

Endoscopic findings of gastric cancer

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Endoscopy for gastric cancer

- Starting endoscopy with **BOXIM** and **DEX**
- AGC Borrmann type 4
- EGC at blind area
- Interpretation of biopsy result – atypia

Traditional

Brief observation



Insertion

Current or Future

BOXIM (box simulator training)



Lectures and book-reading



DEX (description exercise)



Clinical observation

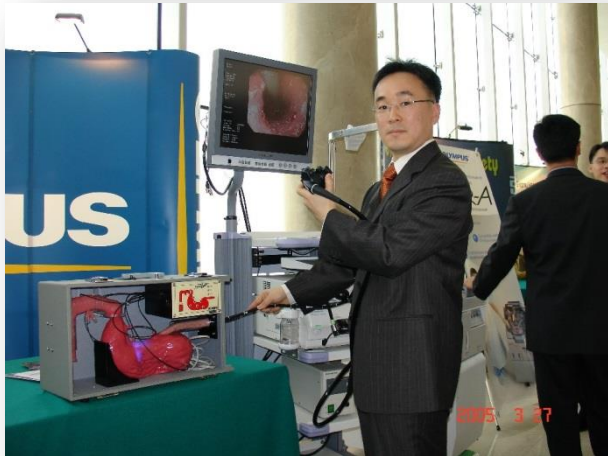


Insertion under supervision

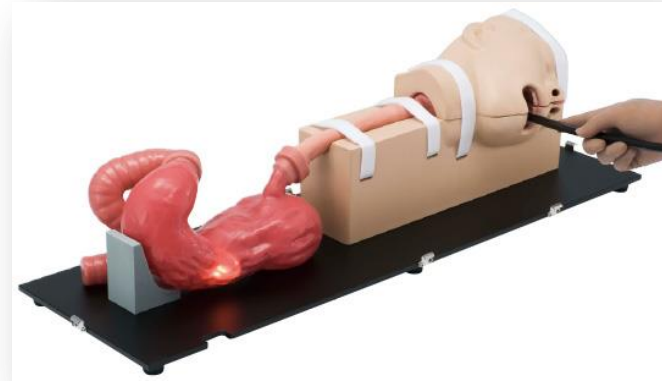


CEE (off-line & on-line)

What kind of simulator?



