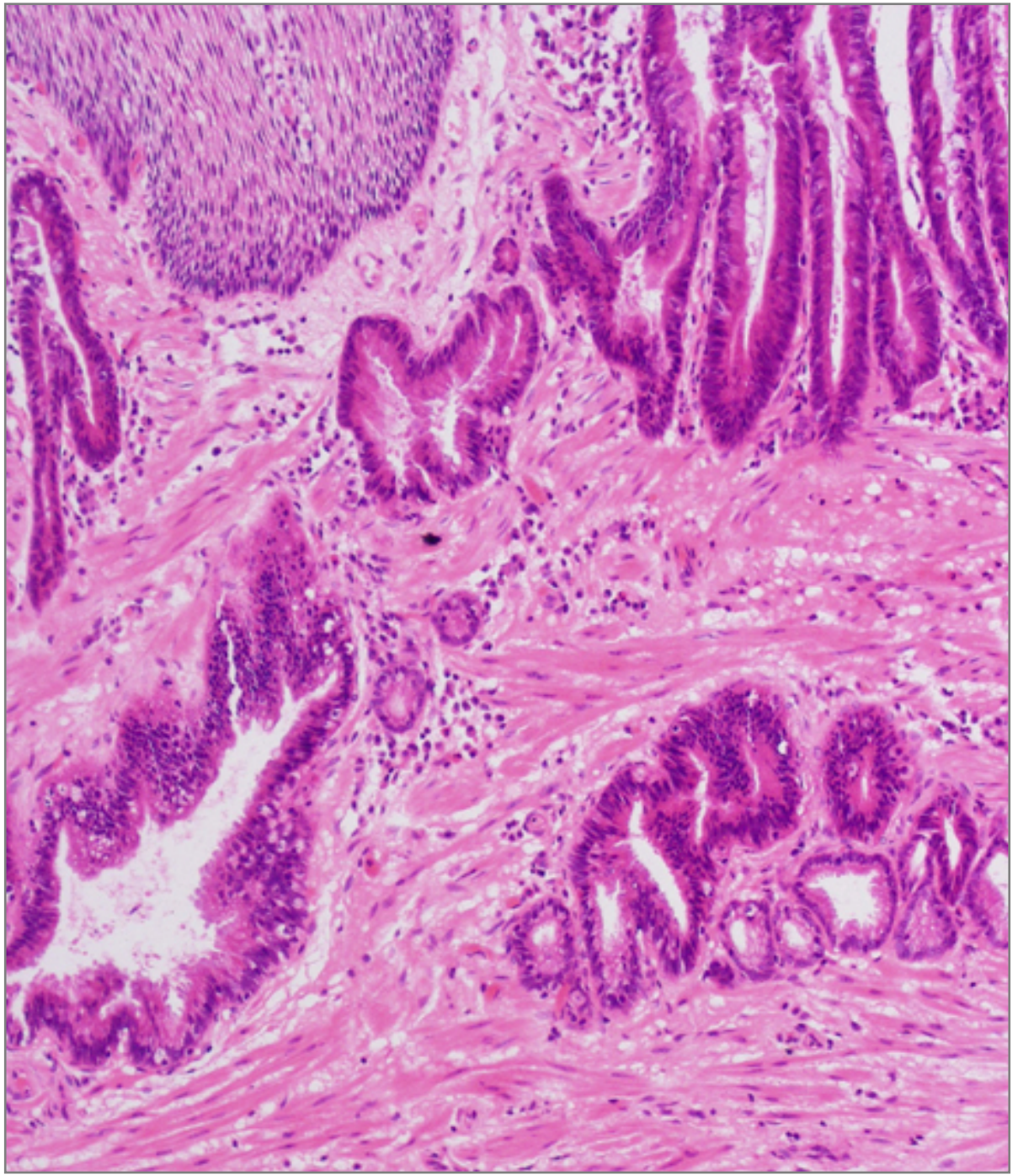
Pathological assessment of invasion

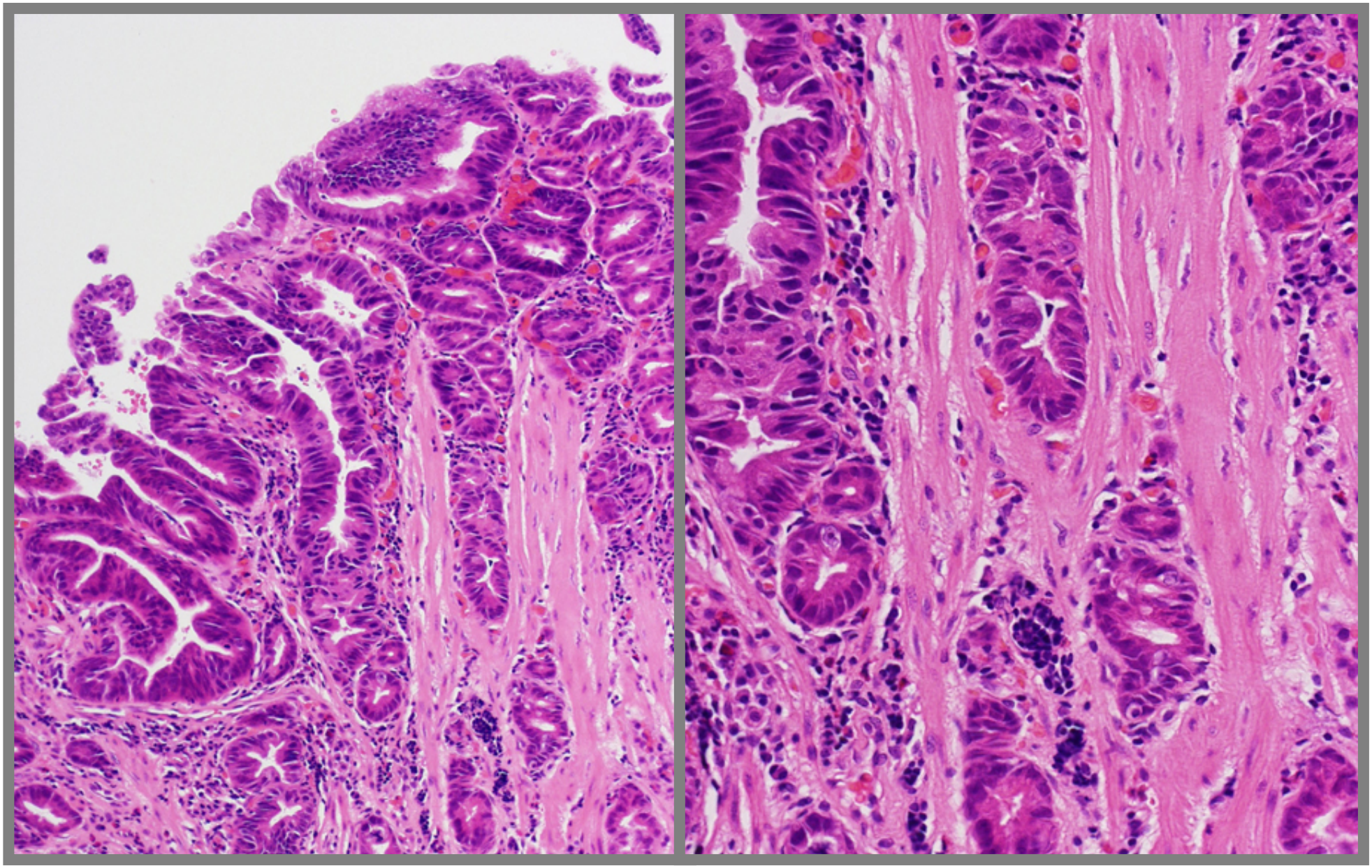


Colorectal adenocarcinoma with desmoplastic stroma

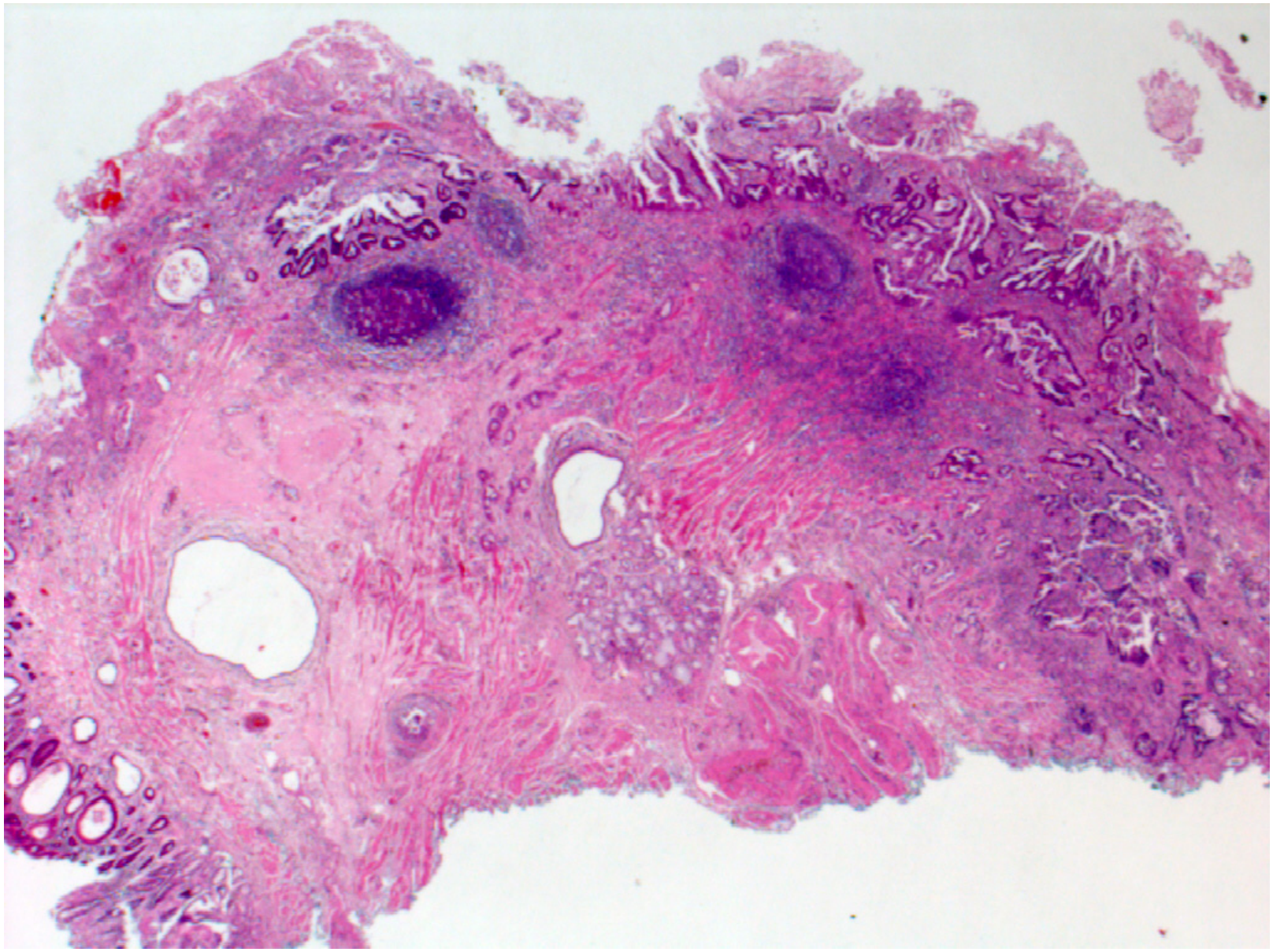


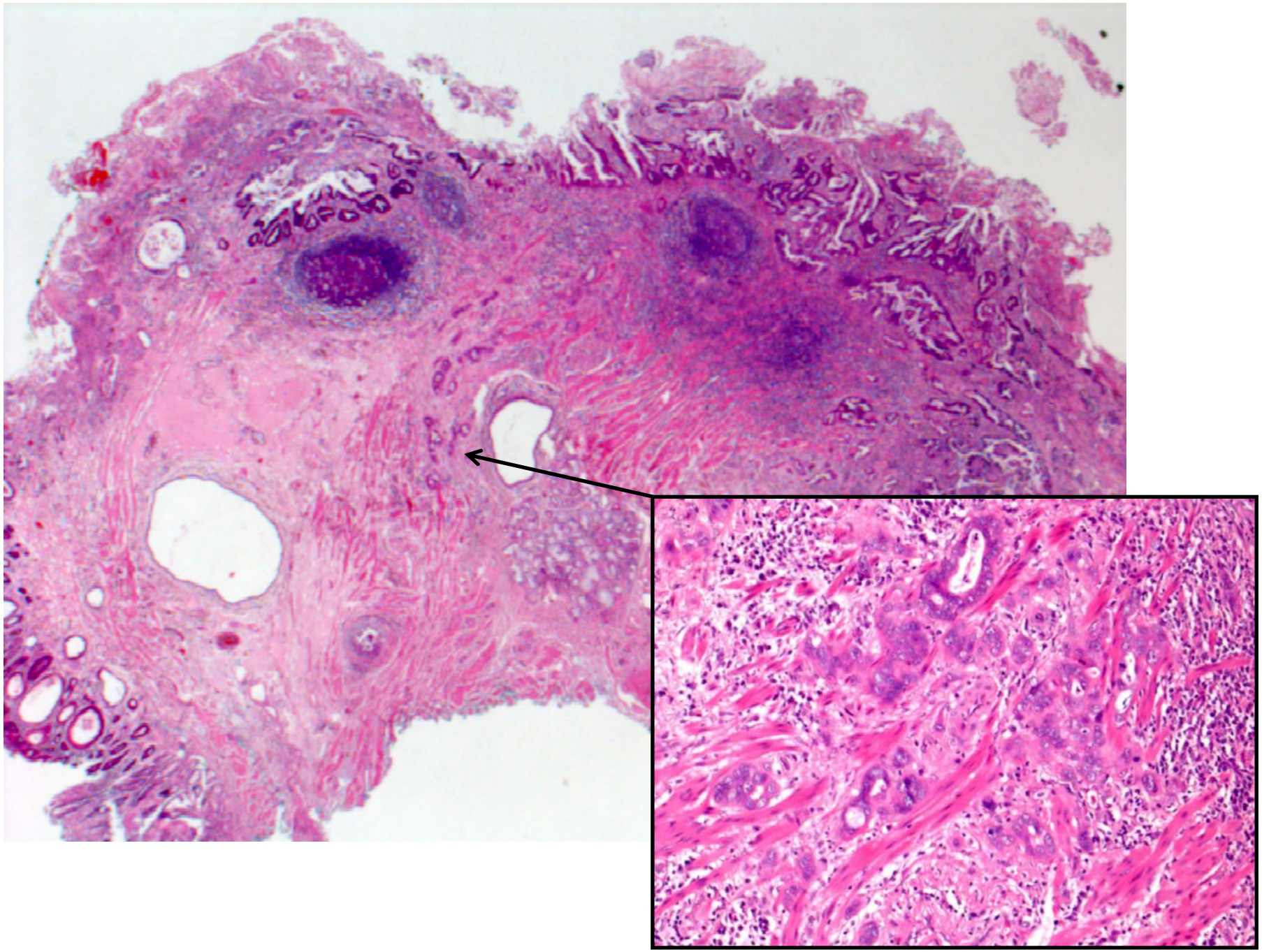
Benign glands in Barrett's often extend in between bundles of smooth muscle



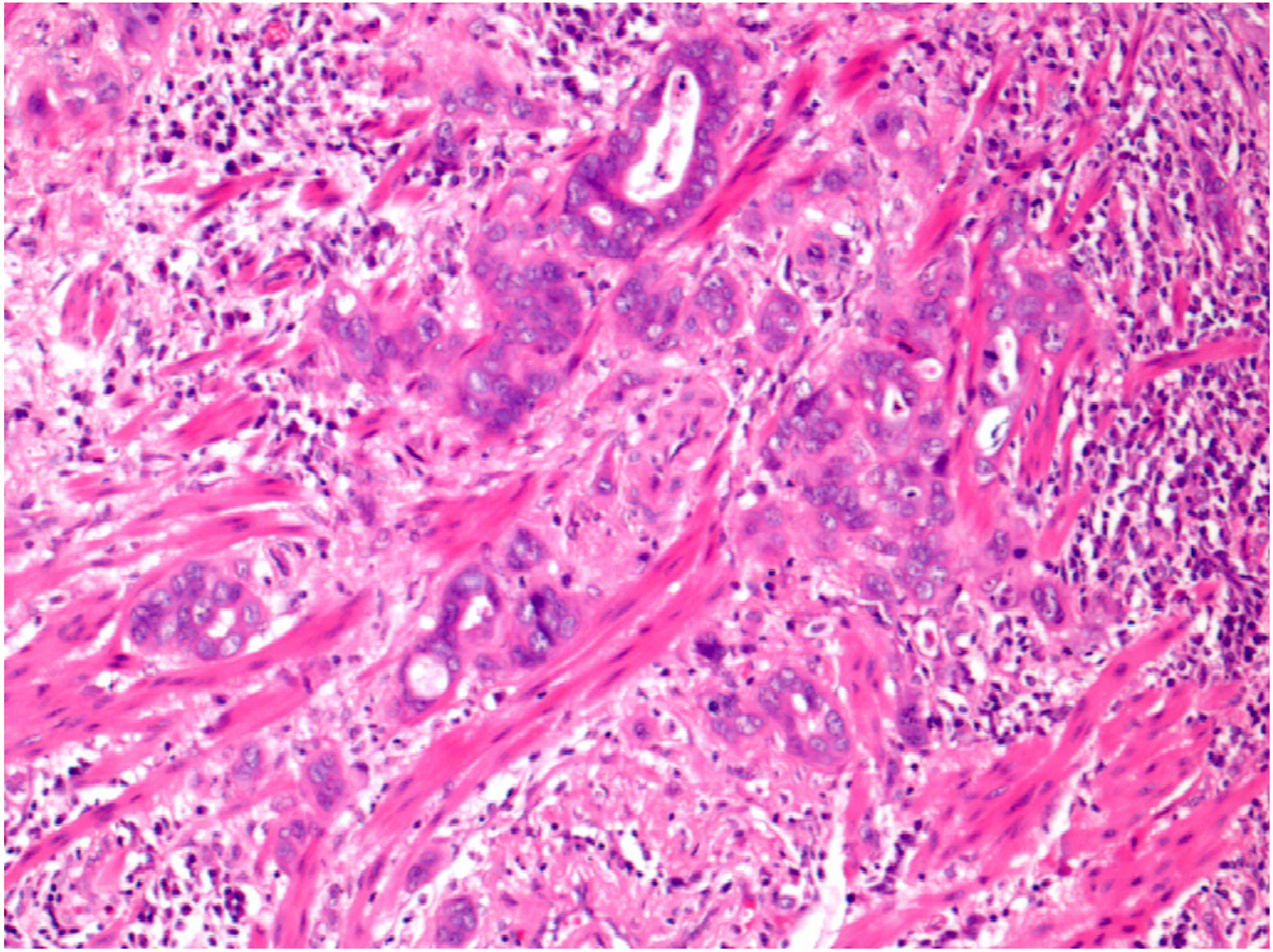


Pseudo-invasion in high grade dysplasia





Early oesophageal adenocarcinoma often lacks a desmoplastic stroma

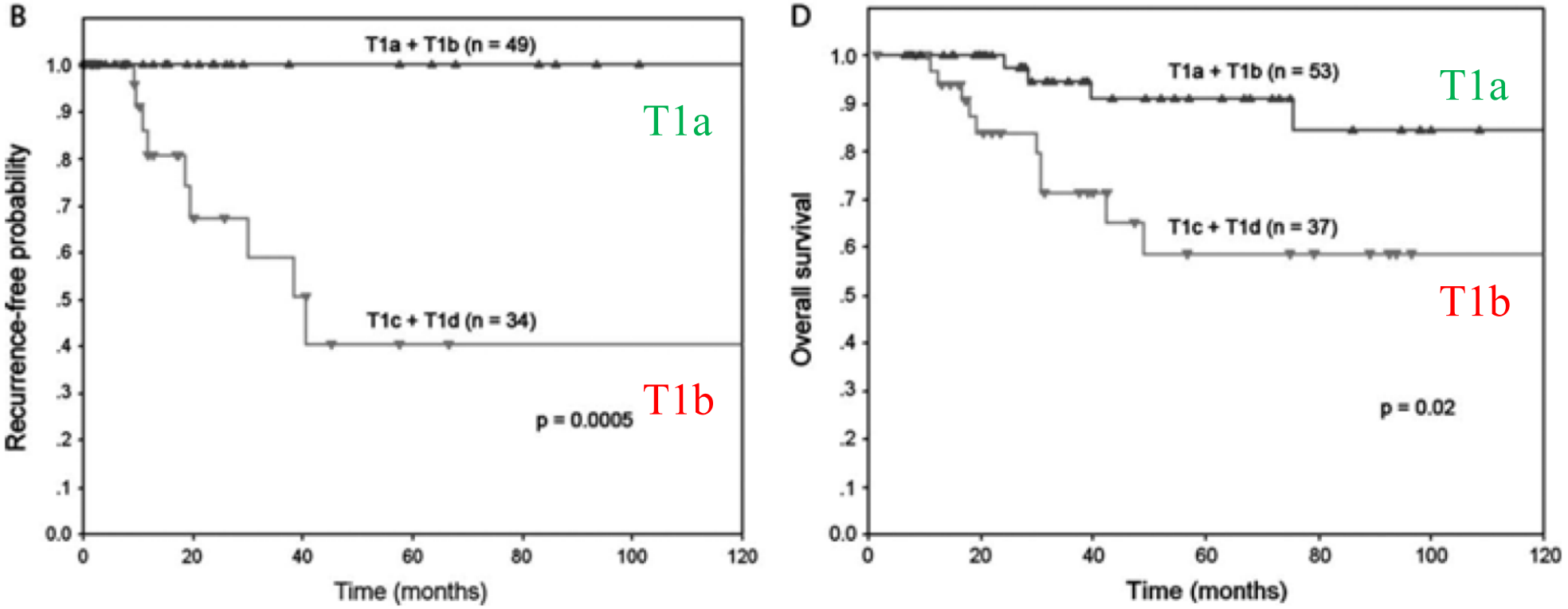


pT staging of adenocarcinoma

Oesophageal adenocarcinoma T staging, TNM7

Primary tumor (T)	
TX	Primary tumor cannot be assessed
T0	No evidence of primary tumor
Tis	High-grade dysplasia
T1	Tumor invades lamina propria, muscularis mucosae, or submucosa
T1a	Tumor invades lamina propria or muscularis mucosae
T1b	Tumor invades submucosa
T2	Tumor invades muscularis propria
T3	Tumor invades adventitia
T4	Tumor invades adjacent structures
T4a	Resectable tumor invading pleura, pericardium, or diaphragm
T4b	Unresectable tumor invading other adjacent structures, such as the aorta, vertebral body, and trachea

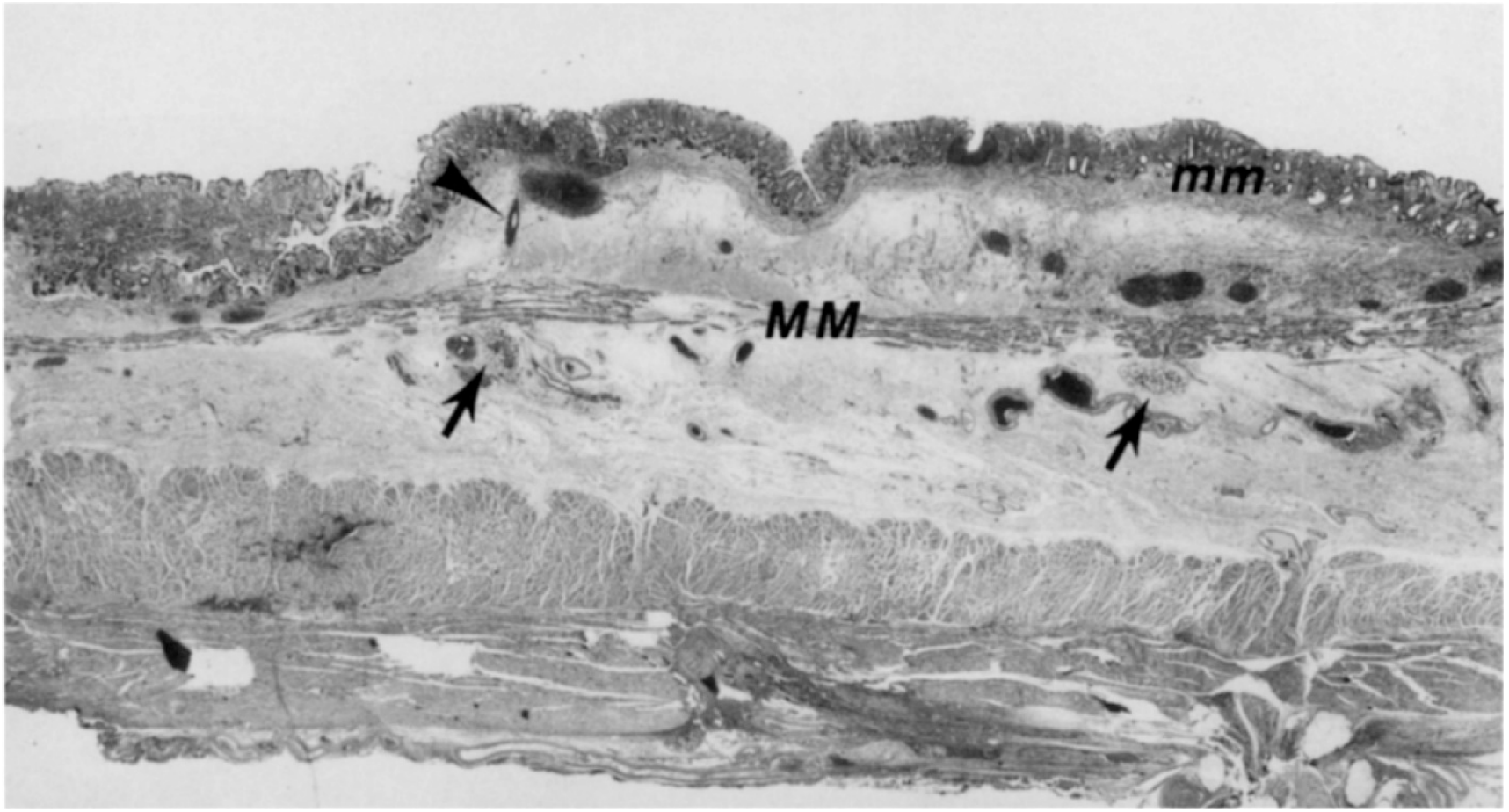
Significance of the Depth of Tumor Invasion and Lymph Node Metastasis in Superficially Invasive (T1) Esophageal Adenocarcinoma



T1a – lamina propria. T1b – muscularis mucosae. T1c – superficial submucosa. T1d – deep submucosa.

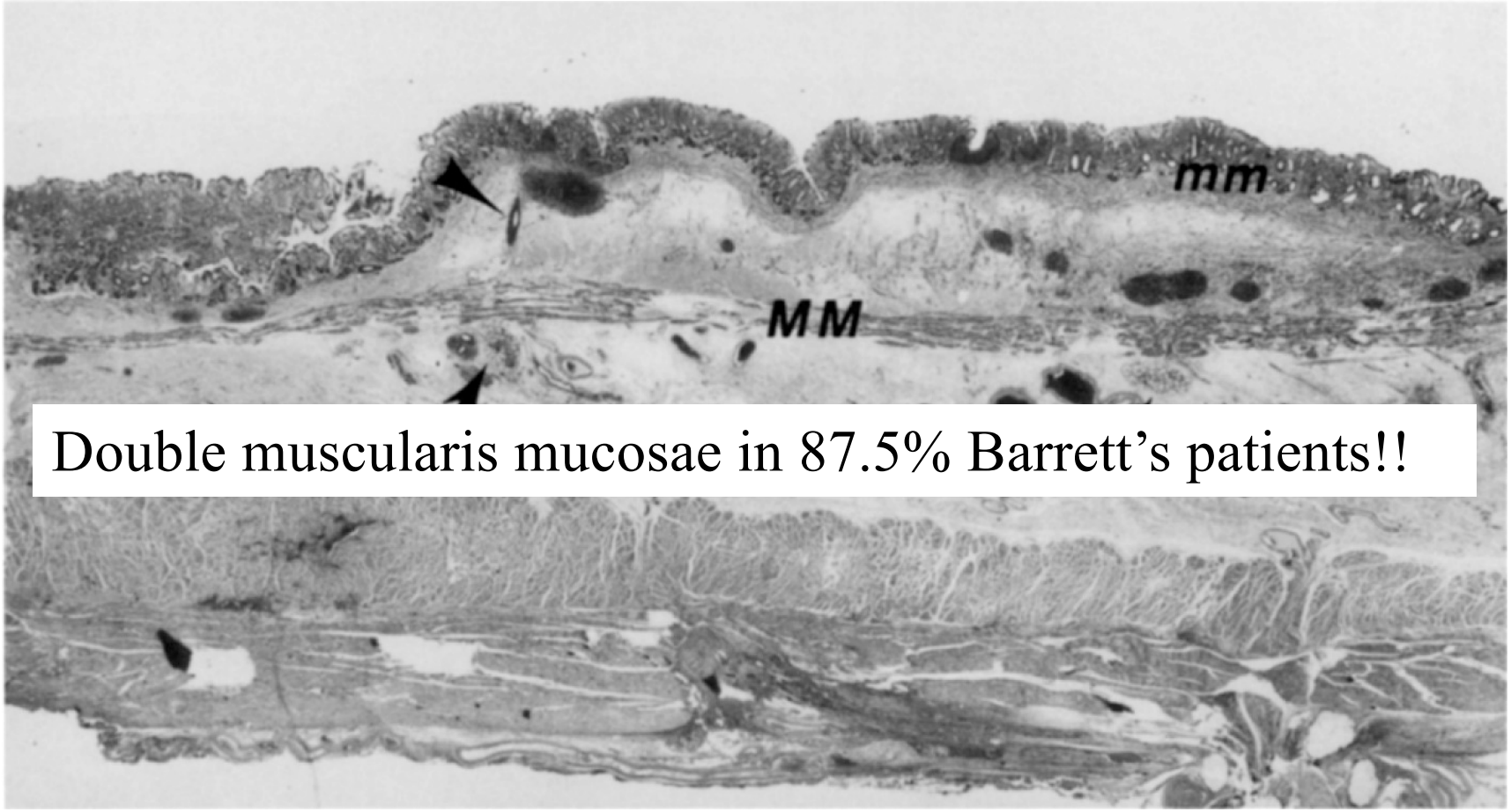
Liu L *et al*. Am J Surg Pathol. 2005 Aug;29(8):1079-85.

Double Muscularis Mucosae in Barrett's Esophagus



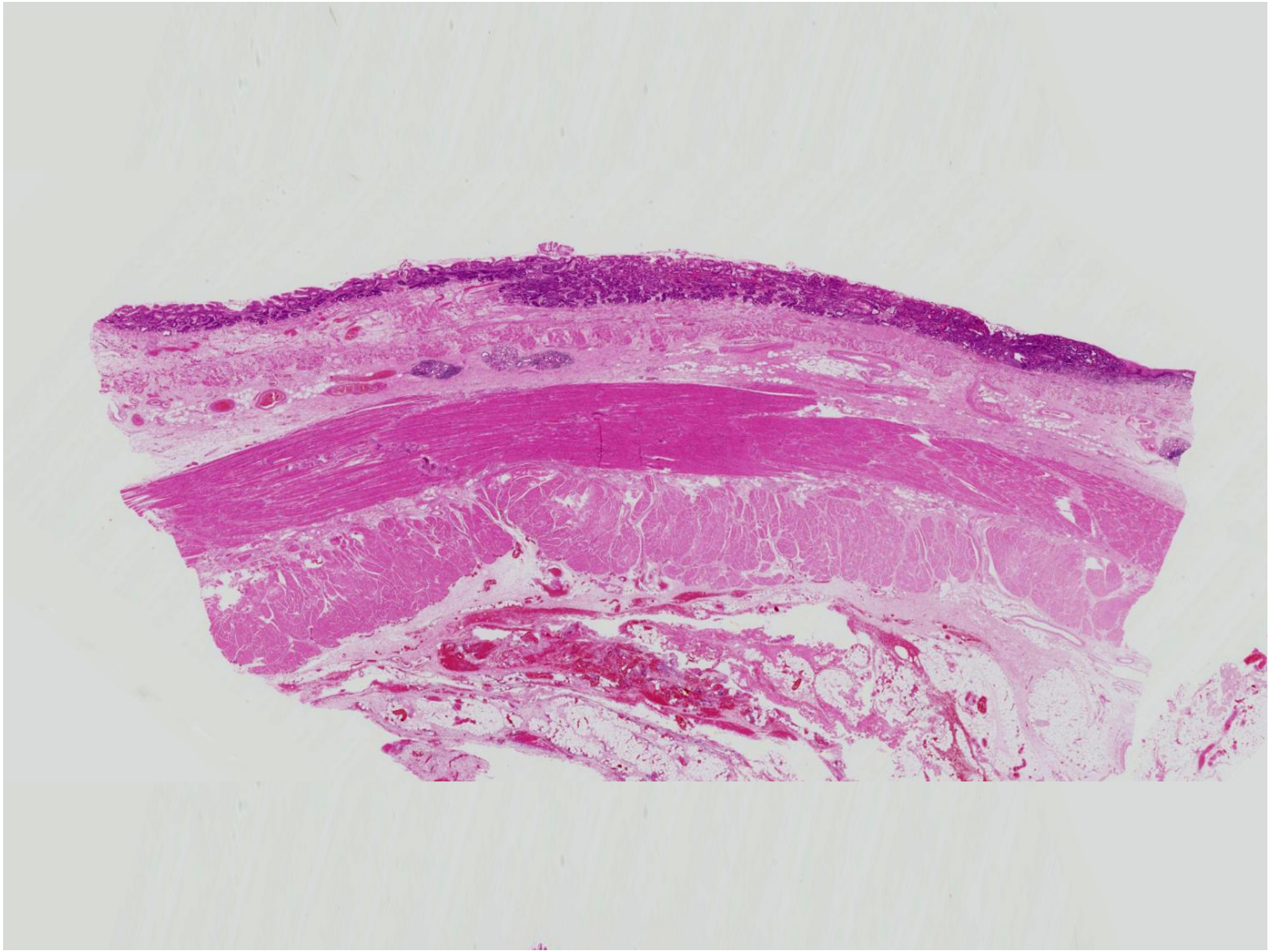
Takubo *et al*. Hum Pathol. 1991 Nov;22(11):1158-61.

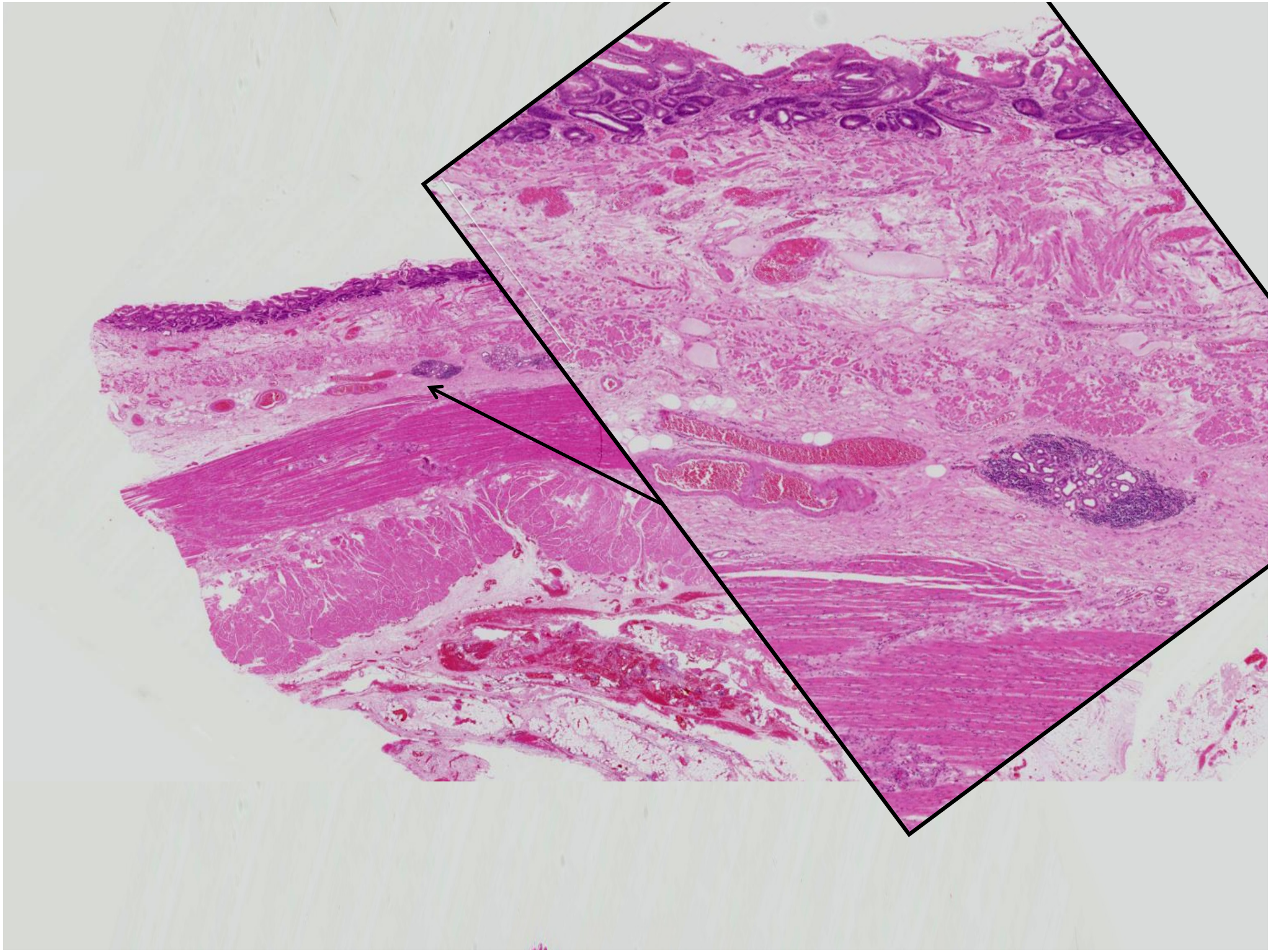
Double Muscularis Mucosae in Barrett's Esophagus