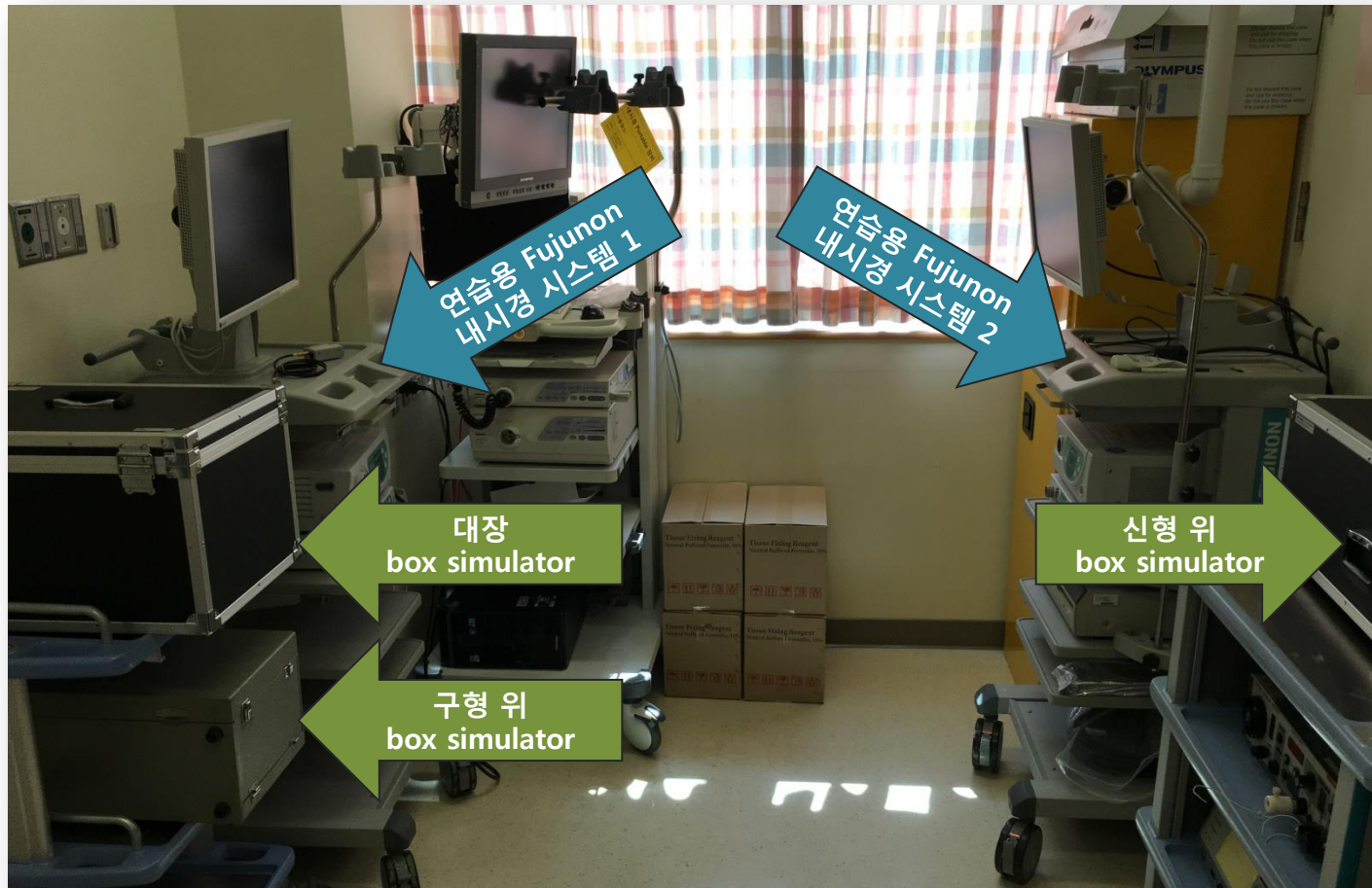
Old vs current model



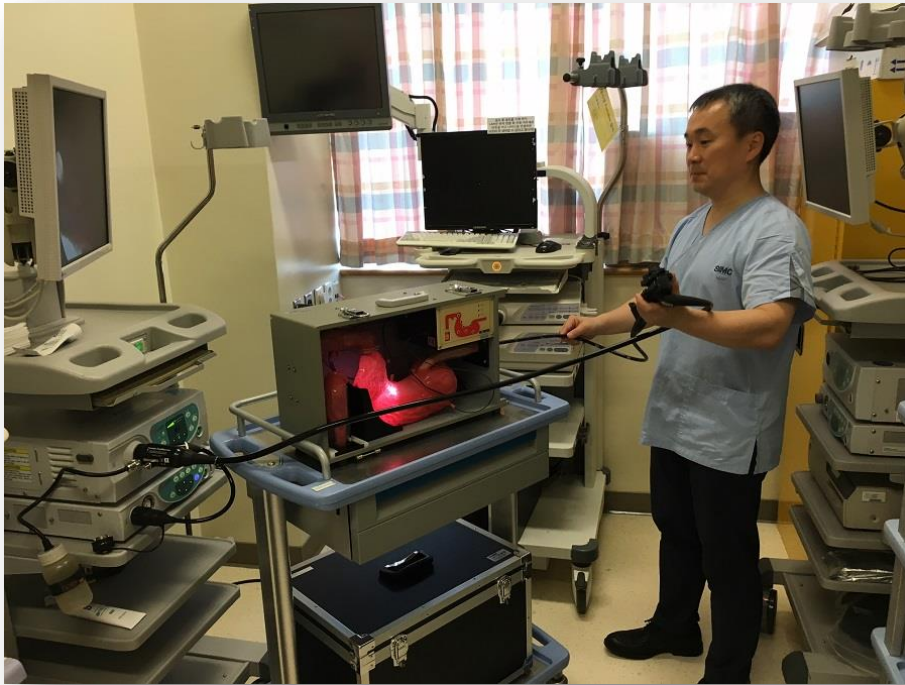
BOXIM in the evening?



BOXIM training room



Daytime BOXIM training



KINGCA Master Class at SMC



2018-4-23. SMC Endoscopy Simulator Center
<http://endotoday.com/endotoday/20180426.html#master>

SKT 오후 2:29 endotoday.com

Endo TODAY [EndoTODAY Endoscopy Learning Center]

1. [EndoTODAY update](#)
2. [EndoATLAS](#) - 주제별 분류
3. Beginner Center ([SMC 내시경실](#))
 - 1) [내시경 초심자 교육](#) - [Boxim](#)과 [Dex](#)를 중심으로
 - 2) [내시경 용어](#), [description exercise](#), [분류법](#)
 - 3) [내시경 삽입법 box simulator 훈련](#)
 - 4) [Quick reference](#), [내시경 진정](#)
 - 5) [외과 fellow 내시경 교육](#)
3. 학술 모임 - [월요소화기](#), [목요내시경](#), [KSGE](#), [KINGCA](#), [Hp](#), [일본](#)
4. [증례 토의](#) - [식도](#), [GERD](#), [위](#), [위암](#), [궤양](#), [소장](#), [대장](#), [LiverTODAY](#)
5. 기타 - [기생충](#), [외래설명서](#), [검색](#), [링크](#), [블로그](#)
6. [ESD에 대한 병실 간호사 간담회](#)
7. [Visiting SMC Endoscopy Unit \(KINGCA 2018\)](#)