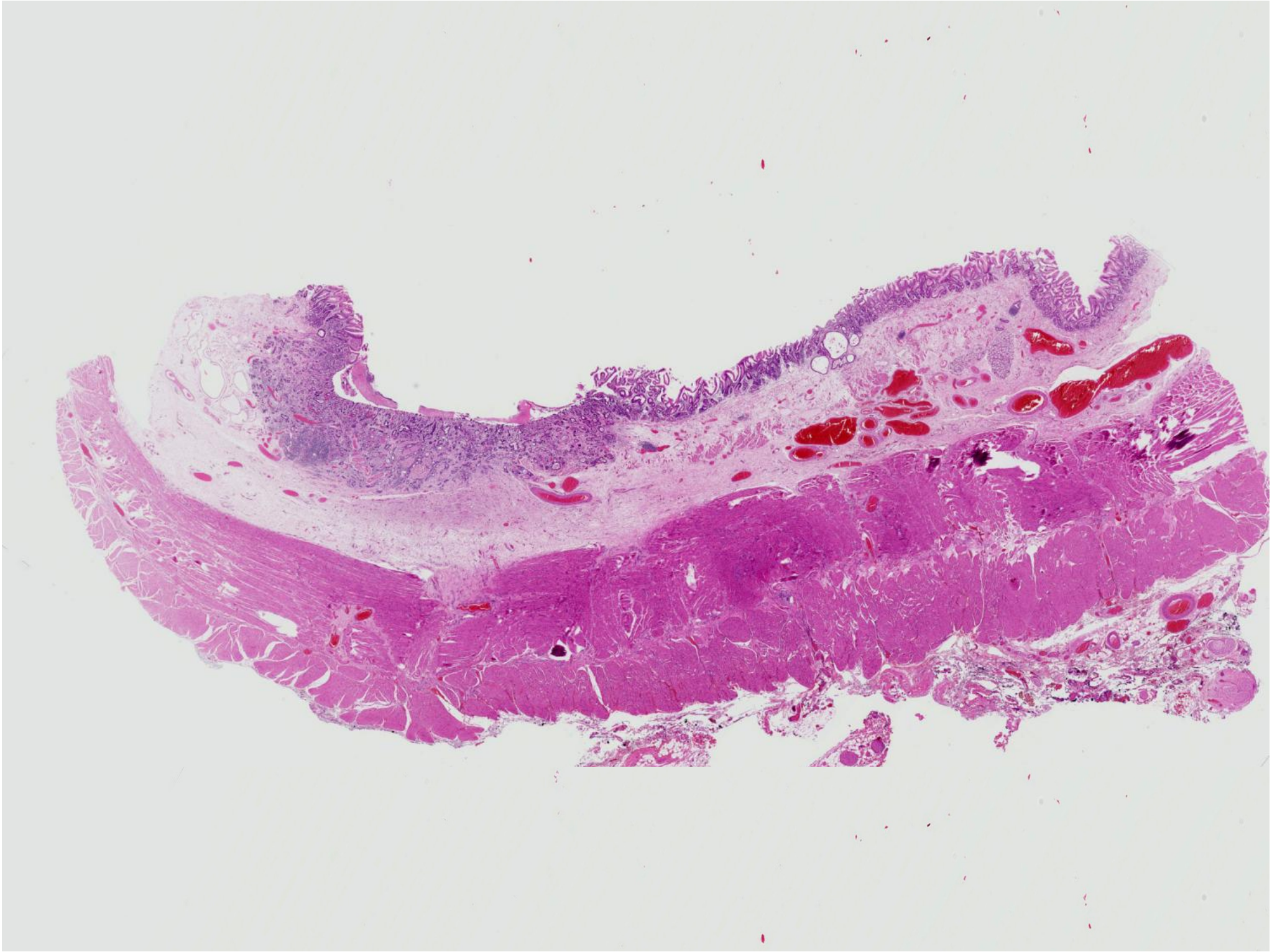


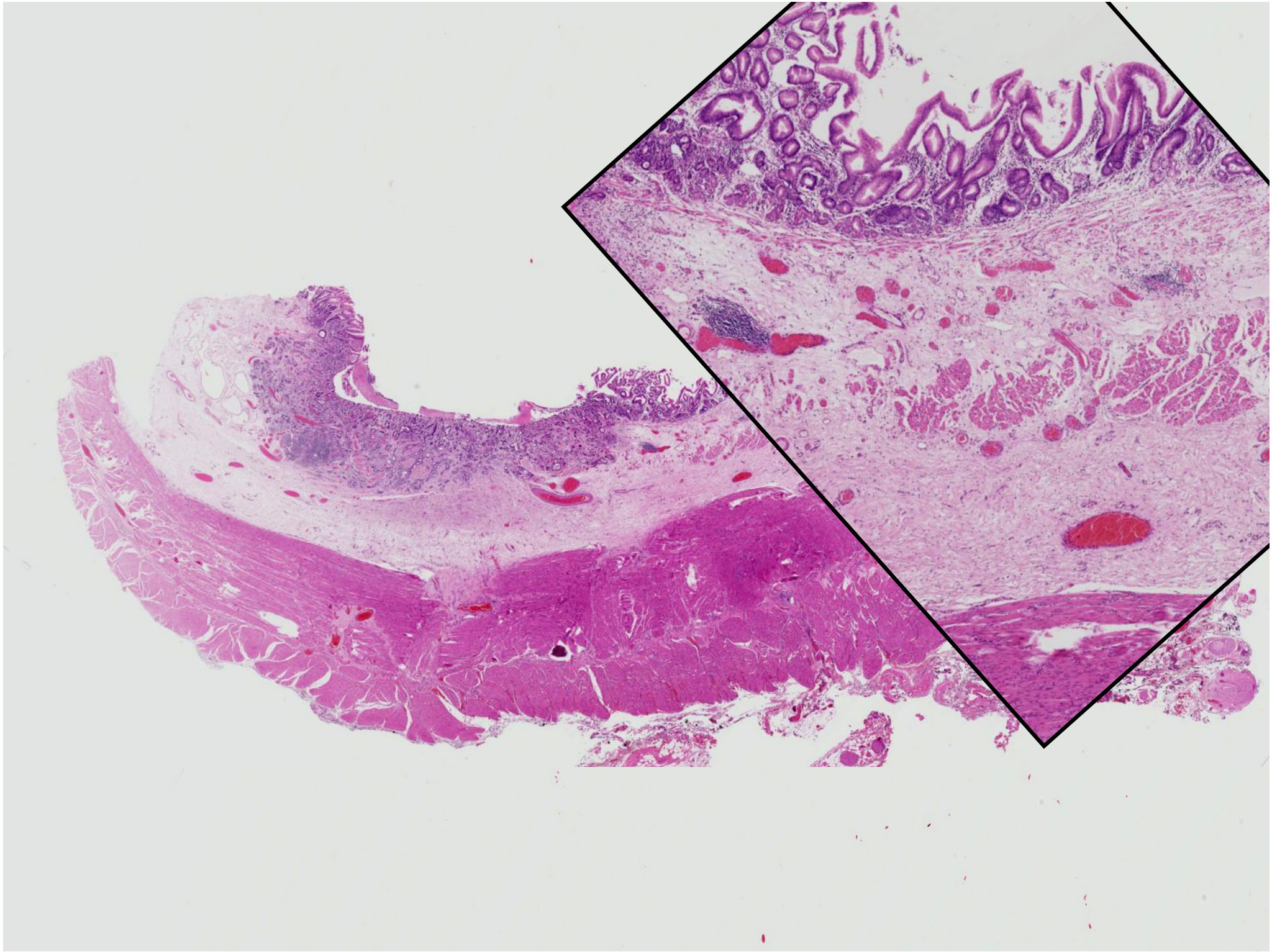
Double muscularis mucosae in 87.5% Barrett's patients!!

Takubo *et al*. Hum Pathol. 1991 Nov;22(11):1158-61.

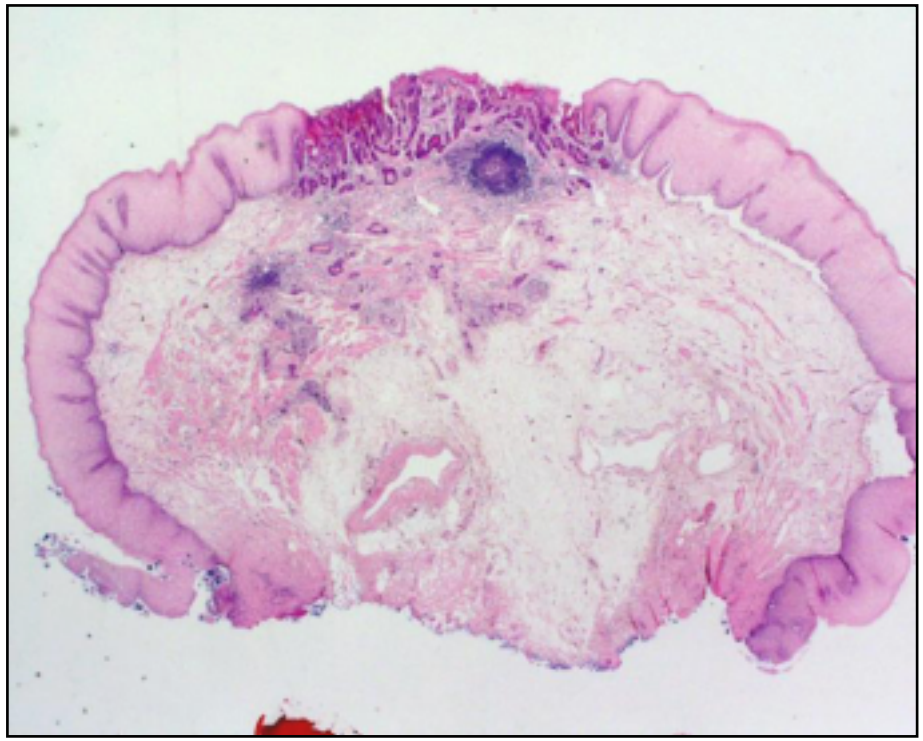






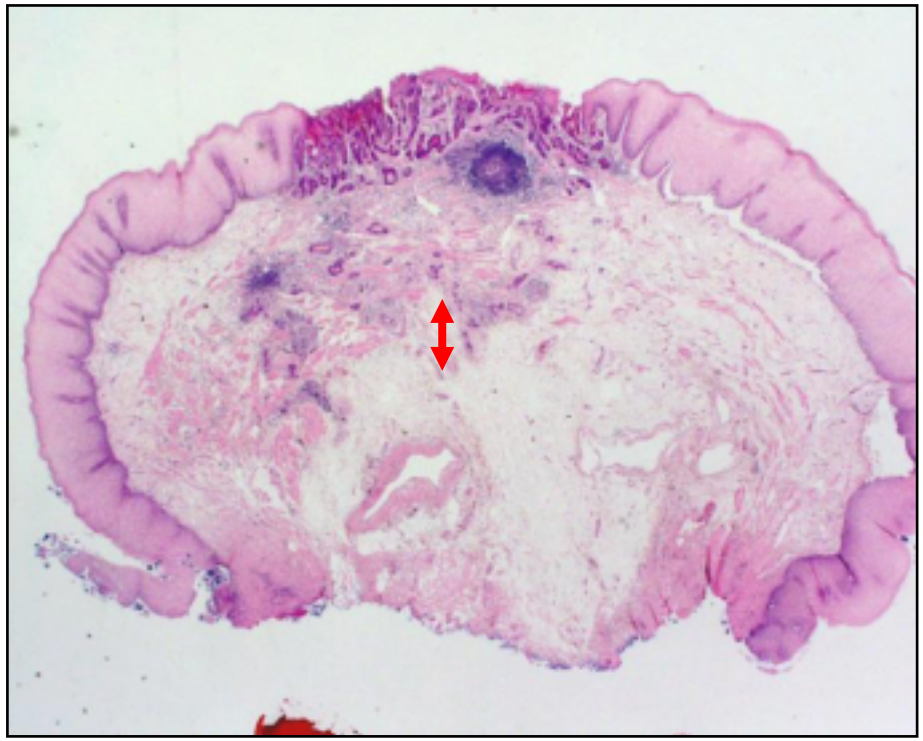


Endoscopic mucosal resection (EMR)



- Stage invasive carcinoma.
  - Mostly pT1
  - Submucosal invasion?
  - May be difficult to assess as splaying/reduplication of muscularis mucosa)
- Measure depth of invasion beyond muscularis mucosae.
- Circumferential margins
- Deep resection margin

Endoscopic mucosal resection (EMR)



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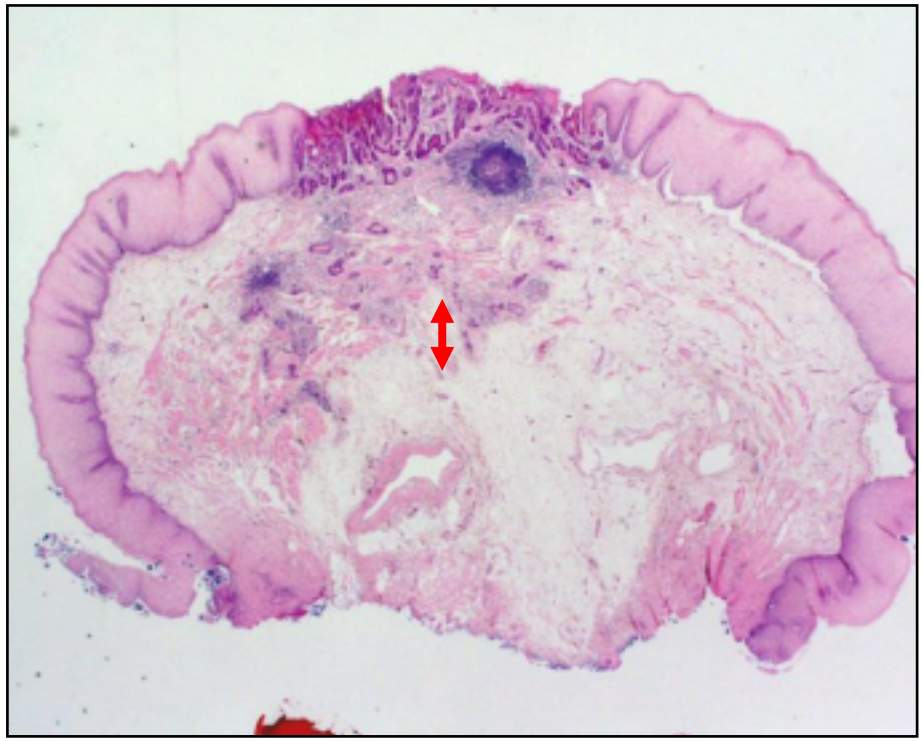
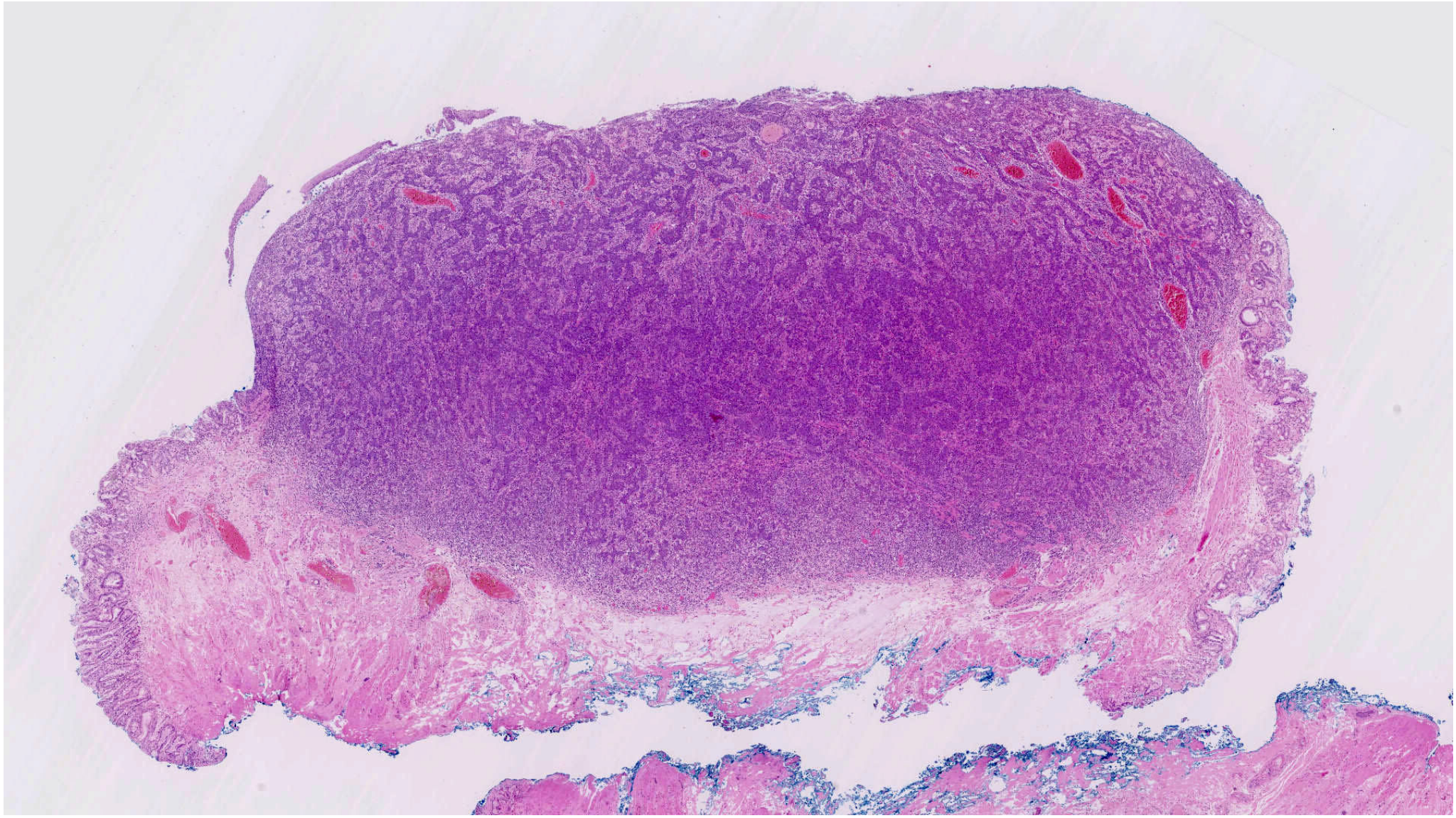
  - Submucosal invasion?
  - May be difficult to assess as splaying/reduplication of muscularis mucosa)
- Measure depth of invasion beyond muscularis mucosae.
- Circumferential margins
- Deep resection margin

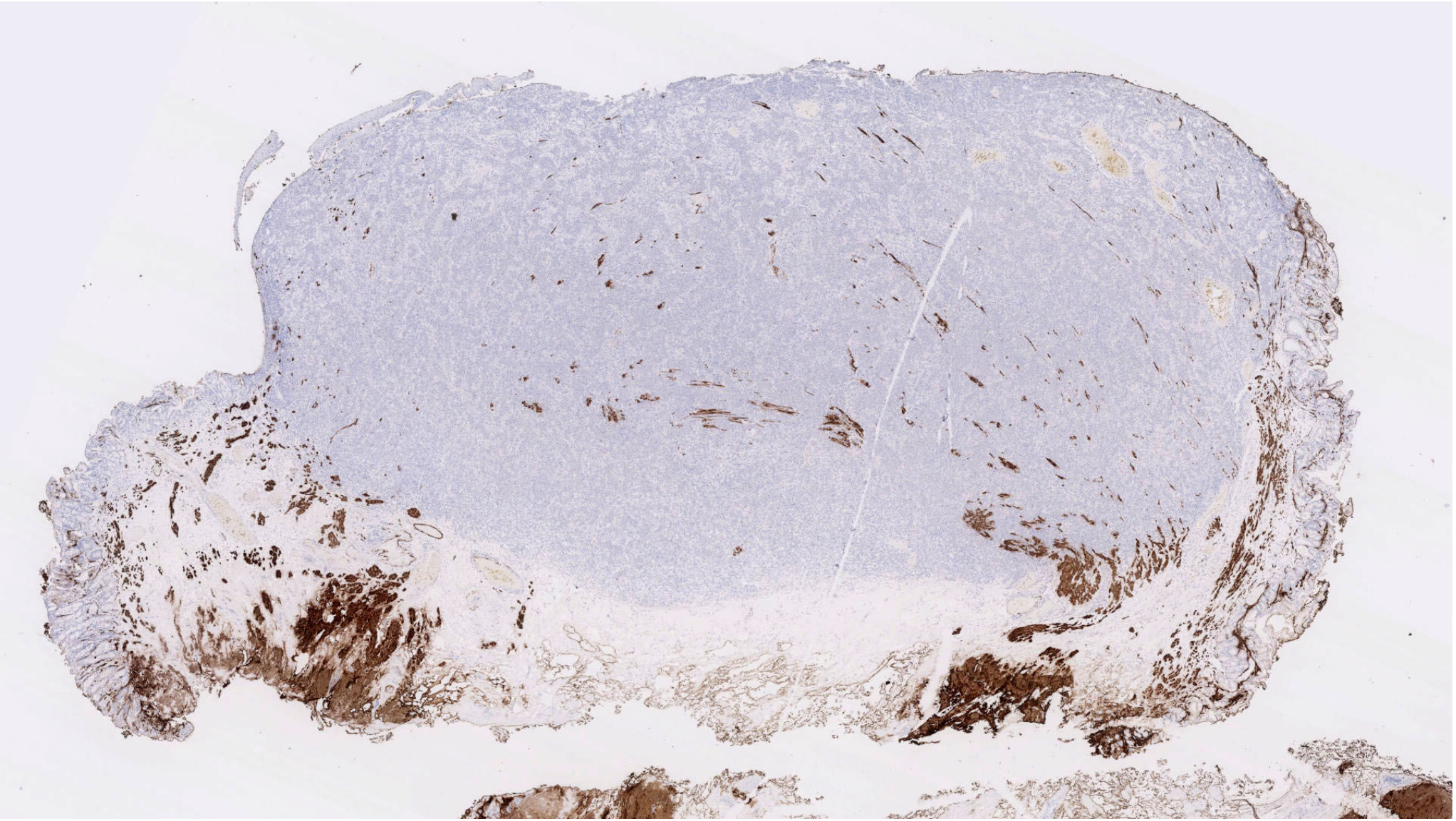
Endoscopic mucosal resection (EMR)



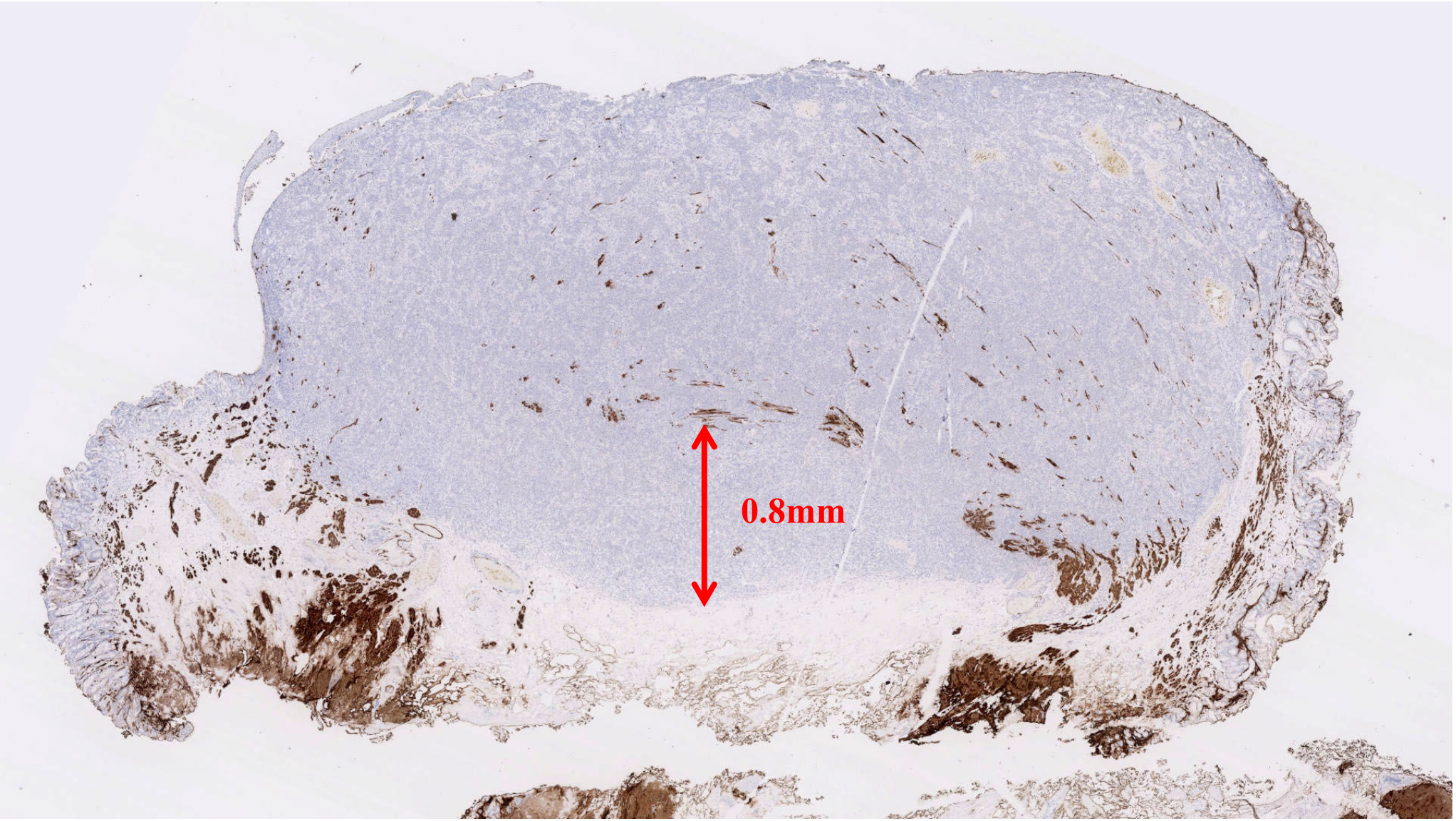
- Stage invasive carcinoma.
  - Mostly pT1
  - Submucosal invasion?
  - May be difficult to assess as splaying/reduplication of muscularis mucosa)
- Measure depth of invasion beyond muscularis mucosae.
- Circumferential margins
- Deep resection margin

- Desmin staining can be very helpful in delineating the lower border of the muscularis mucosae





Desmin staining



0.8mm invasion beyond muscularis mucosae

→ pT1b, SM2

Staging of mucosal invasion I

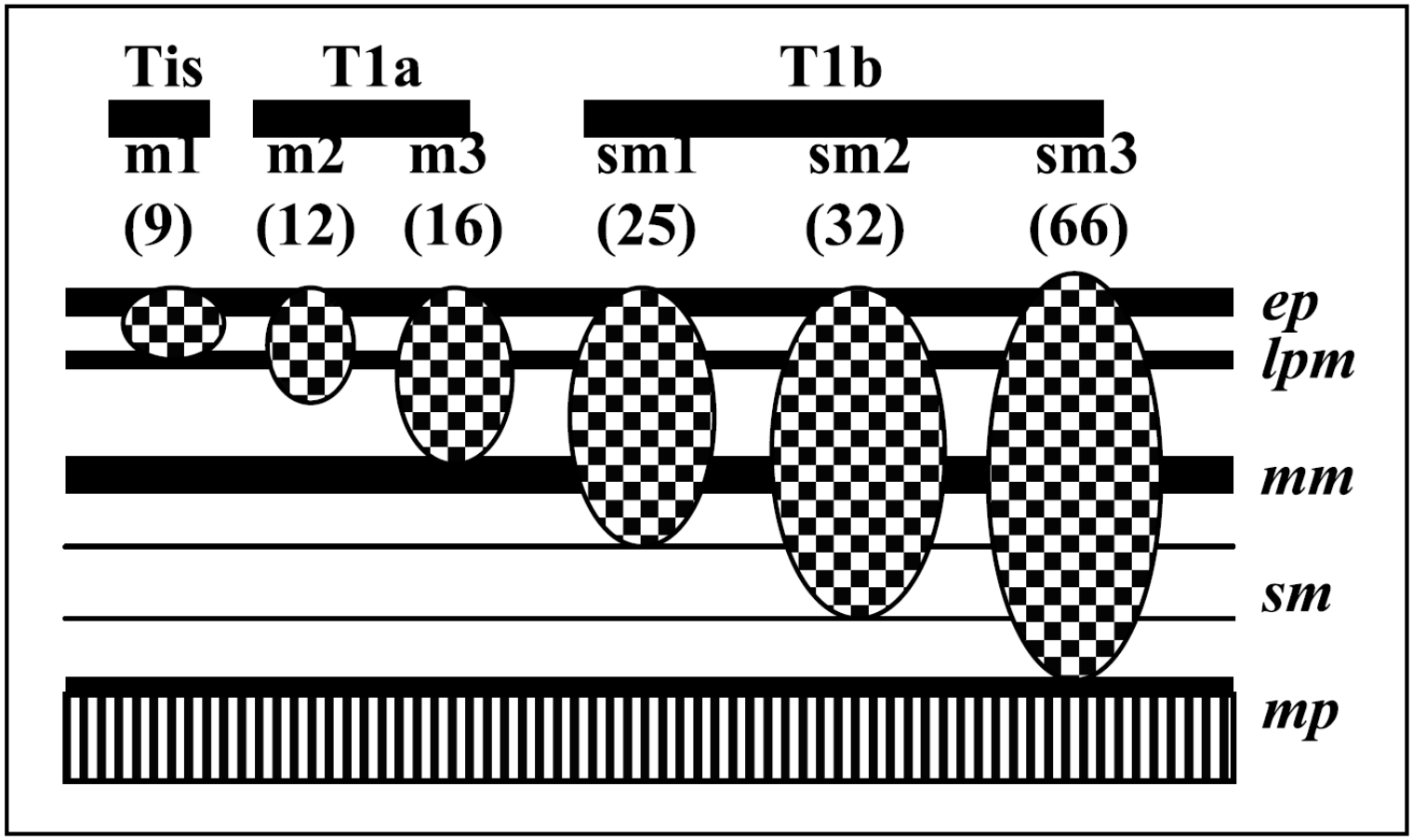


Fig. 1. Subclassification of the depth of superficial esophageal cancer (number of patients). ep, carcinoma in situ; lpm, lamina propria mucosa, mm, muscularis mucosa; m, mucosa; sm, submucosa; mp, muscularis propria.

Shimada 2006 Am J Surg

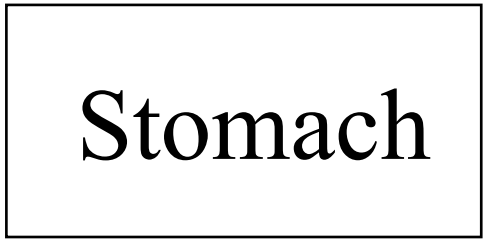
Staging of EMRs

pT1a

- M1 – Limited to the epithelial layer (HGD / IMC).
- M2 – Invades the lamina propria.
- M3 – Invades into but not through the muscularis mucosa.

pT1b

- SM1 – Infiltrates submucosa <500 microns.
- SM2 – Infiltrates submucosa <1000 microns.
- SM3 – Infiltrates submucosa ≥1000 microns.


Stomach

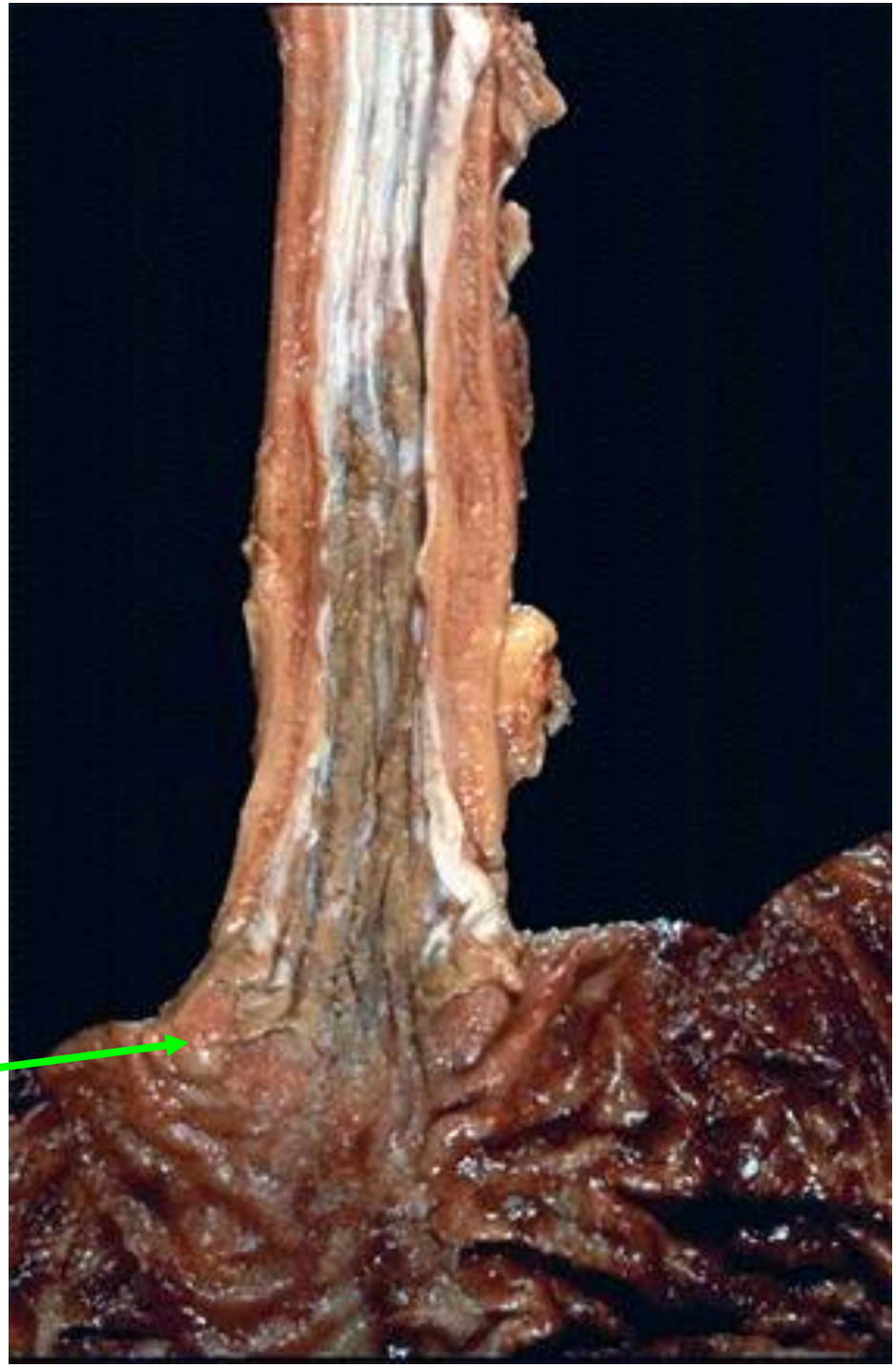
Gastric resections

- Variety of operations:
    - Oesophagogastrectomy
    - Proximal gastrectomy
    - Distal gastrectomy
    - Subtotal/total/extended gastrectomy
    - Sleeve gastrectomy

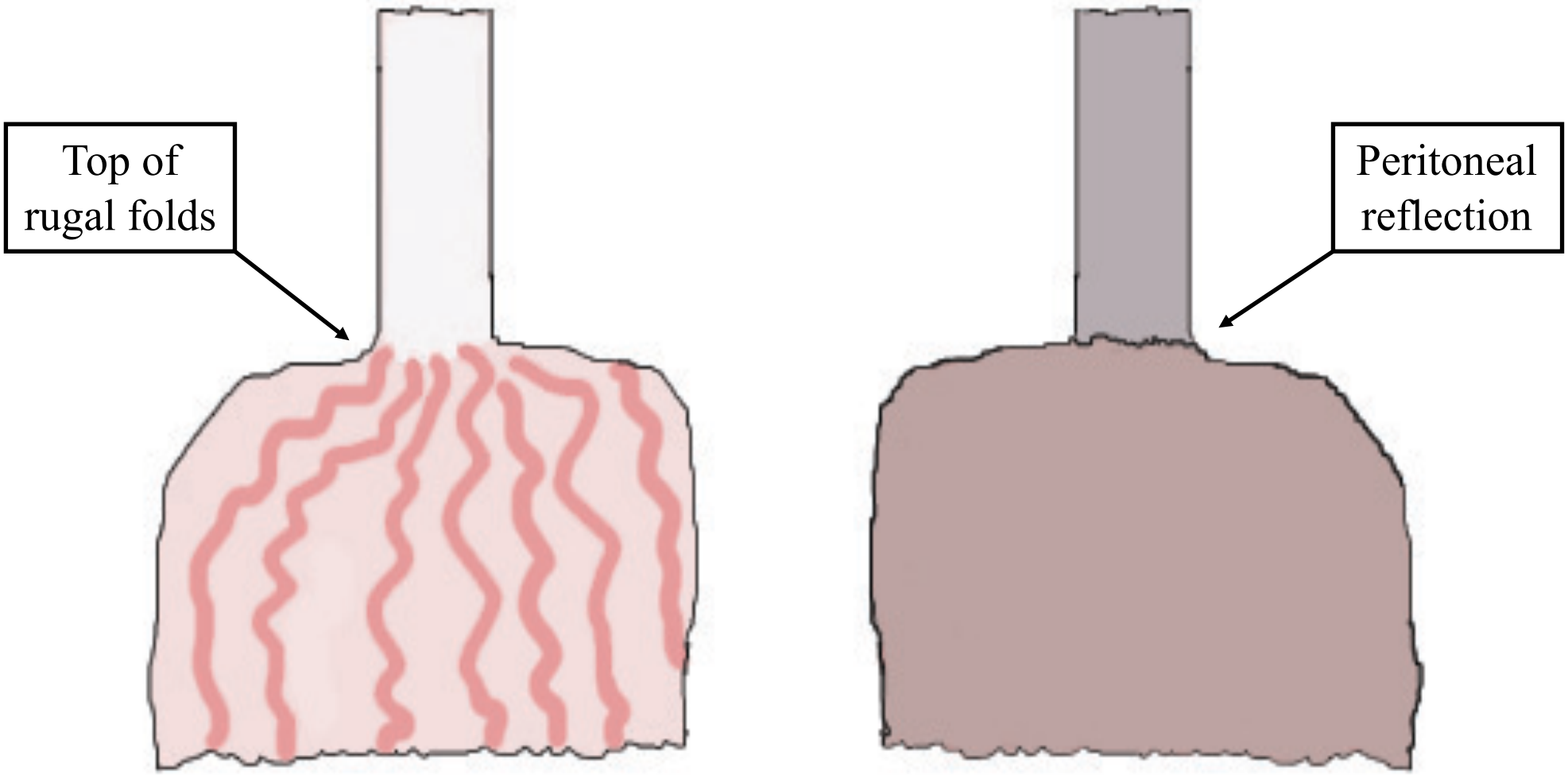
Gastric resections

- Open specimen and pin out where possible.
- Identify OGJ (if present).
- Lymph nodes (lesser curve, greater curve etc).
- Margins
    - Proximal
    - Distal
    - Circumferential (OGJ)
- Serosal involvement.

OG Junction



Oesophagogastric junction



Mucosal aspect

Serosal aspect

Nodal stations of the stomach.

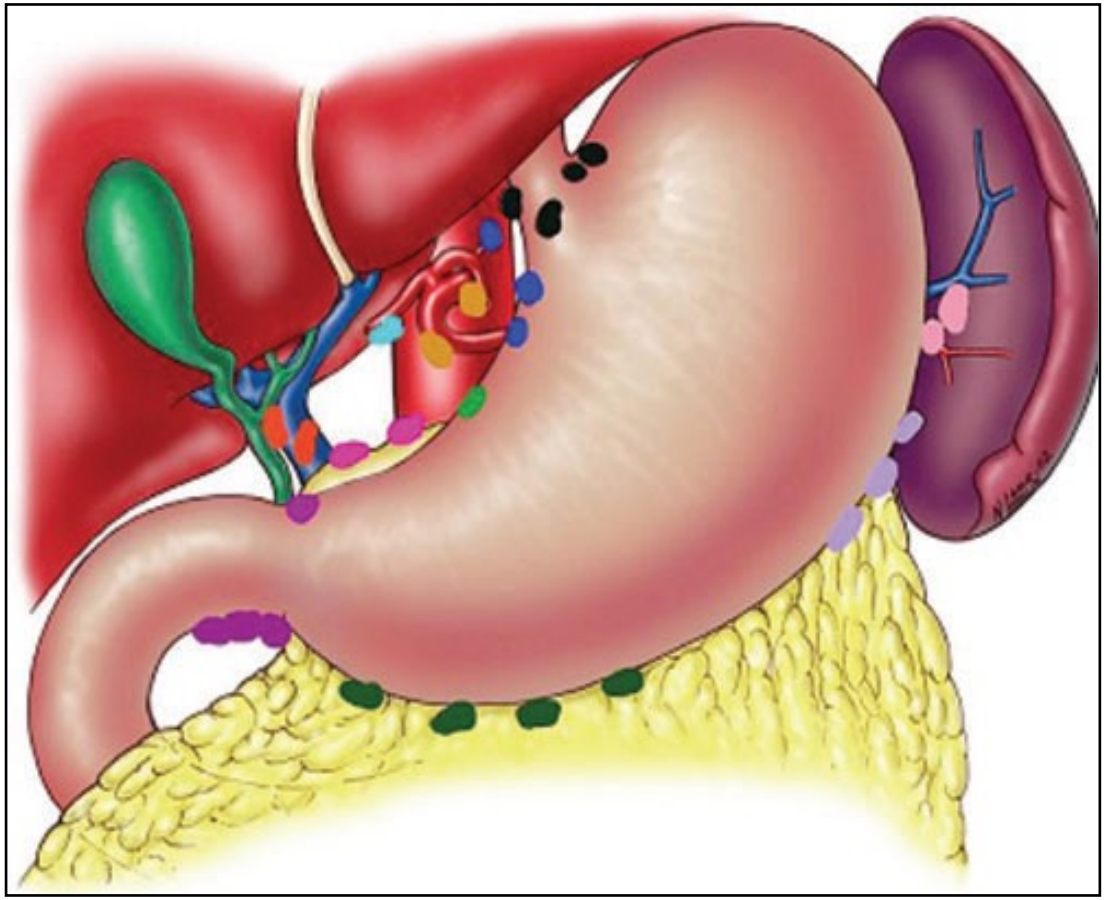


Figure 1. Diagram of the abdomen: gastro-oesophageal (black); hepatic artery (aqua); splenic (pink); gastro-omental (light purple); left gastric (blue); hepatoduodenal ligament (orange).