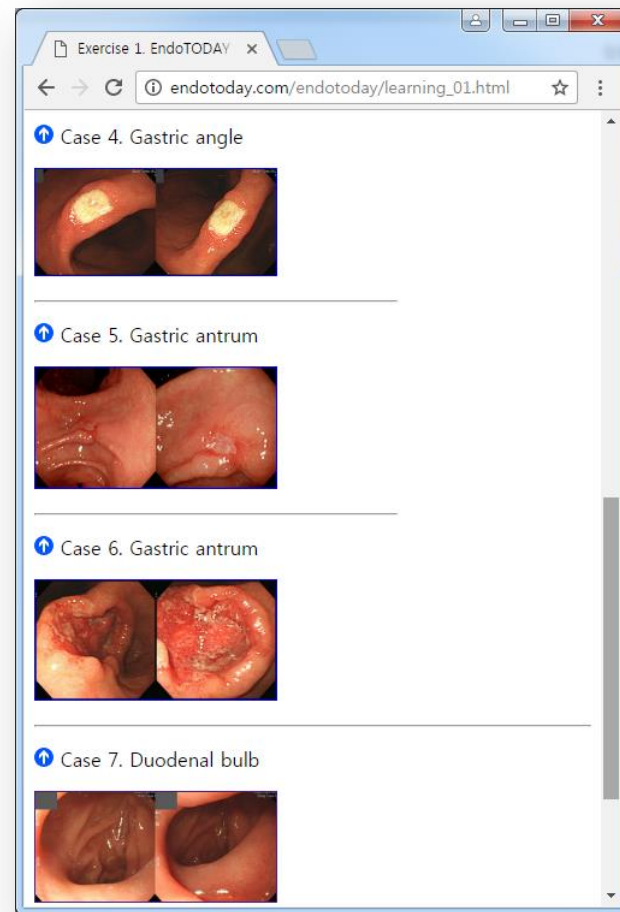
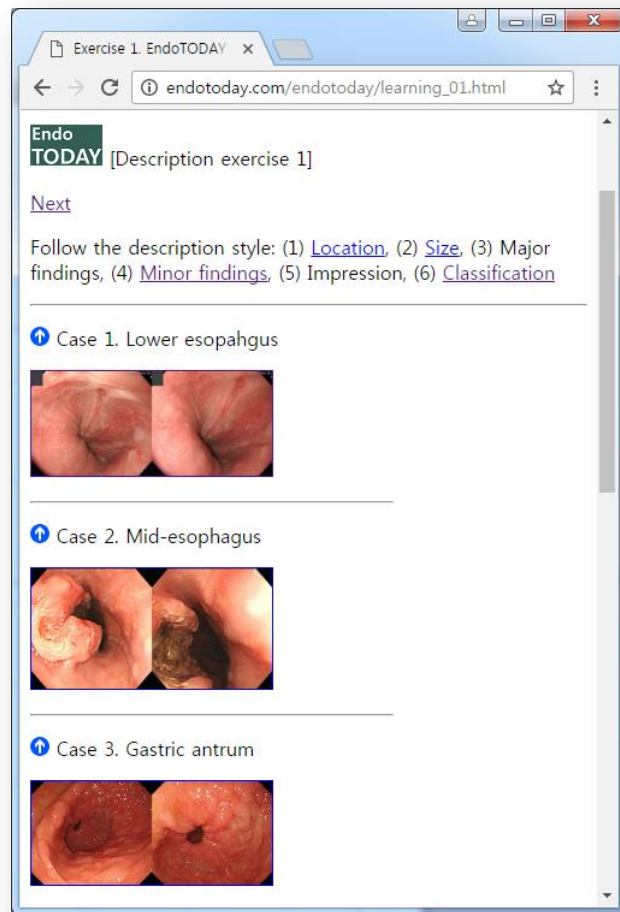
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EndoTODAY Endoscopy Learning Center. Lee Jun

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Endo TODAY [내시경 초심자 교육. Education for Endoscopy Beginners]

1. [Introduction](#)
2. [Program overview](#)
3. [Endoscopy box simulator training](#) (Boxim, 박심)
4. [Description exercise](#) (Dex, 텍스)
5. [Sedation and safety](#)
6. [Staff lectures](#)
7. [Book reading](#)
8. [Topic presentation](#)
9. [Colonoscopy techniques](#)
10. [Technical tips](#)
11. [Special](#) - [위암 1,000](#)
12. [Continuous endoscopy education \(CEE\)](#)
13. [References](#)

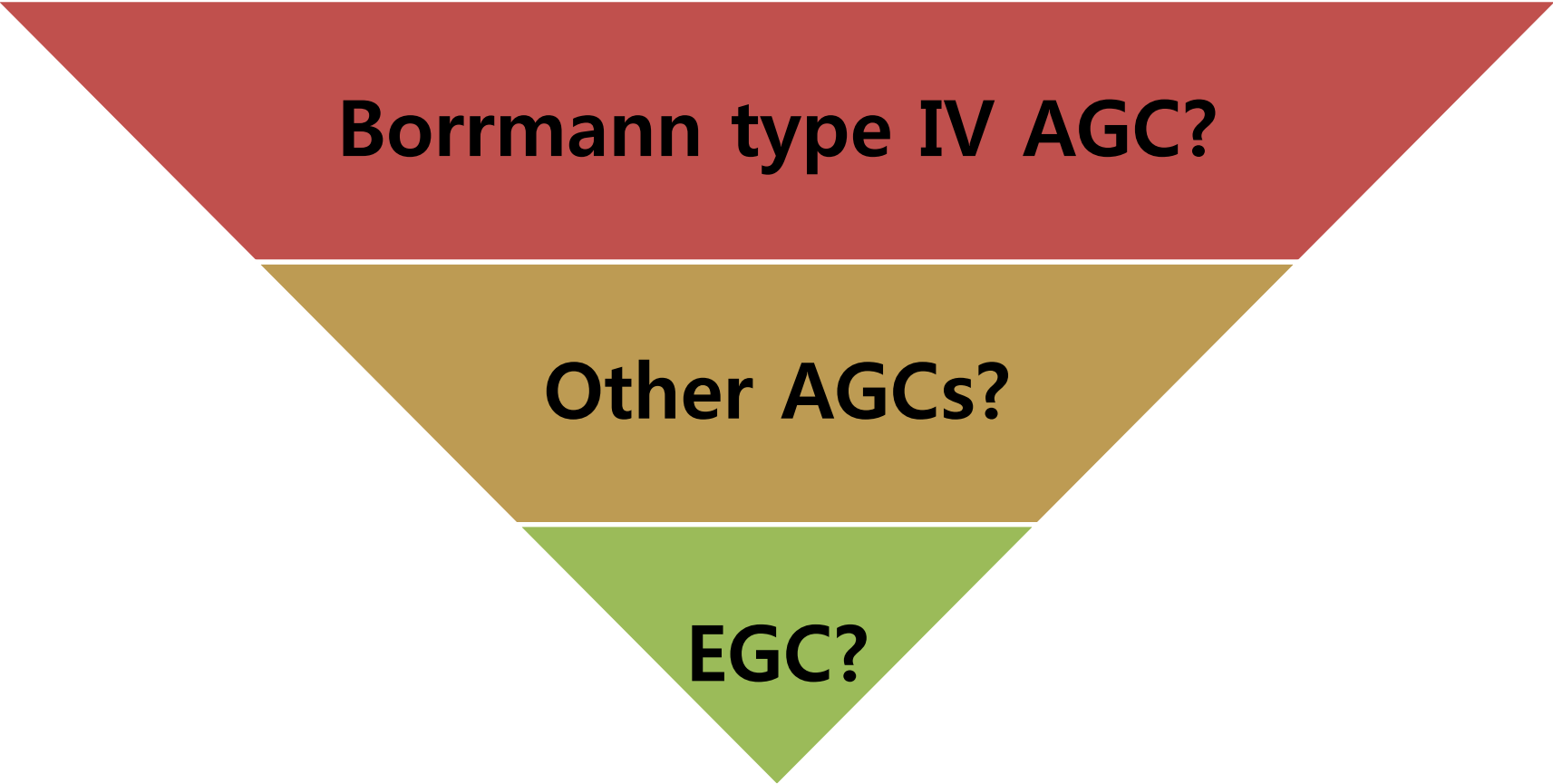
DEX (description exercise)