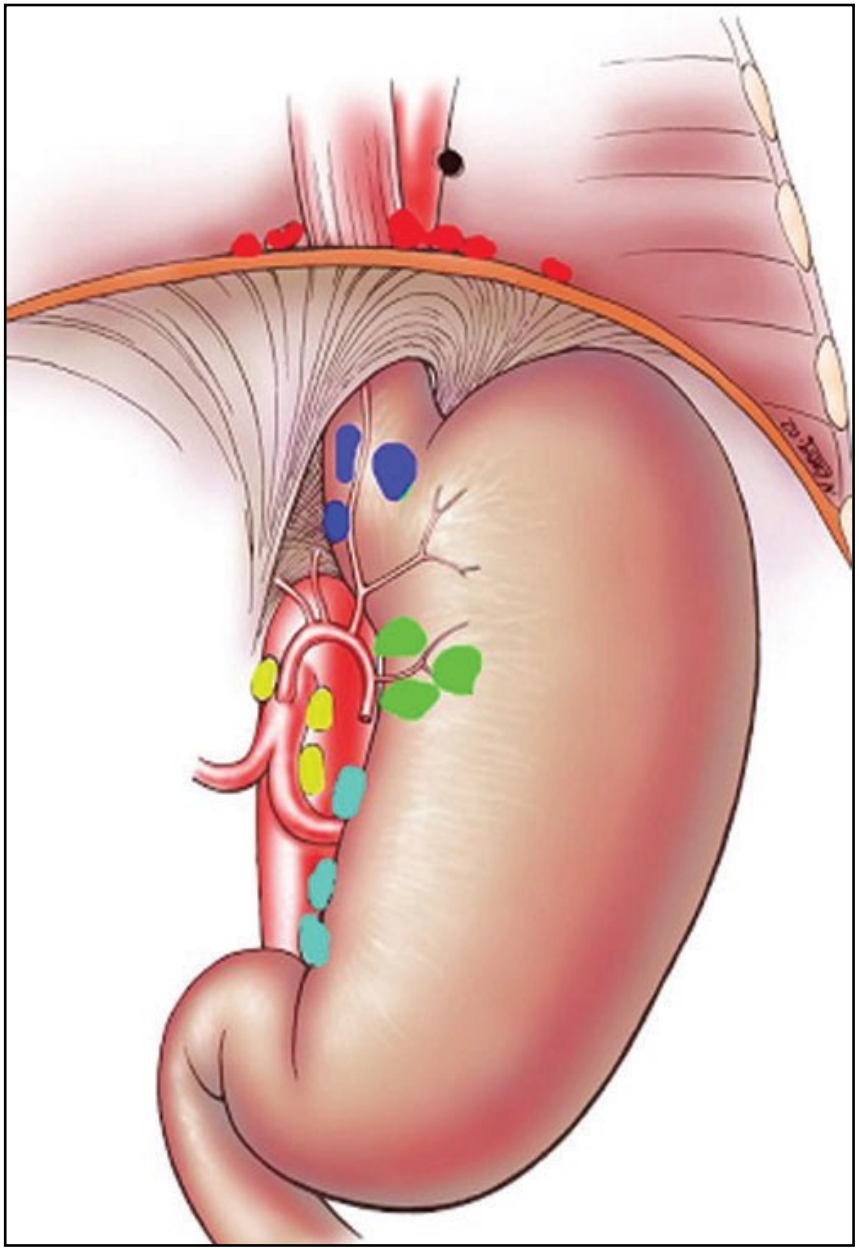
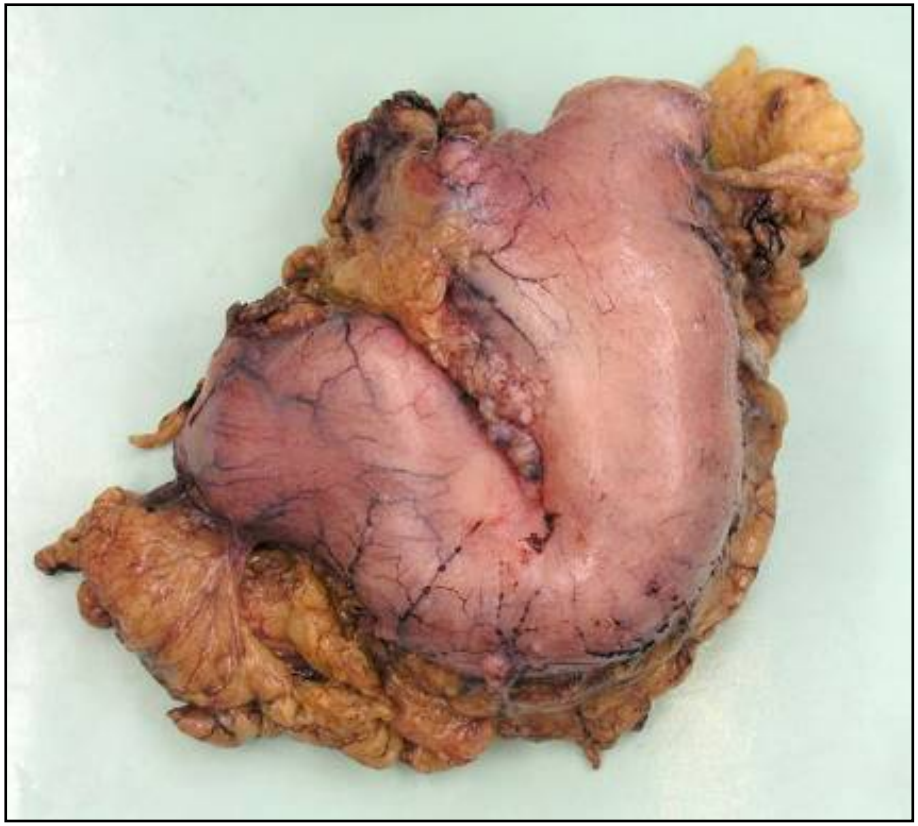
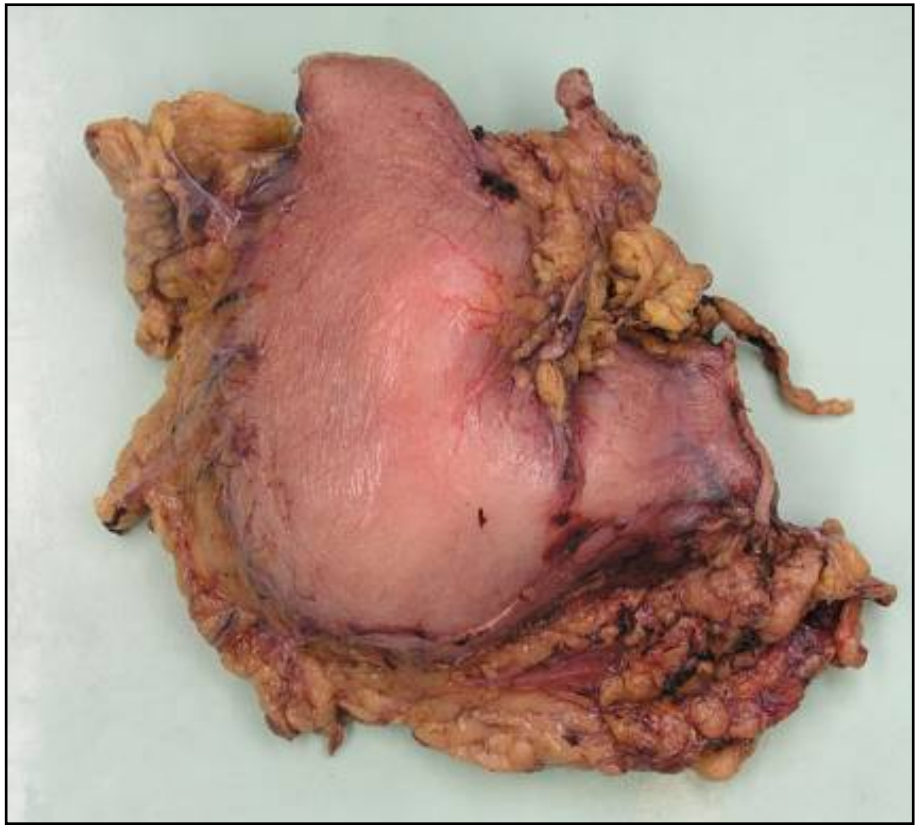


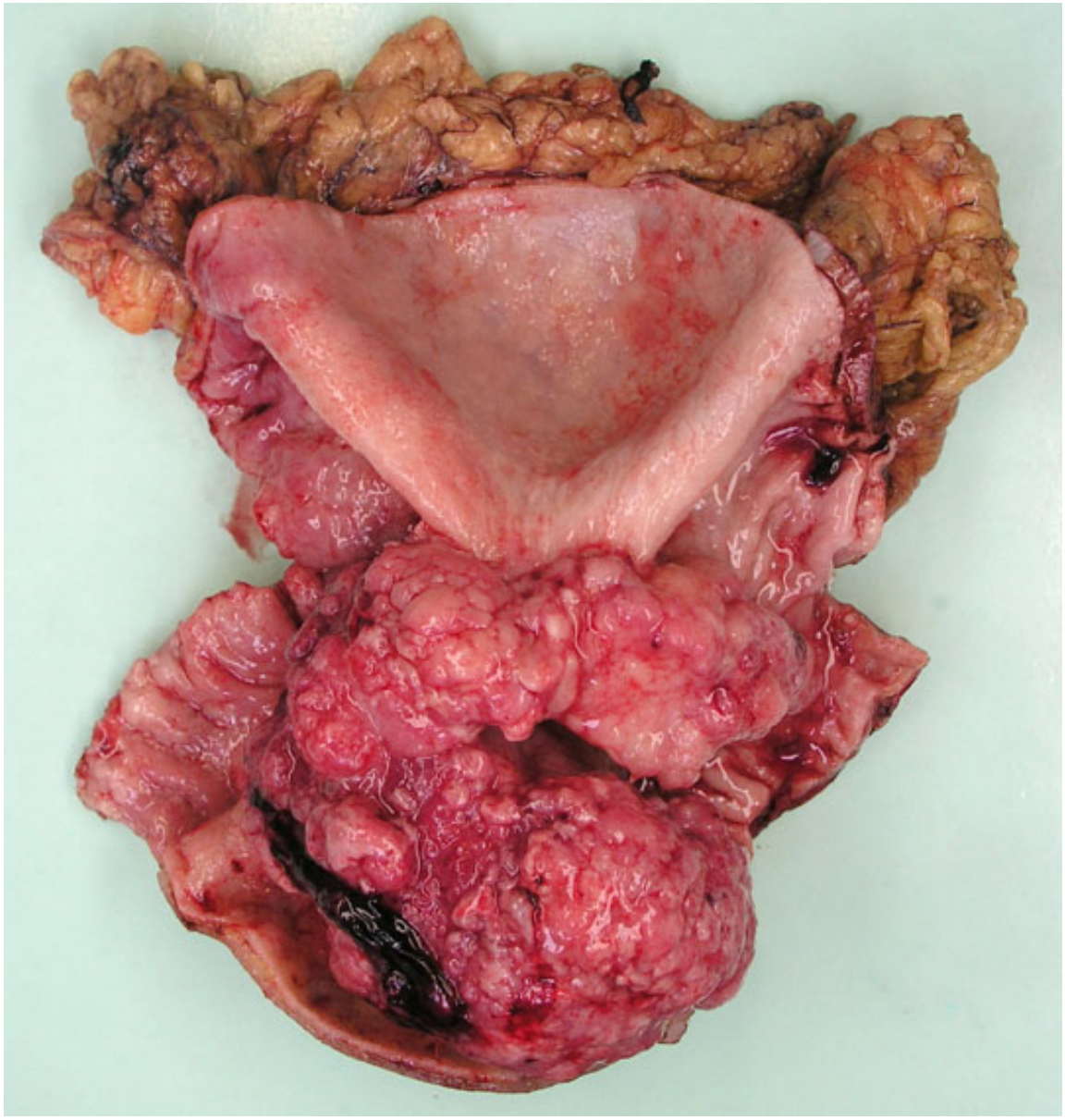
Figure 2. Diagram of the abdomen: left gastric (green); coeliac (yellow); diaphragmatic (red); paraoesophageal (blue); lesser curvature (aqua).

Morón FE, Szklaruk J. Br J Radiol. 2007 Oct;80(958):841-8.



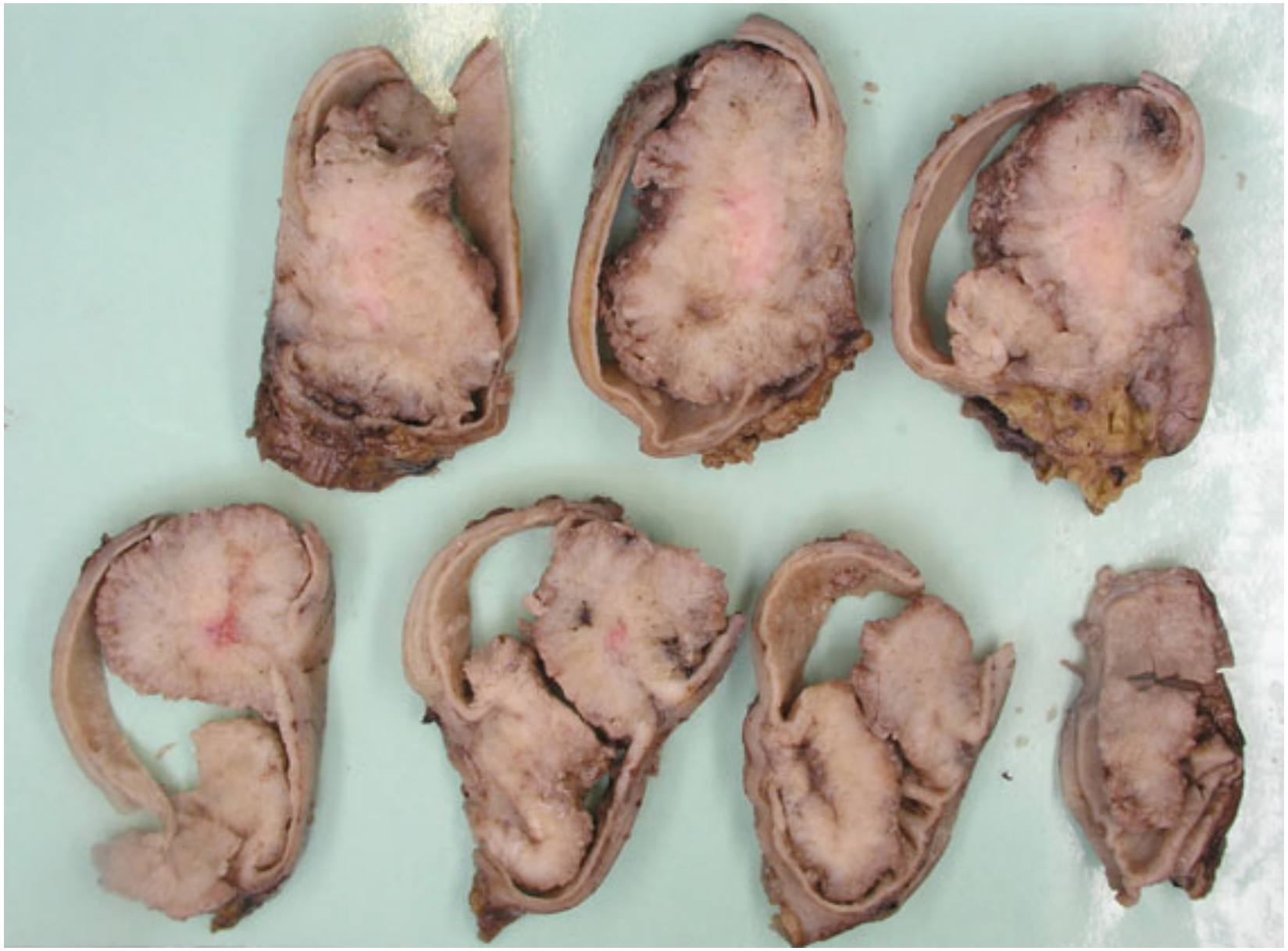


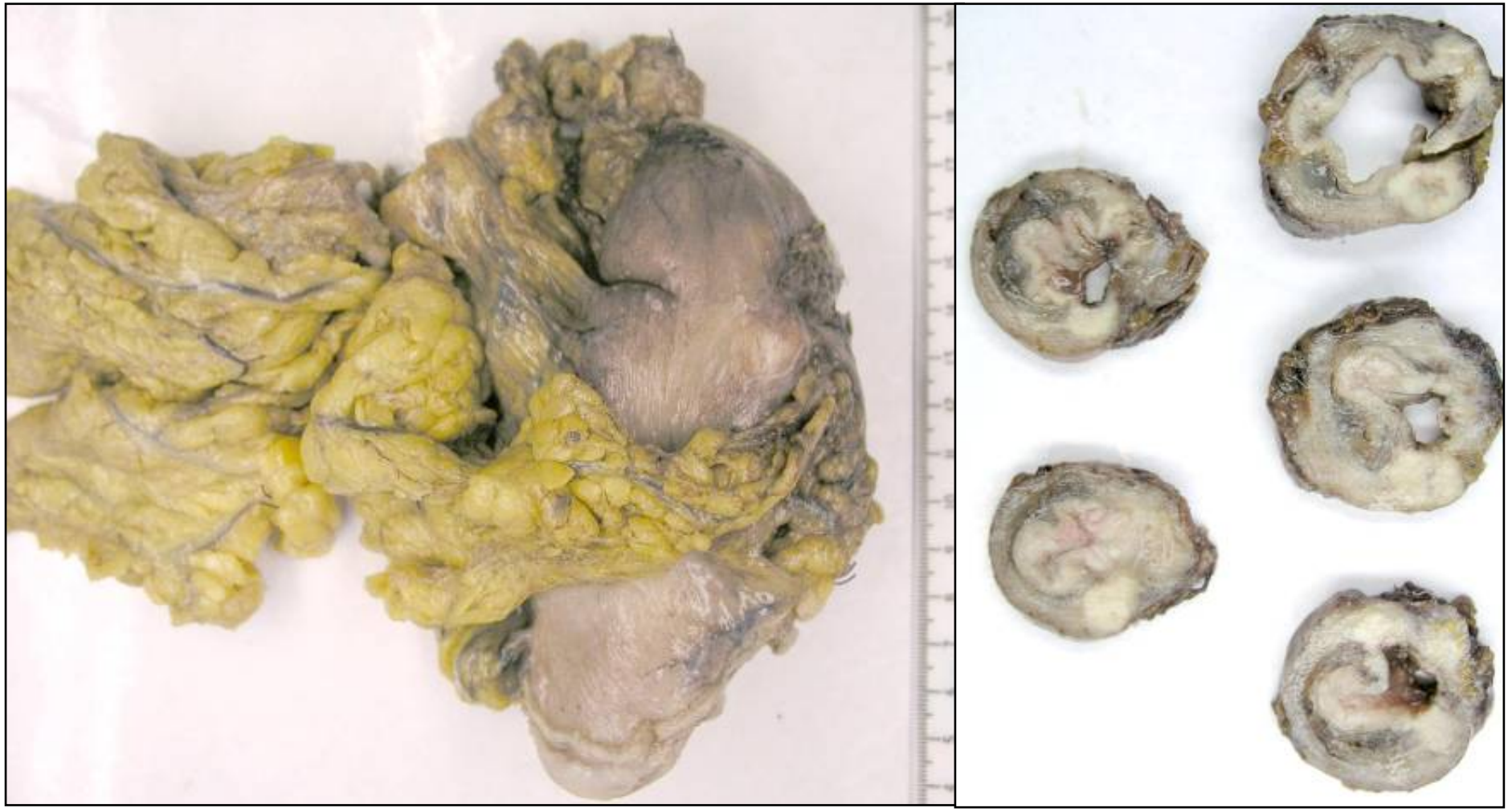
- Margins:
  - Where possible sample entire margin.
- Nodes:
  - OGJ, proximal lesser curve, distal lesser curve, proximal greater curve, distal greater curve.



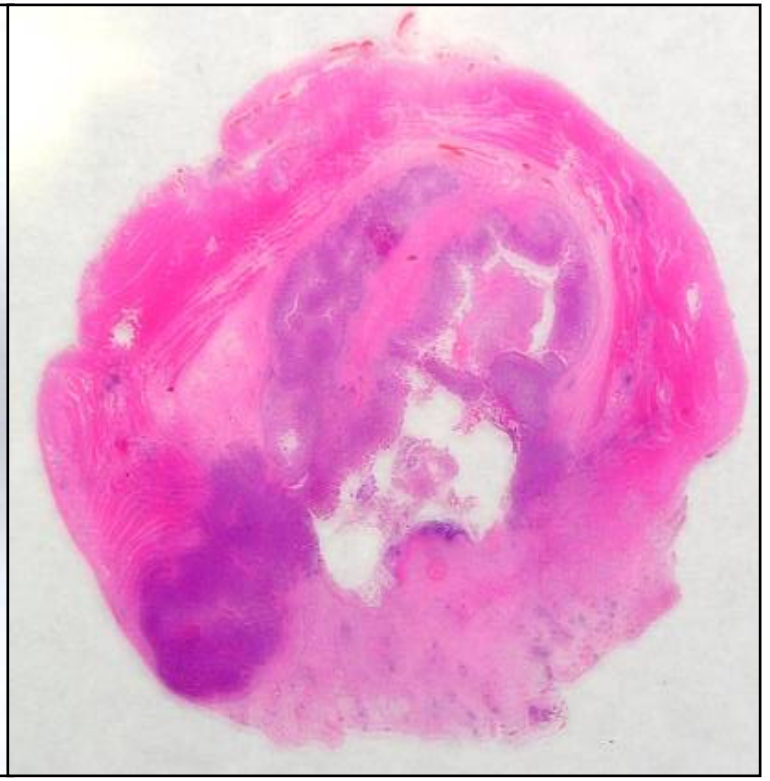
Measure tumour
(3 dimensions)

- Bread-slice tumour, lay our slices and photograph

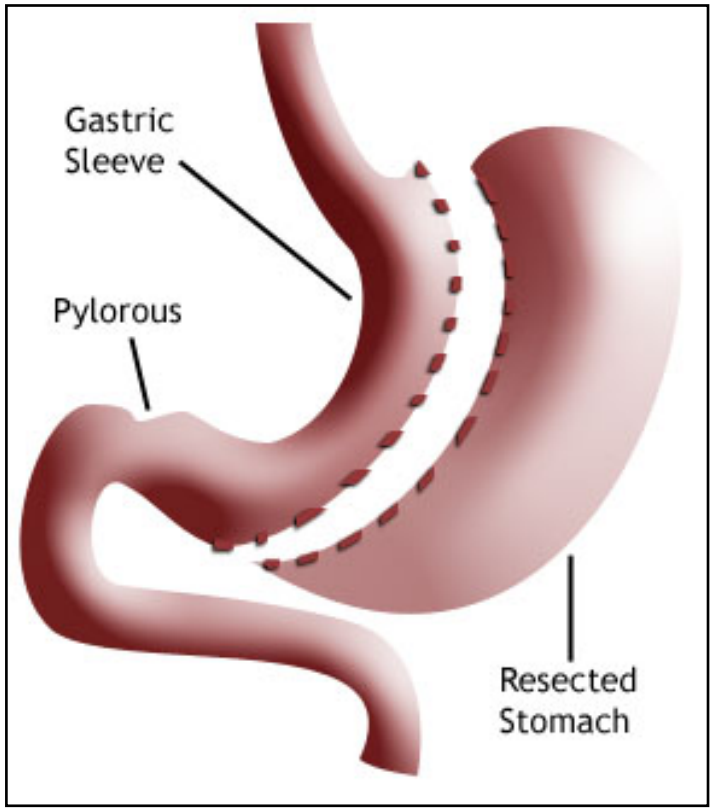




- 3+ blocks of tumour (+/- megablock).
- Sample:
  - Extension into perigastric connective tissue.
  - Circumferential margin at OGJ.
  - Serosal involvement.



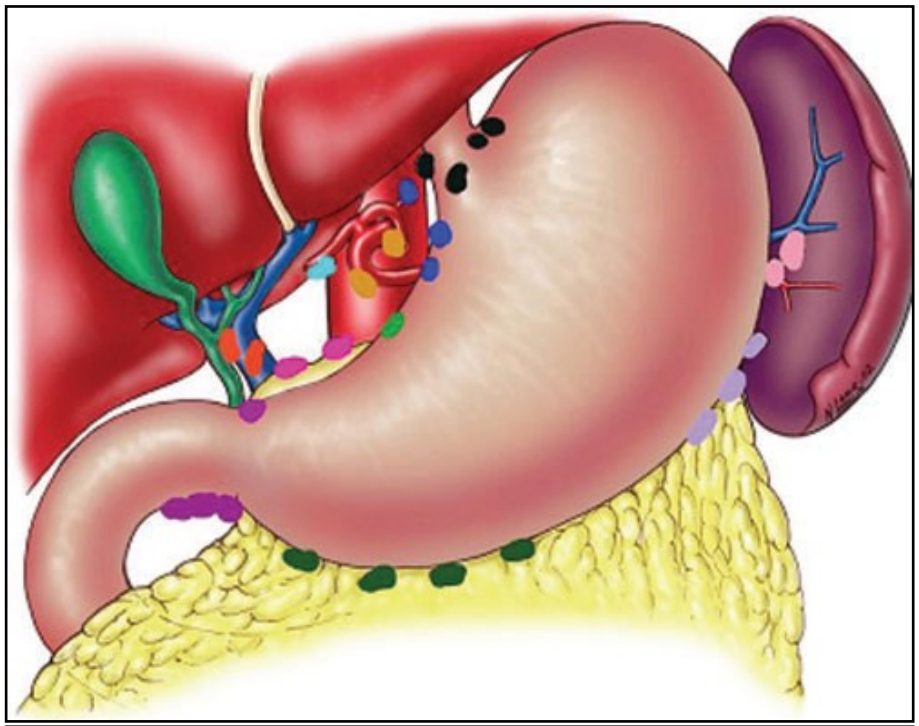
Bariatric sleeve gastrectomy



- Open specimen with scissors.
- Wash and examine mucosa.
- Sample any focal lesions.
- 1-2 random blocks.

Changes in clinical practice

Nodal stations of the stomach.



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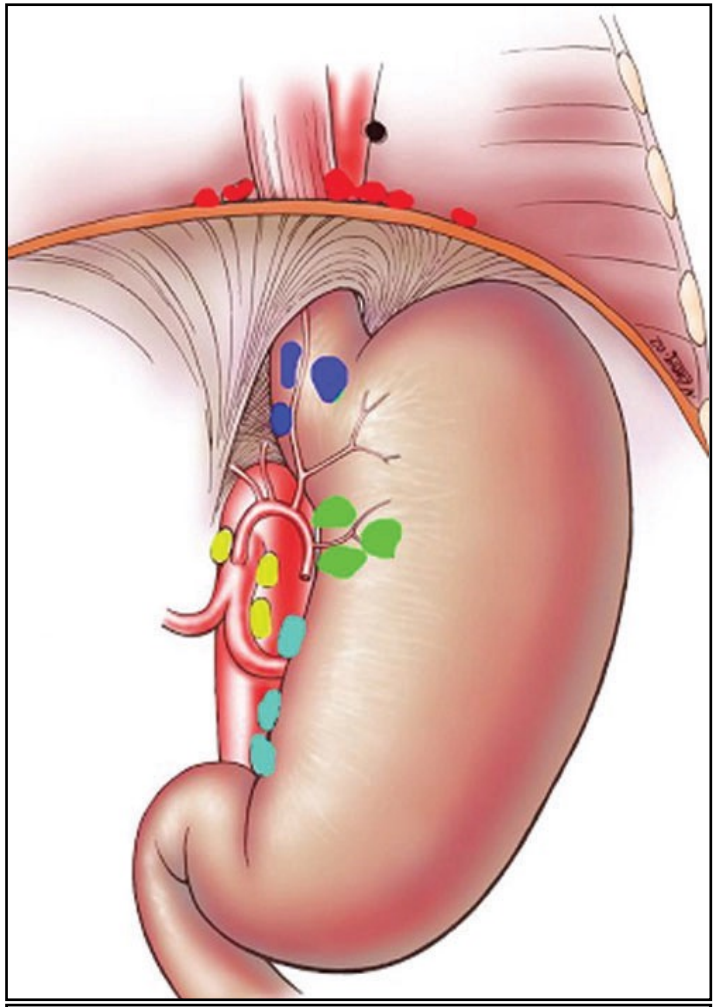

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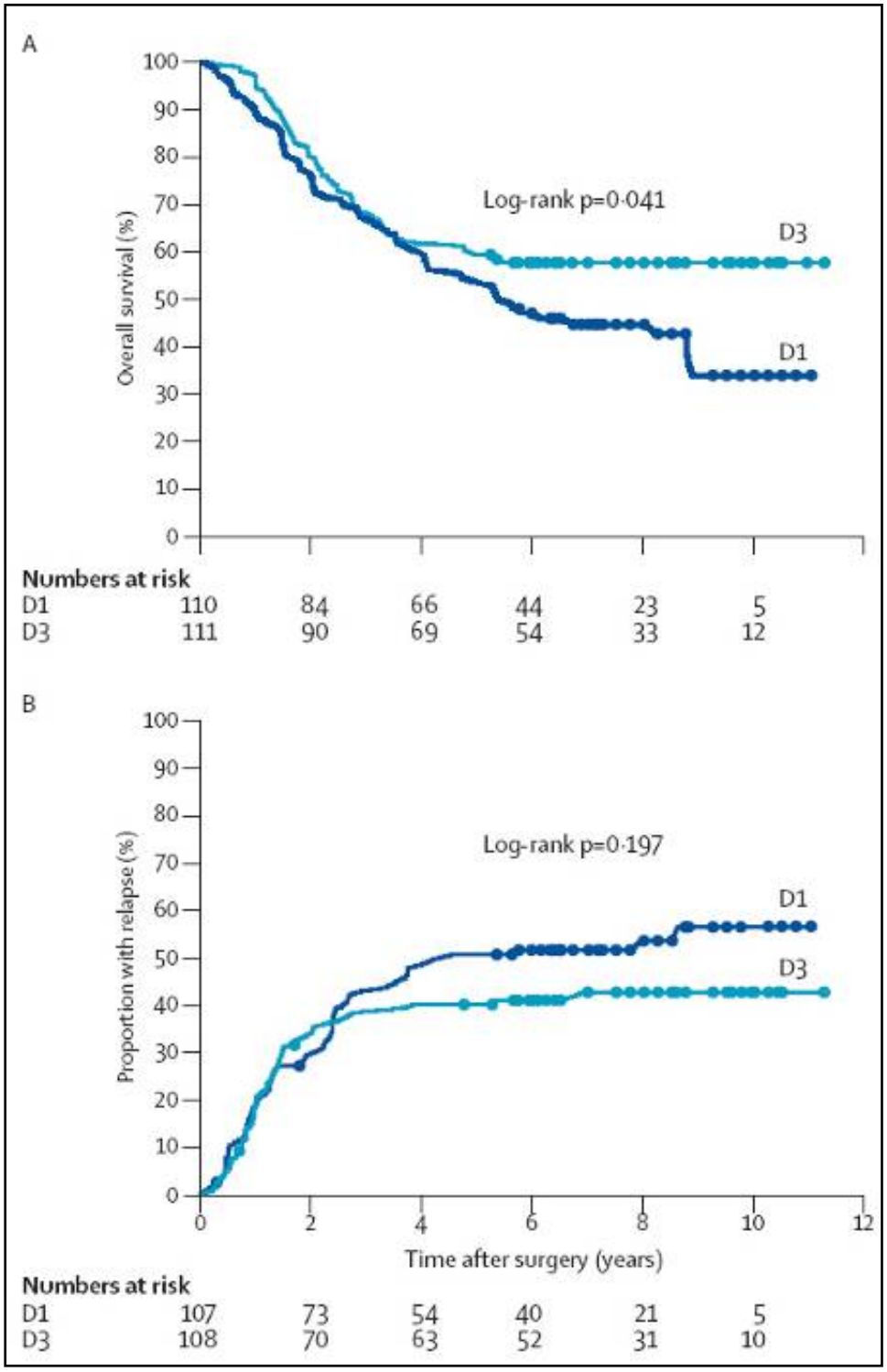
Morón FE, Szklaruk J. Br J Radiol. 2007 Oct;80(958):841-8.

Gastric cancer surgical resections

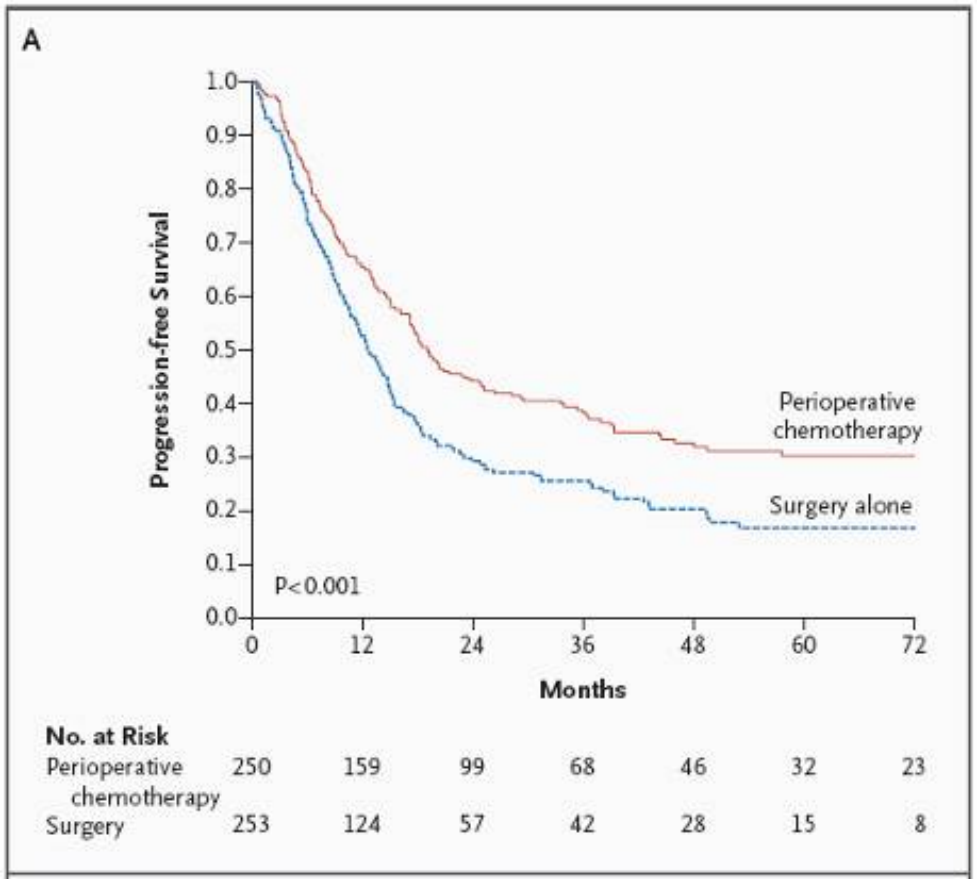
- D1 lymphadenectomy
  - Traditional nodal dissection taking nodes directly adjacent to stomach.
  - Used in palliative cases.
- D2 lymphadenectomy
  - Typical UK surgical practice (?).
  - Lymph nodes from coeliac axis, left gastric, common hepatic and splenic arteries.
- D3 lymphadenectomy
  - Radical nodal dissection commonly practiced in Far East.
  - Lymph nodes from hepatoduodenal ligament, SMV, aorta/vena cava to IMA and retropancreatic area.

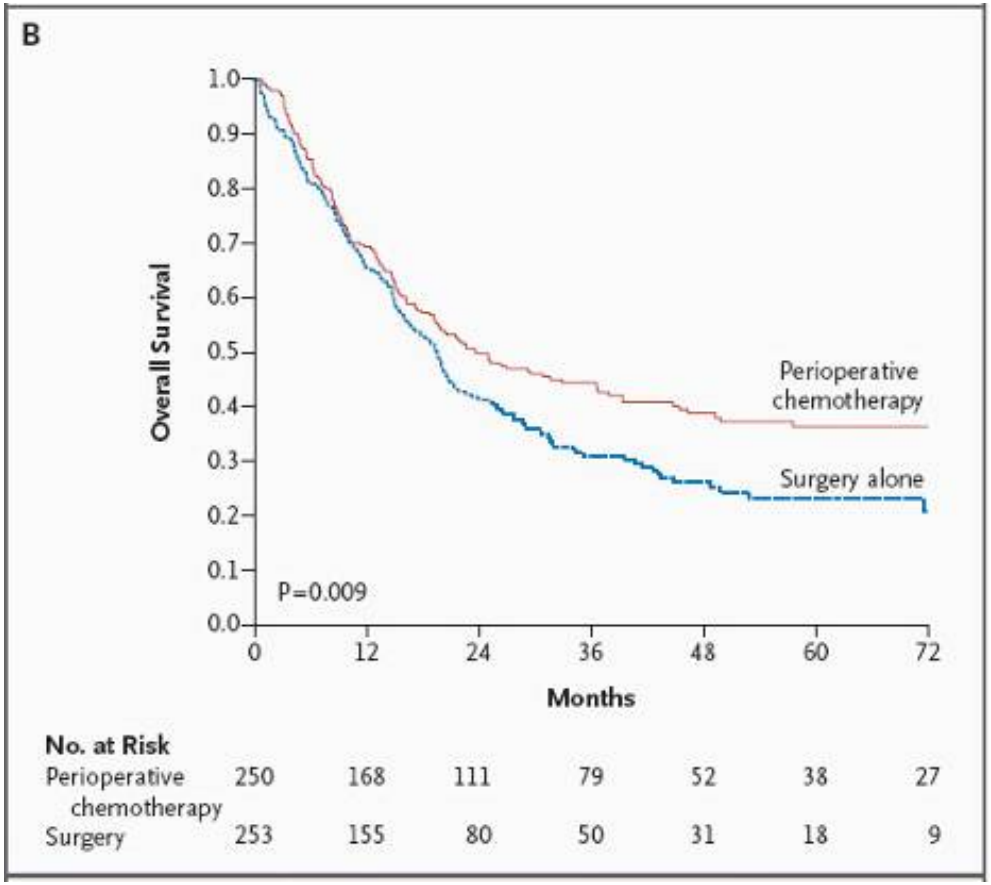


Nodal dissection for patients with gastric cancer: a randomised controlled trial. Wu CW *et al*.

Lancet Oncol. 2006;7(4):309-15.

- 221 patients randomised to D1 or D3 surgery.
- 5.9% 5-year survival advantage for D3 surgery.





MAGIC study: peri-operative Epirubicin, cisplatin and infused 5-FU (ECF).

- 5 year survival: 23% surgery vs 36% surgery + neoadjuvent chemo.

D. Cunningham *et al*, for the MAGIC Trial Participants. Perioperative Chemotherapy versus Surgery Alone for Resectable Gastroesophageal Cancer. New Engl J Med 2006;355 (1):11-20.

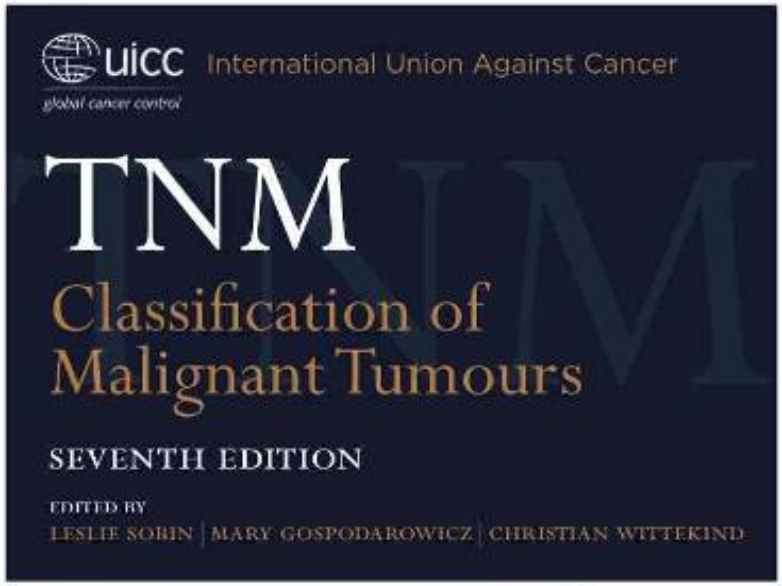
TNM


UICC International Union Against Cancer
TNM
Classification of Malignant Tumours
Fifth Edition
UICC International Union Against Cancer
global cancer control
TNM
Classification of Malignant Tumours
Sixth Edition
The Pathological Society

1997

2002

TNM 7



- Published Nov 2009
- Becoming widely utilised but TNM5 recommended for colorectal tumours.
- For oesophago-gastric tumours quote TNM used: ypT3 N1 (TNM7).

APPENDIX D

NATIONAL DATASET FOR

OESOPHAGEAL CARCINOMA HISTOPATHOLOGY REPORTS

Surname ..... Forenames ..... Date of birth .....

Hospital ..... Hospital no ..... NHS no .....

Date of receipt ..... Date of reporting ..... Report no .....

Pathologist ..... Surgeon ..... Sex .....