Endoscopic findings for gastric cancer

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What is important?



Borrmann type IV AGC?

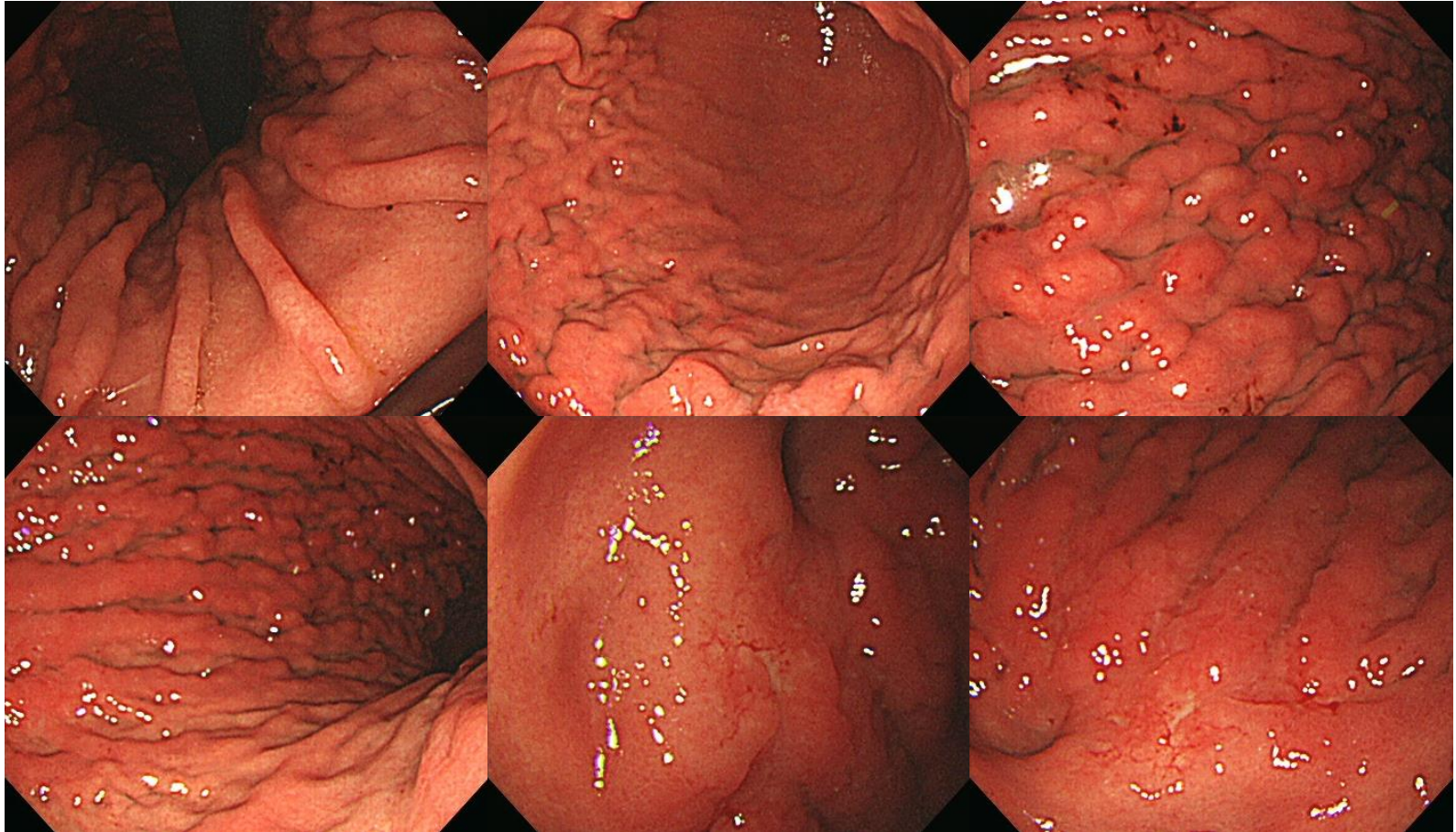
Other AGCs?