Shaded data items = 'non core' data

GROSS DESCRIPTION

Maximum length of specimen: ..... mm
Length of oesophagus: ..... mm
Length of stomach:..... mm
Length of tumour..... mm
Width of tumour: ..... mm

Tumour edge to nearest distal margin: ..... mm
Tumour edge to nearest proximal margin: ..... mm
Type of tumour ☐ Polypoid ☐ Other ☐ Pinned ☐ Not pinned
Siewert tumour type (cardiac cancers only) ☐ 1 ☐ 2

HISTOLOGY

Type of tumour

☐ Squamous ☐ Adenocarcinoma
☐ Other (specify) .....
Differentiation by worst area:
☐ Well ☐ Moderately ☐ Poorly differentiated

Depth of invasion

☐ Tis high-grade dysplasia
☐ T1 invasion of lamina propria/submucosa
☐ T2 invasion of muscularis propria
☐ T3 invasion beyond muscularis propria
☐ T4 invasion of adjacent structures
☐ Yes ☐ No – serosal involvement:

Proximal margin

☐ Normal ☐ Dysplasia ☐ Carcinoma ☐ Barrett's

Distal margin

☐ Normal ☐ Dysplasia ☐ Carcinoma

Circumferential margin

Involvement (<1 mm): ☐ Yes ☐ No ☐ N/A
(If no: distance of carcinoma to nearest circumferential margin ..... mm)

Other features

Vascular invasion ☐ Yes ☐ No
Barrett's metaplasia adjacent to tumour ☐ Yes ☐ No

Lymph nodes

Number examined…..……. Number positive…….
(N0 if no nodes positive, otherwise N1)

Distant metastases

Coeliac axis node positive ☐ Yes ☐ No
(M1a if lower thoracic carcinoma, otherwise M1b)
Cervical node positive ☐ Yes ☐ No
(M1a if upper thoracic carcinoma, otherwise M1b)
Other distant metastasis (M1b) ☐ Yes ☐ No

COMMENTS

PATHOLOGICAL STAGING

Complete resection ☐ Yes(R0) ☐ No(R1 or R2) (y) pT…… pN…… pM……. TNM 5th edition

(y) pT…… pN……(i +/-) pM……. TNM 6th edition

Signature …….. Date …../……/….. SNOMED codes T ……. / M ……

The Royal College of Pathologists
Pathology: the science behind the cure

Standards and Datasets for Reporting Cancers

Dataset for the histopathological reporting of oesophageal carcinoma (2nd edition)

February 2007

Coordinator: Dr Nicholas P Mapstone, Royal Lancaster Infirmary

APPENDIX C Reporting proforma

NATIONAL DATASET FOR GASTRIC CARCINOMA HISTOPATHOLOGY REPORTS

Surname ..... Forenames ..... Date of birth .....

Hospital ..... Hospital no ..... NHS no .....

Date of receipt ..... Date of reporting ..... Report no .....

Pathologist ..... Surgeon ..... Sex .....

GROSS DESCRIPTION

Type of specimen

Oesophago-gastrectomy ☐ Distal gastrectomy ☐

Total gastrectomy ☐ Local resection ☐

Type of tumour

Polypoid, ulcerating or fungating ☐

Diffusely infiltrating ☐

Specimen dimensions

Length of stomach - greater curve ..... mm

Length of stomach - lesser curve ..... mm

Length of oesophagus ..... mm

Length of duodenum ..... mm

Site of tumour .....

Maximum tumour diameter ……..mm

Distance of tumour to nearest margin (cut end)

……...mm

HISTOLOGY

Type of tumour

Adenocarcinoma ☐

Other (specify) ☐ .....

Lauren classification

Intestinal ☐ Diffuse/mixed ☐

Differentiation by worst area

Well/moderately ☐ Poorly ☐

Local invasion

T0 No tumour identified ..... ☐

Tis Carcinoma *in situ* ..... ☐

T1 Invasion of lamina propria/submucosa ..... ☐

T2a Invasion of muscularis propria ..... ☐

T2b Invasion into subserosa ..... ☐

T3 Invasion of serosa ..... ☐

T4 Invasion of adjacent structures ..... ☐

Proximal margin involved Yes ☐ No ☐

Distal margin involved Yes ☐ No ☐

Circumferential margin lower oesophagus

Involvement (< 1 mm): Yes ☐ No ☐ N/A ☐

(If no, distance of tumour to nearest circumferential margin ..... mm)

Lymphatic/vascular invasion Yes ☐ No ☐

Lymph nodes

Number examined .....

Number positive .....

N0 (0 nodes) ☐ N2 (7–15 nodes) ☐

N1 (1–6 nodes) ☐ N3 (>15 nodes) ☐

Distant metastases

Unknown (MX) ☐ Yes (M1) ☐

PATHOLOGICAL STAGING

Complete resection

Yes (R0) ☐ No (R1 or R2) ☐

History of neoadjuvant therapy (y) Yes ☐ No ☐

TNM (y)….. pT ☐ N ☐ M ☐

Signature…….. Date……/……/……. SNOMED codes T……../M……..

The Royal College of Pathologists

Pathology: the science behind the cure

Standards and Datasets for Reporting Cancers

Dataset for the histopathological reporting of gastric carcinoma (2nd edition)

Coordinator: Professor Marco R Novelli, University College London

January 2007

Current RCPath datasets for oesophagus and stomach (2nd Edition).

- Oesophageal dataset:

  pT and pN - TNM 5

- Gastric dataset:

  pT - TNM 6

  pN - TNM 5

OGJ tumours

- Siewert classification
- Gastric versus oesophageal dataset?

Siewert classification

Leading article

Classification of adenocarcinoma of the oesophagogastric junction

J. R. Siewert
H. J. Stein

"We have defined and described adenocarcinomas of the oesophagogastric junction as tumours that have their centre within 5 cm proximal and distal of the anatomical cardia and have differentiated the following three distinct tumour entities within this area[1,3]:"

Type I tumour	Adenocarcinoma of the distal oesophagus which usually arises from an area with specialized intestinal metaplasia of the oesophagus (i.e. Barrett's oesophagus) and which may infiltrate the oesophagogastric junction from above.
Type II tumour	True carcinoma of the cardia arising from the cardiac epithelium or short segments with intestinal metaplasia at the oesophagogastric junction; this entity is also often referred to as 'junctional carcinoma'.
Type III tumour	Subcardial gastric carcinoma which infiltrates the oesophagogastric junction and distal oesophagus from below.

British Journal of Surgery 1998, 85, 1457–1459

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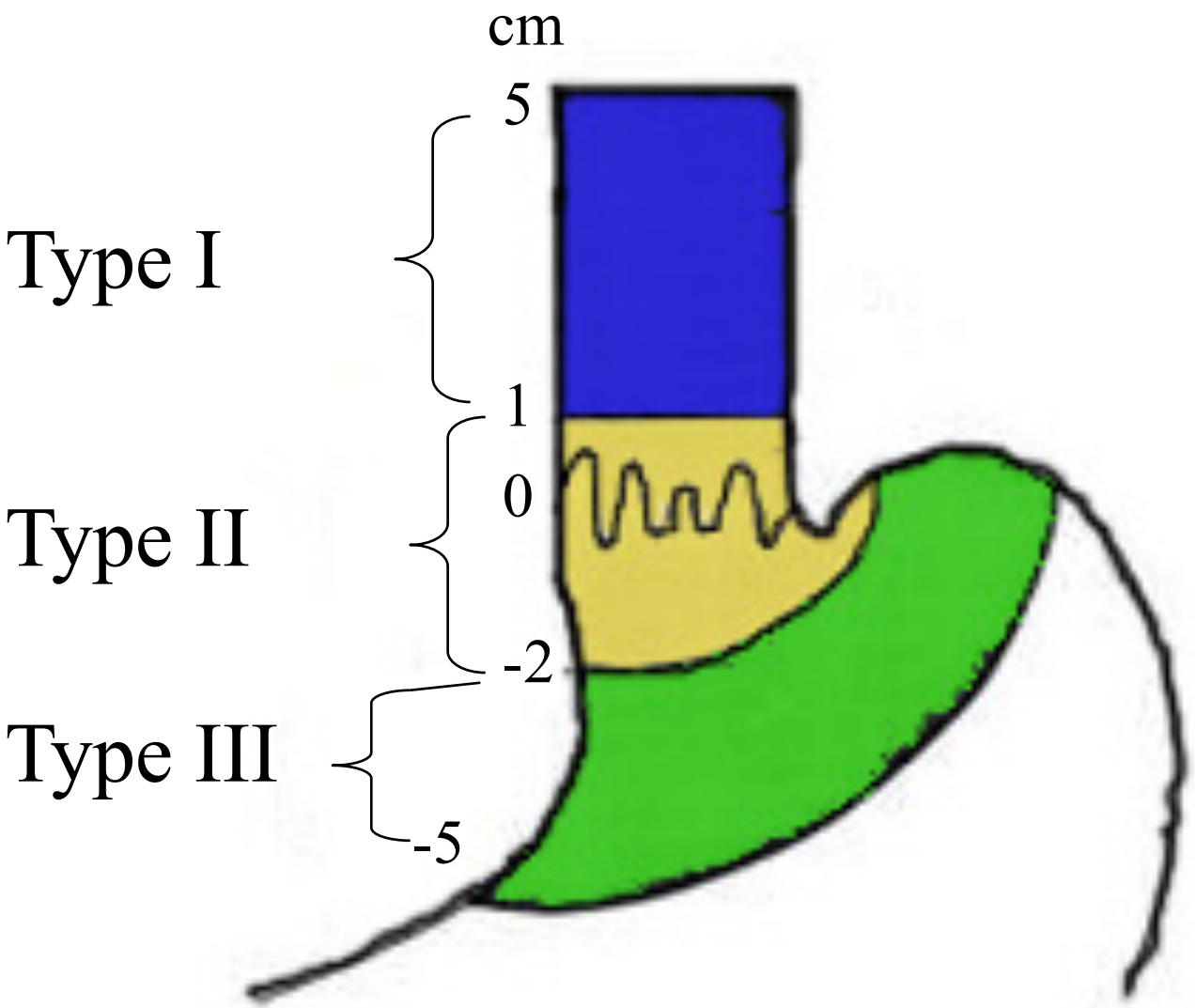
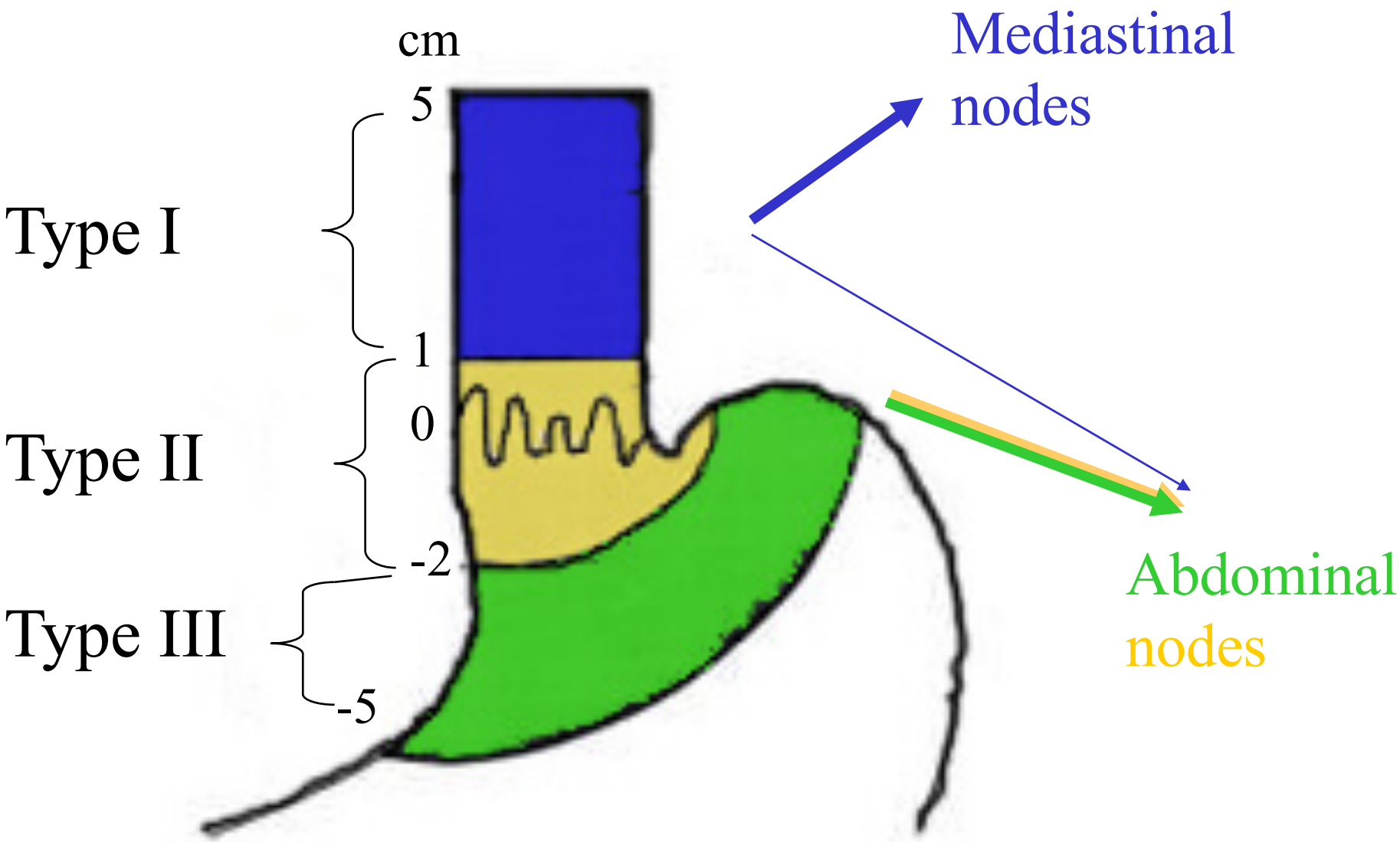
British Journal of Surgery 1998, 85, 1457–1459

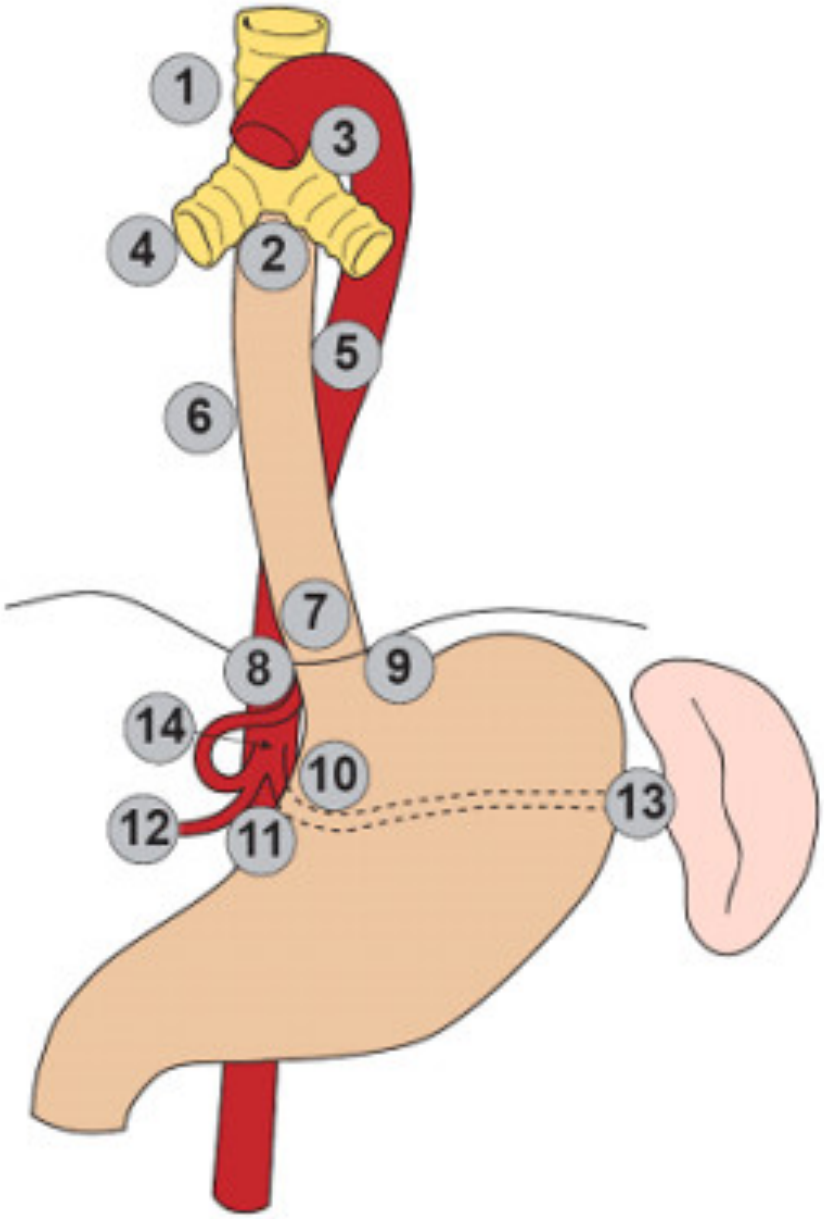
Siewert Classification of OGJ Tumours



Siewert Classification of OGJ Tumours

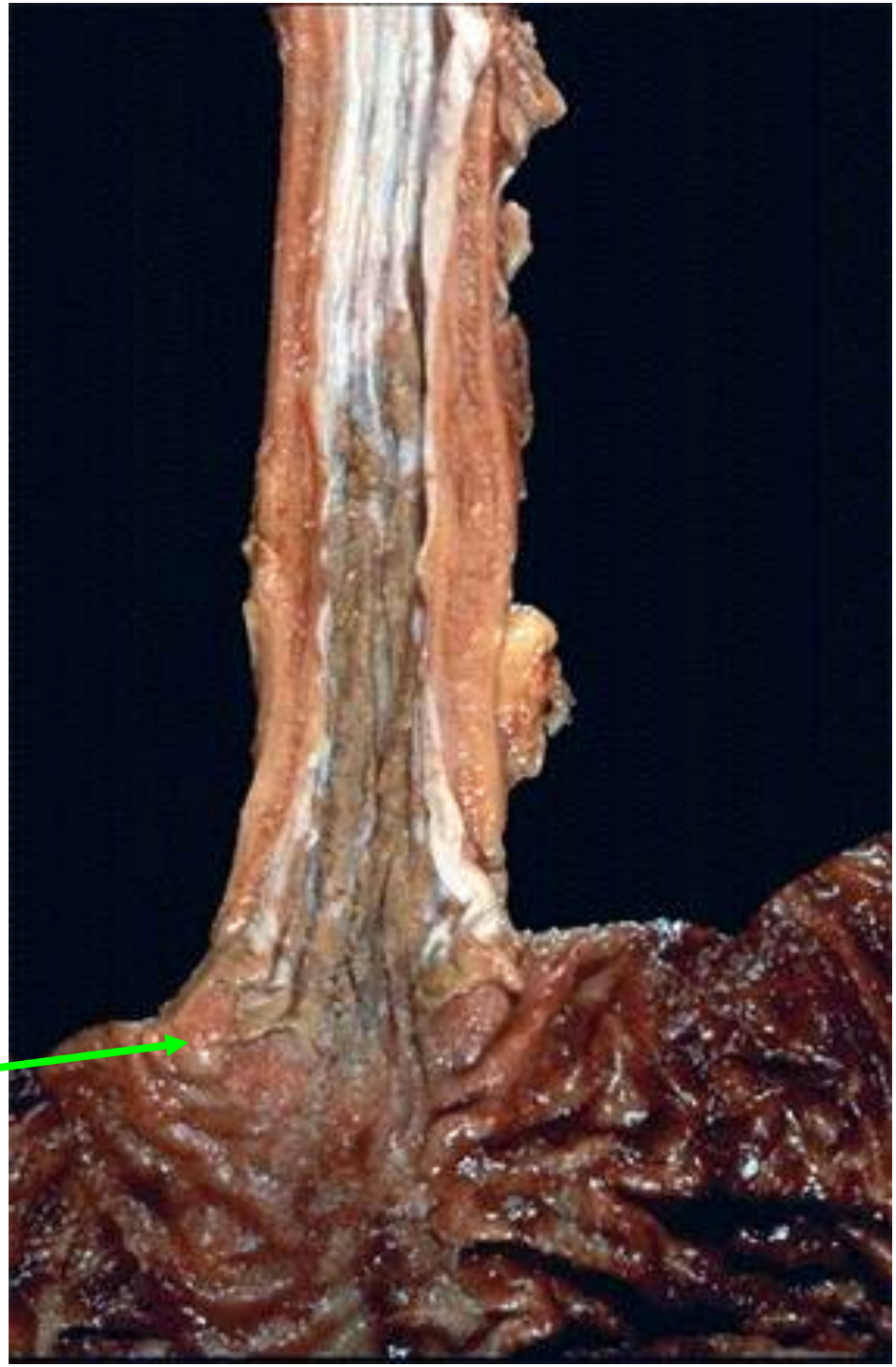


SIEWERT TYPE	I	II	III
Mediastinal stations			
1. Paratracheal	4%	0%	-
2. Carinal	10%	0%	-
3. Left bronchial	15%	0%	-
4. Right bronchial	19%	0%	-
5. Para-aortic	20%	2%	-
6. Middle and			
7. lower paraoesophageal	55%	5%	3%
Abdominal stations			
8. Right paracardial	41%	46%	-
9. Left paracardial	32%	50%	-
10. Left gastric	60%	65%	24%
11. Lesser curve	14%	65%	41%
12. Common hepatic	3%	16%	17%
13. Splenic artery	6%	30%	28%
14. Coeliac axis	5%	30%	-

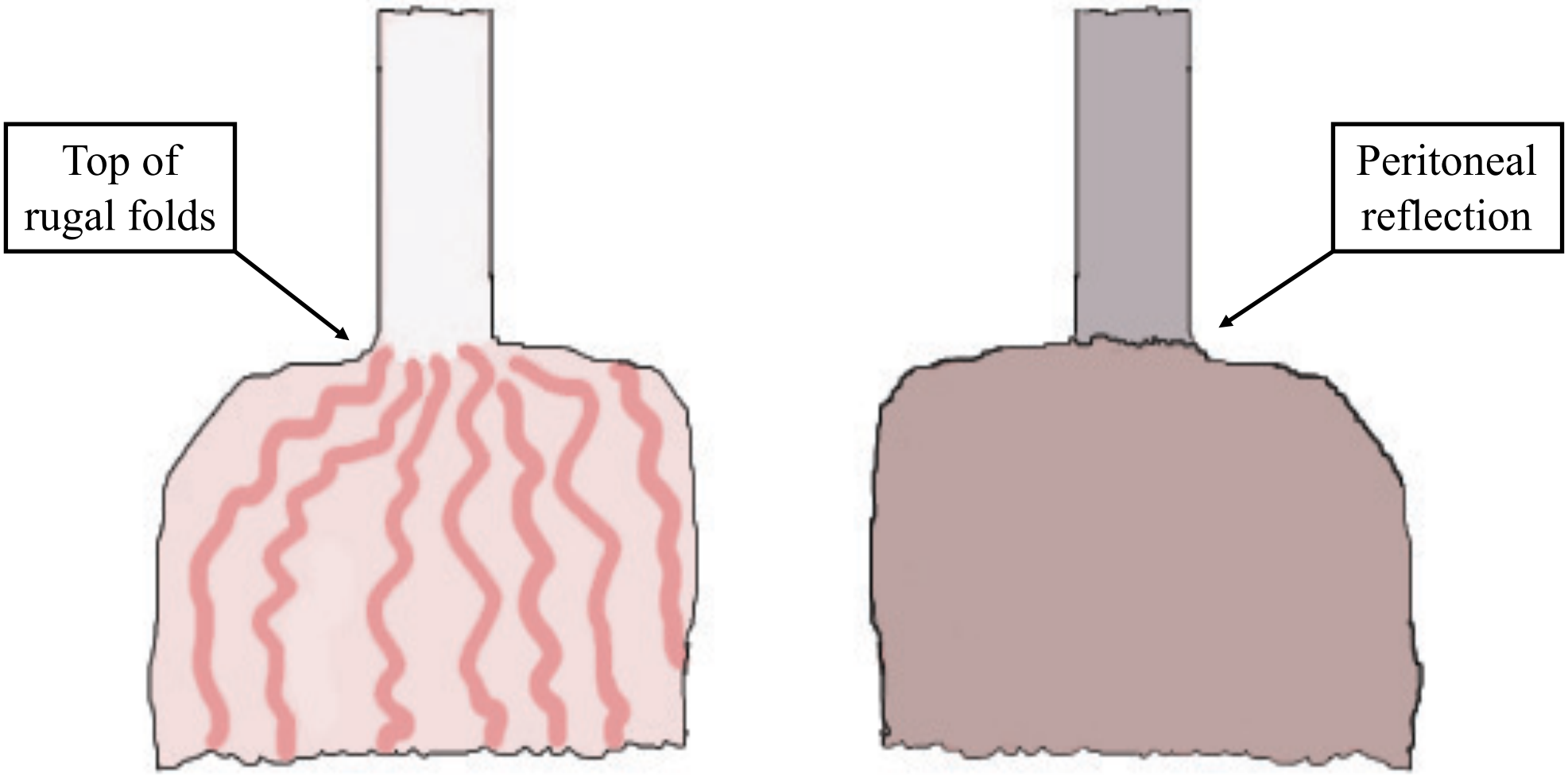


Gastric versus oesophageal dataset?

OG Junction

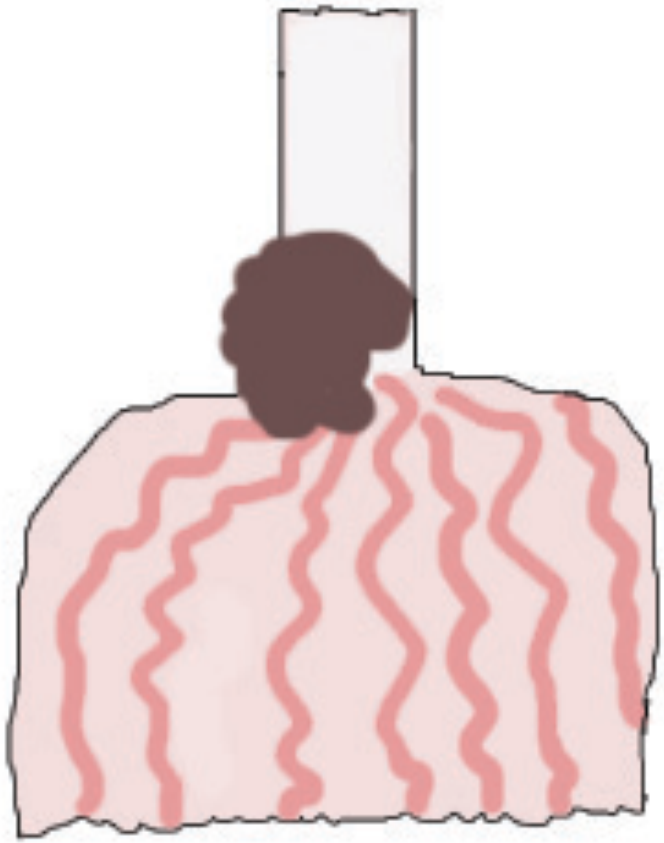


Oesophagogastric junction

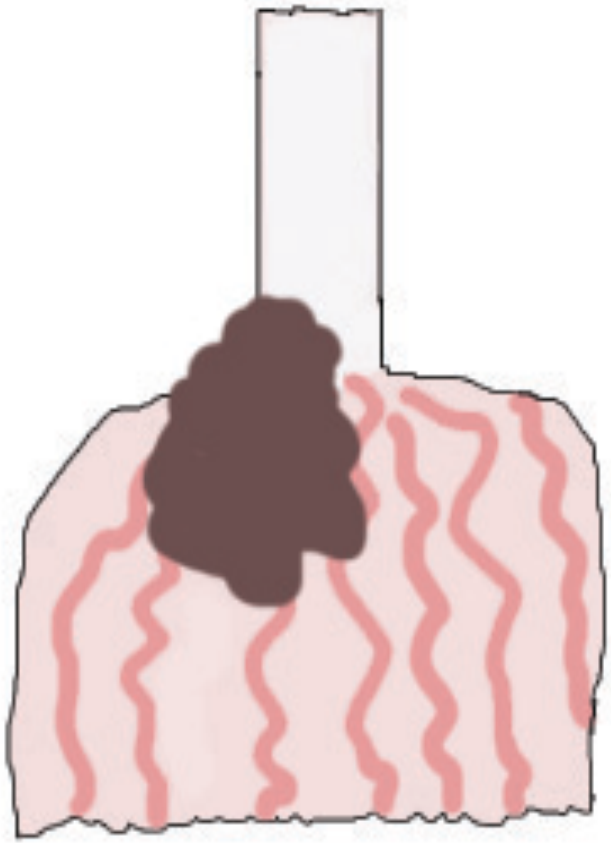


Mucosal aspect

Serosal aspect



> 50% tumour in oesophagus

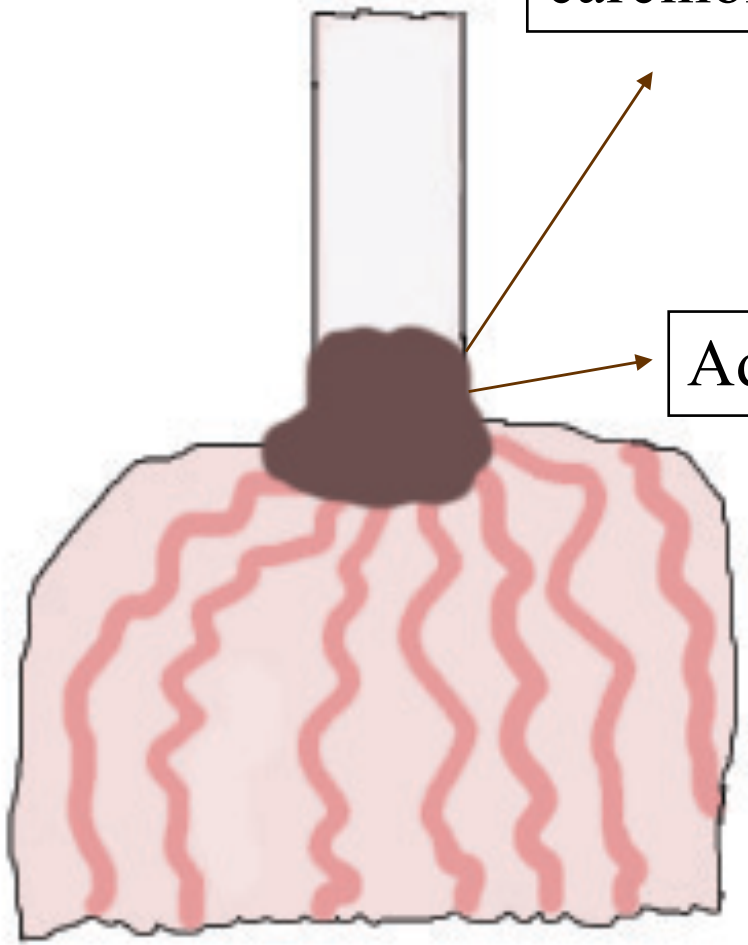


> 50% tumour in stomach

Oesophageal dataset

Gastric dataset

TNM6



Squamous, small cell and undifferentiated carcinomas → Oesophageal dataset

Adenocarcinomas → Gastric dataset

TNM6

Siewert type 2 tumours (50:50)

TNM-7
Oesophagogastric junction tumours

A tumour the epicenter of which is within 5 cm of the esophagogastric junction and also extends into the oesophagus is classified and staged according to the **oesophageal** scheme

All other tumours with an epicenter in the stomach greater than 5 cm from the oesophagogastric junction or those within 5 cm of the EGJ *without* extension into the oesophagus are staged using the **gastric** carcinoma scheme

TNM-7
Oesophagogastric junction tumours

A tumour the epicenter of which is within 5 cm of the esophagogastric junction and also extends into the oesophagus is classified and staged according to the **oesophageal** scheme

All other tumours with an epicenter in the stomach greater than 5 cm from the oesophagogastric junction or those within 5 cm of the EGJ *without* extension into the oesophagus are staged using the **gastric** carcinoma scheme

→ Most tumours which involve the OGJ will be classified under oesophageal dataset

Future for RCPath OG datasets

- Oesophageal and gastric datasets will be merged.
- Gastric and oesophageal datasets will adopt TNM8.

Comparison with colorectal dataset (resection specimens).

- Tumour grading
  - Oesophagus/stomach → Worst area of tumour
  - Colorectal → Predominant differentiation of tumour
- Vascular/lymphatic invasion
  - Oesophagus/stomach → Lymphatic/vascular invasion
  - Colorectal → Venous invasion
- Response to treatment (chemoradiotherapy)
  - Colorectal assessed
  - Oesophagogastric not assessed (yet!)

TNM Classification: extra codes

- **y** Symbol
  - classification during or following multimodality therapy (e.g. neoadjuvant chemotherapy).
  - ypT3 N0 Mx

- **R** codes – residual tumour (after treatment)

  Rx - Presence of tumour cannot be assessed
  R0 - No residual tumour
  R1 - Microscopic residual tumour
  R2 - Macroscopic residual tumour

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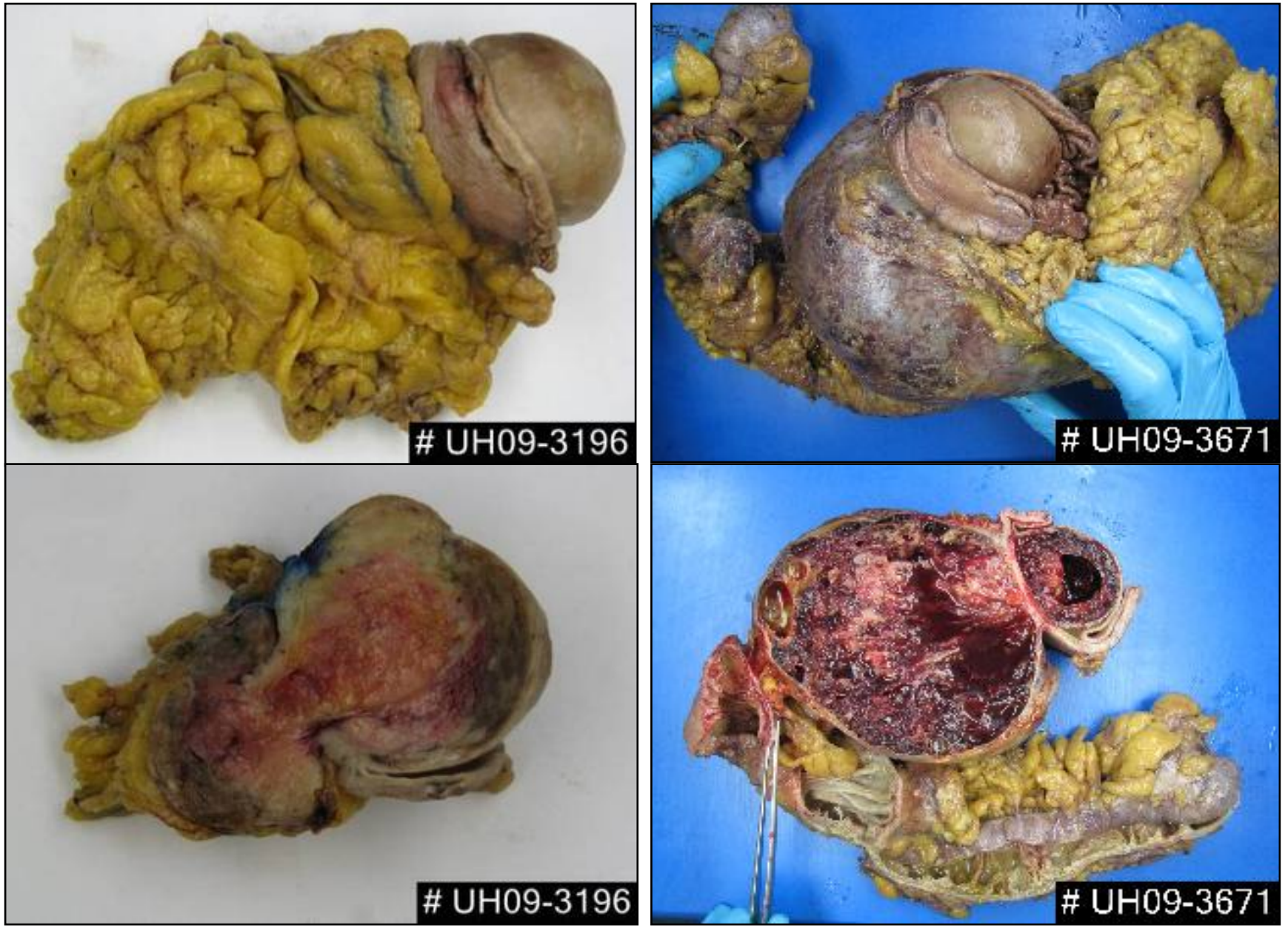
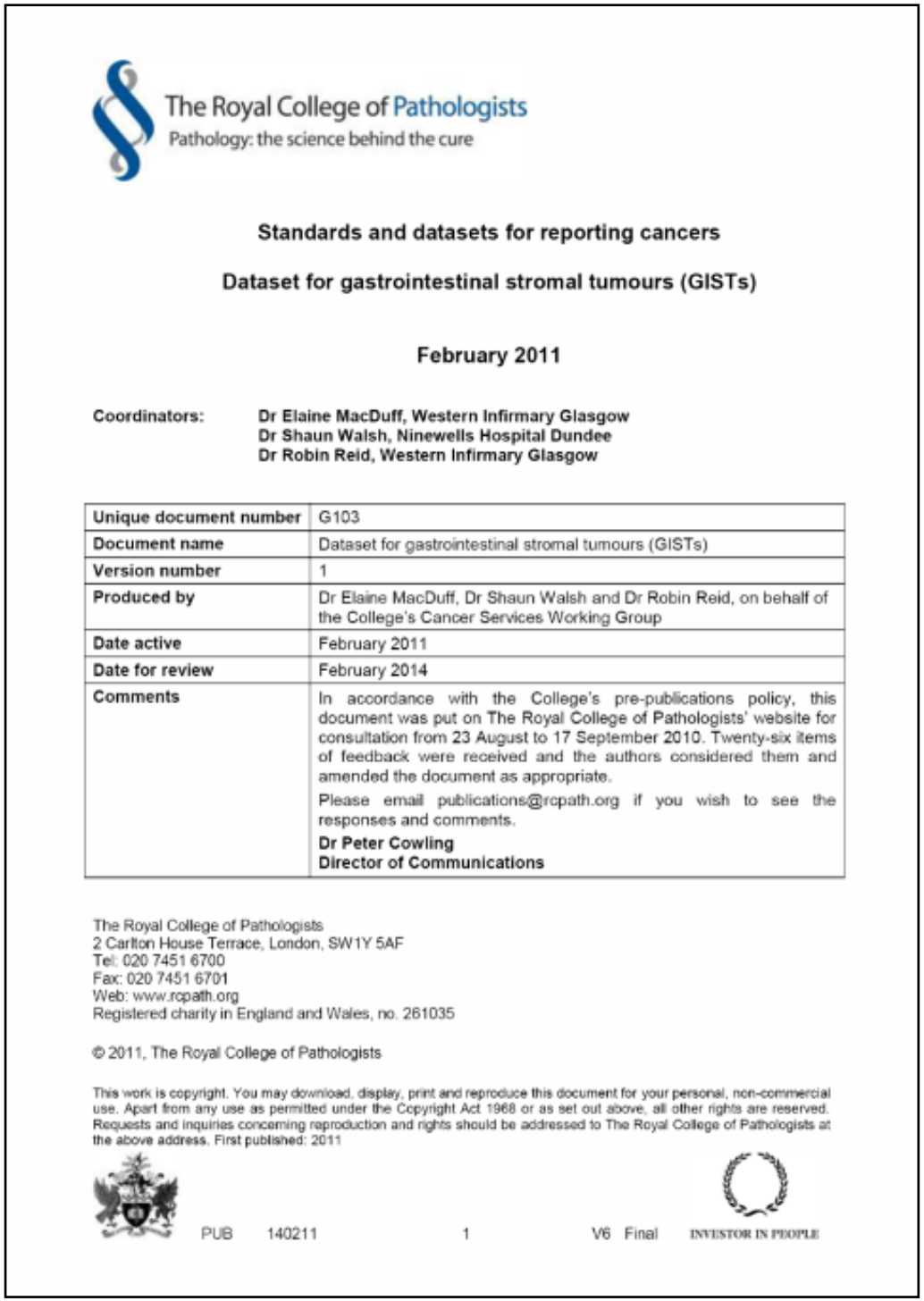
Gastrointestinal stromal tumour (GIST) resections

- Sleeve resections – full gastrectomies.
- Resection margins.
- Absence/presence of serosal involvement.
- 1 tumour block per cm diameter
- Lymph nodes NOT so important

  (<2% GISTs have LN metastases)



Gastrointestinal stromal tumours



The Royal College of Pathologists
Pathology: the science behind the cure

Standards and datasets for reporting cancers

Dataset for gastrointestinal stromal tumours (GISTs)

February 2011

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Unique document number	G103
Document name	Dataset for gastrointestinal stromal tumours (GISTs)
Version number	1
Produced by	Dr Elaine MacDuff, Dr Shaun Walsh and Dr Robin Reid, on behalf of the College's Cancer Services Working Group
Date active	February 2011
Date for review	February 2014
Comments	In accordance with the College's pre-publications policy, this document was put on The Royal College of Pathologists' website for consultation from 23 August to 17 September 2010. Twenty-six items of feedback were received and the authors considered them and amended the document as appropriate. Please email publications@rcpath.org if you wish to see the responses and comments. **Dr Peter Cowling** **Director of Communications**

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PUB 140211 1 V6 Final

National Guidelines for Gastrointestinal Stromal Tumour Reporting