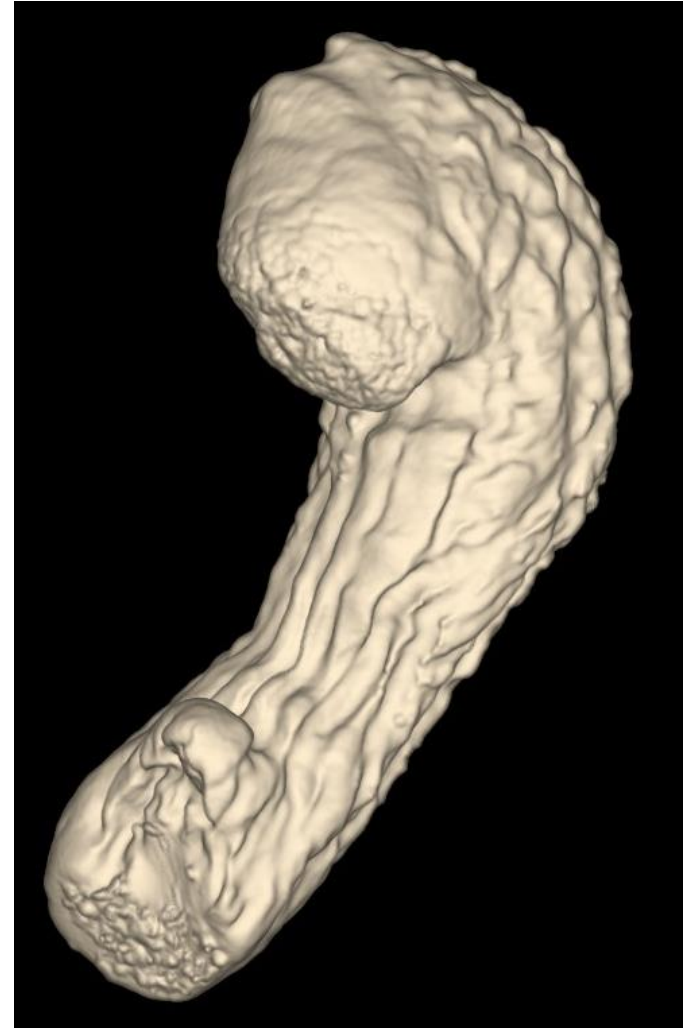
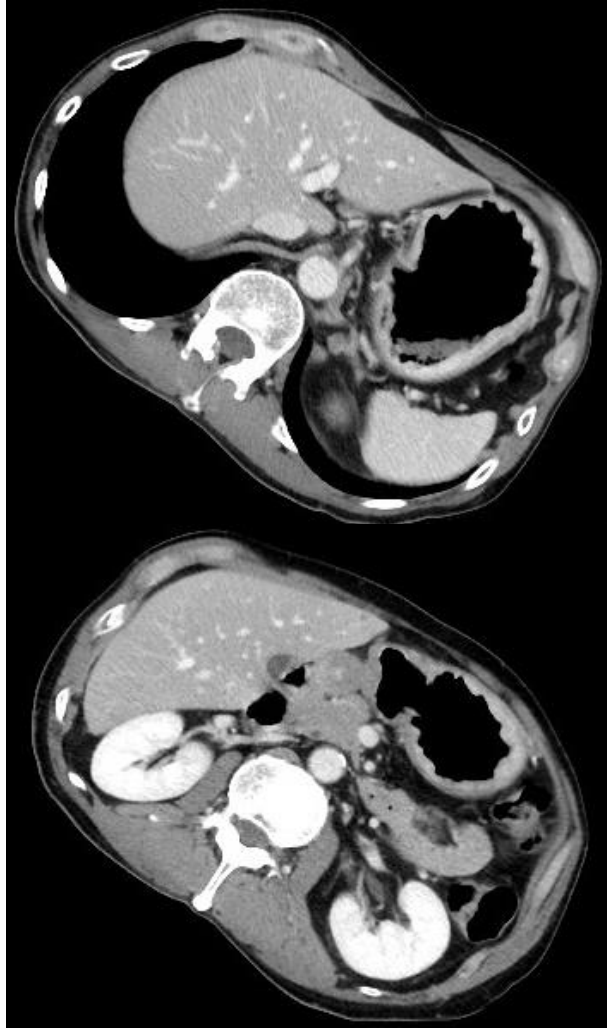
EGC?

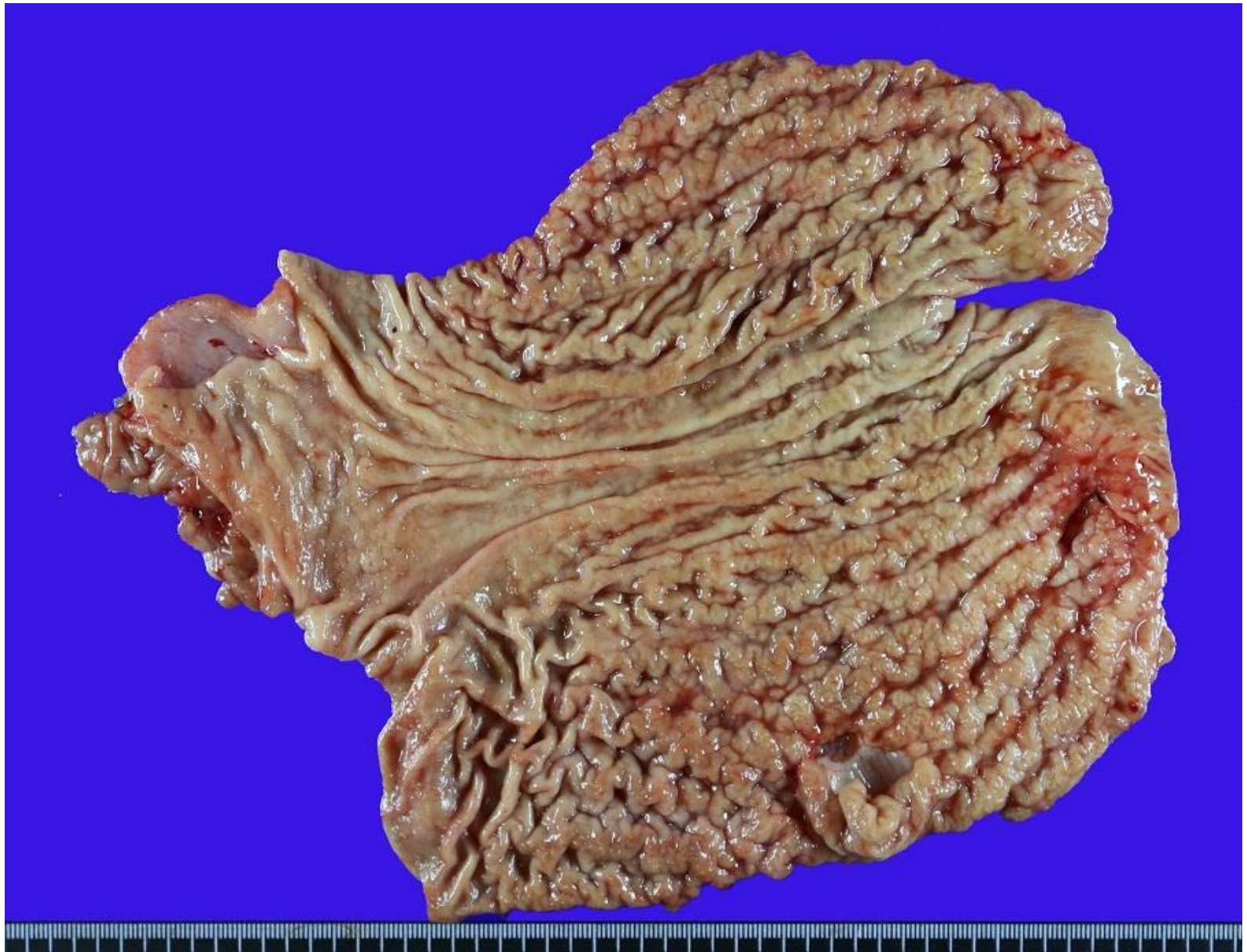
Case 1. AGC B-4

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AGC B-4 (F/55, 2013)





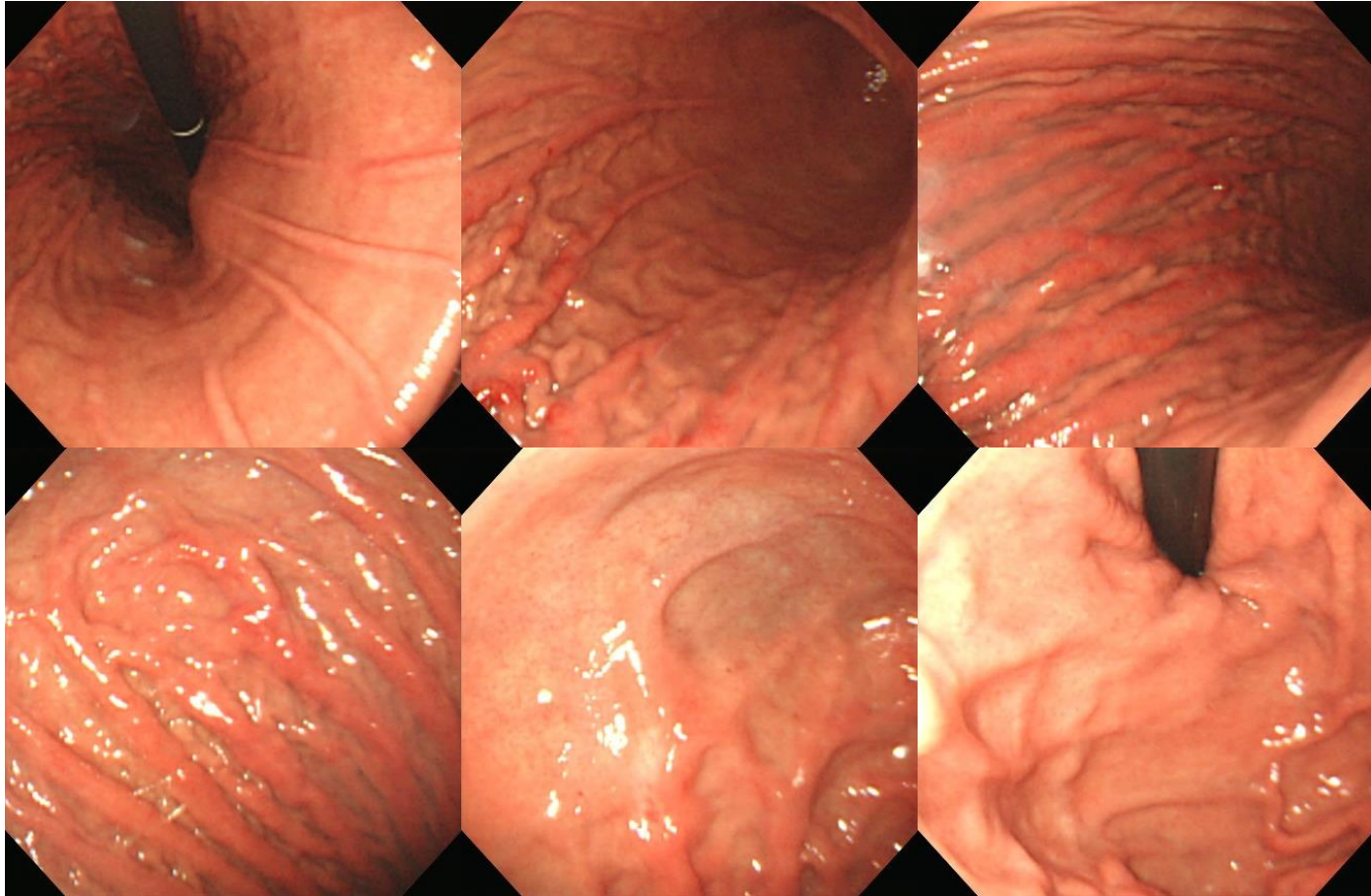


Stomach, total gastrectomy:

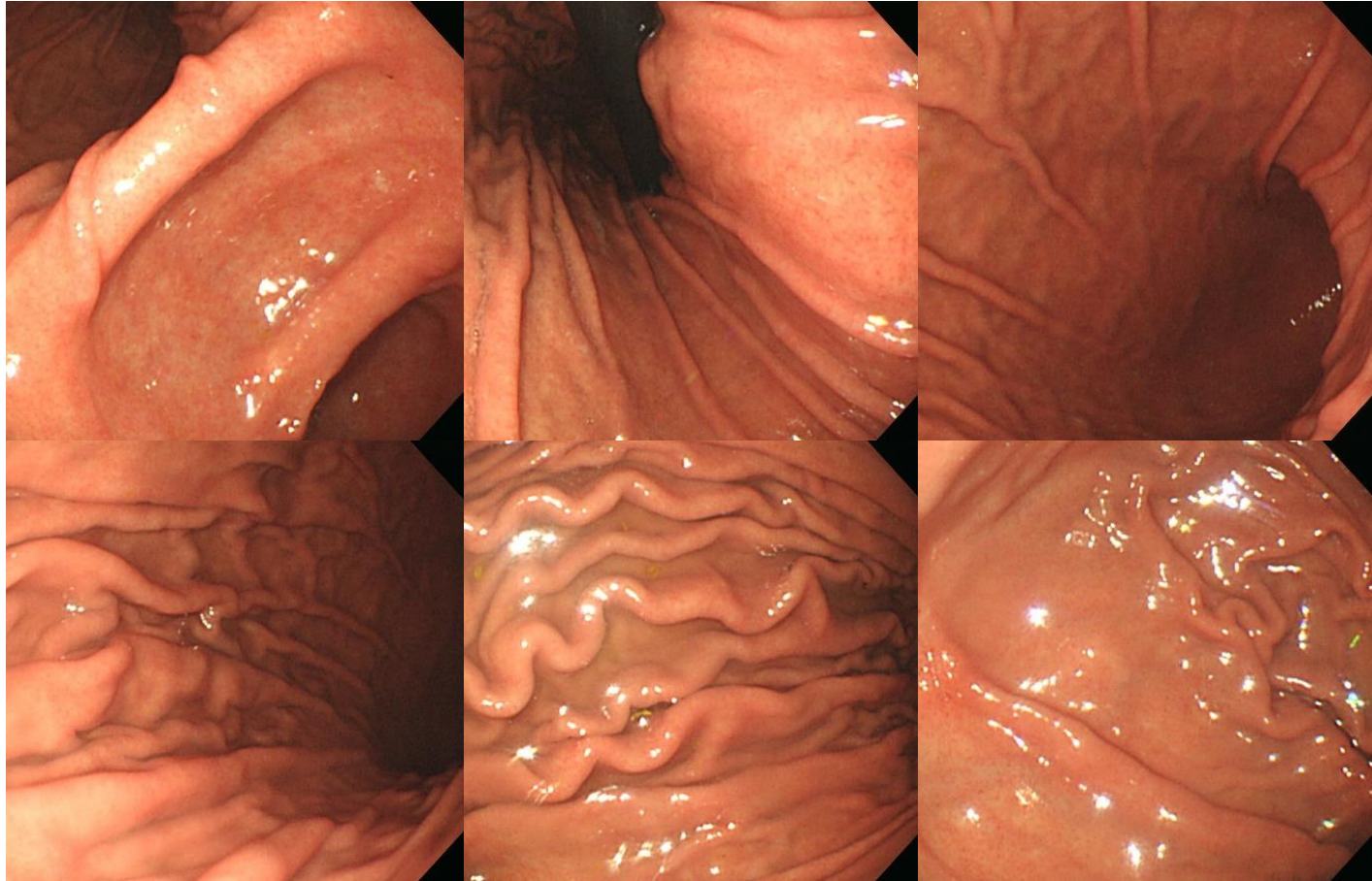
Advanced gastric carcinoma

1. Location : upper third, middle third, lower third, Center at fundus, body, and greater curvature
2. Gross type : Borrmann type IV
3. Histologic type : tubular adenocarcinoma, poorly (poorly cohesive) differentiated
4. Histologic type by Lauren : diffuse
5. Size : **20x18 cm**
6. Depth of invasion : **invades serosa (pT4a)**
7. Resection margin: free from carcinoma
8. Lymph node metastasis : **no metastasis in 31 regional lymph nodes (pN0)**
9. Lymphatic invasion : not identified
10. Venous invasion : not identified
11. Perineural invasion : present
12. Peritoneal cytology : negative
13. AJCC stage by 7th edition: T4a N0

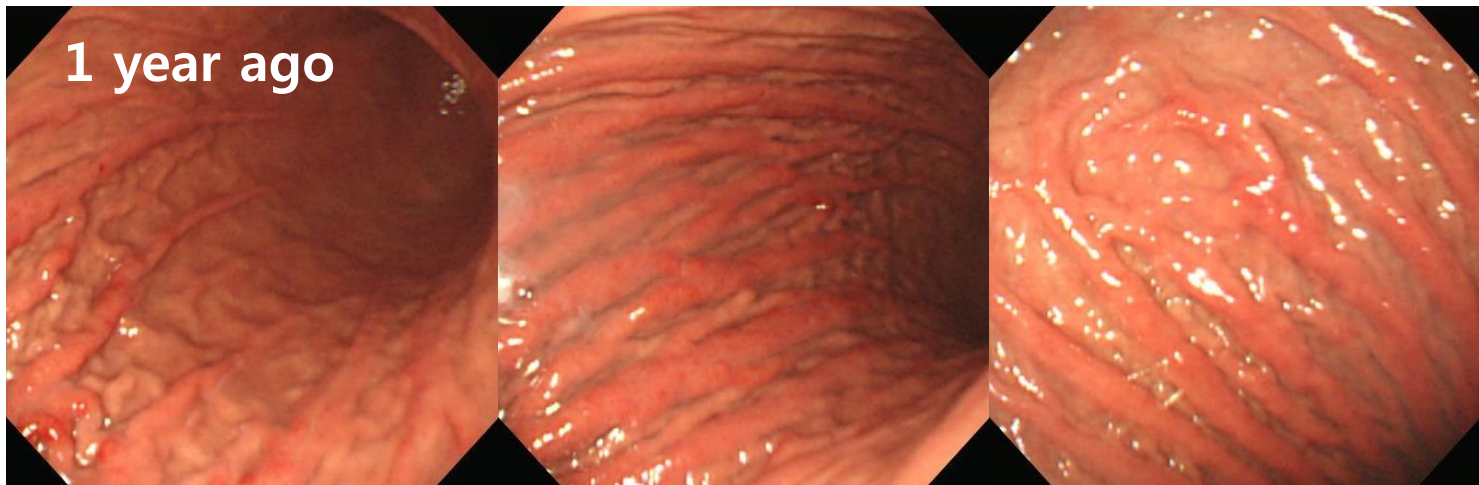
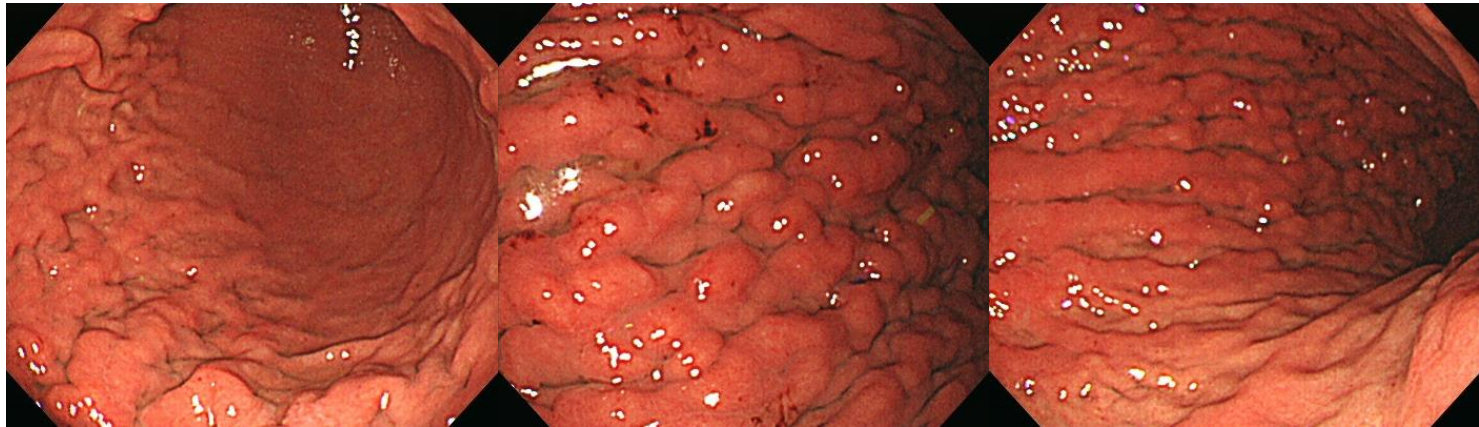
1 year ago



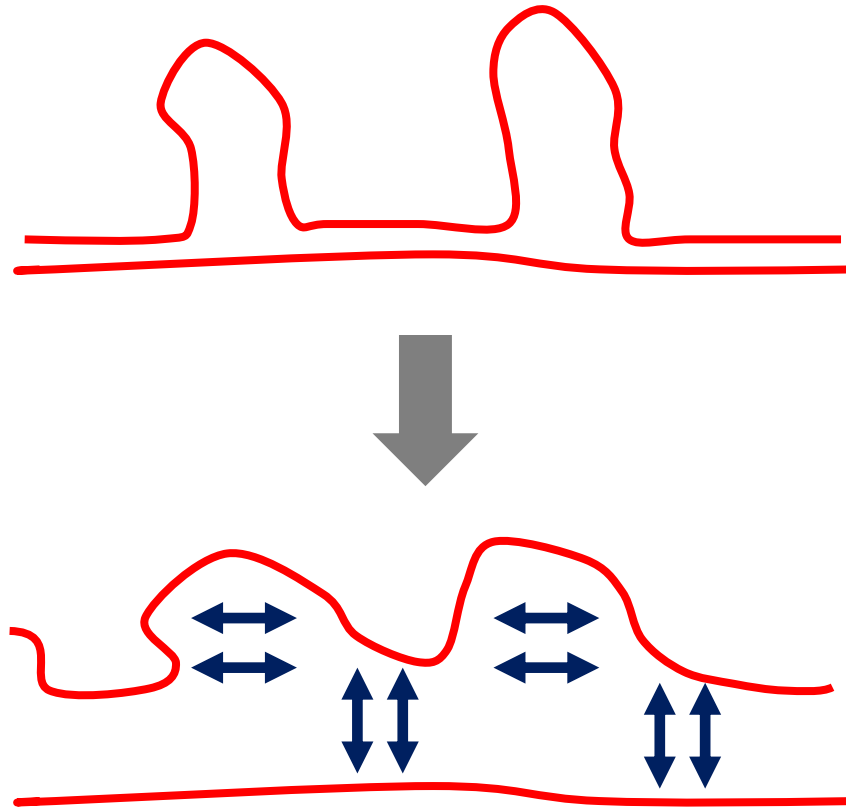
2 years ago



How can we make a diagnosis earlier?

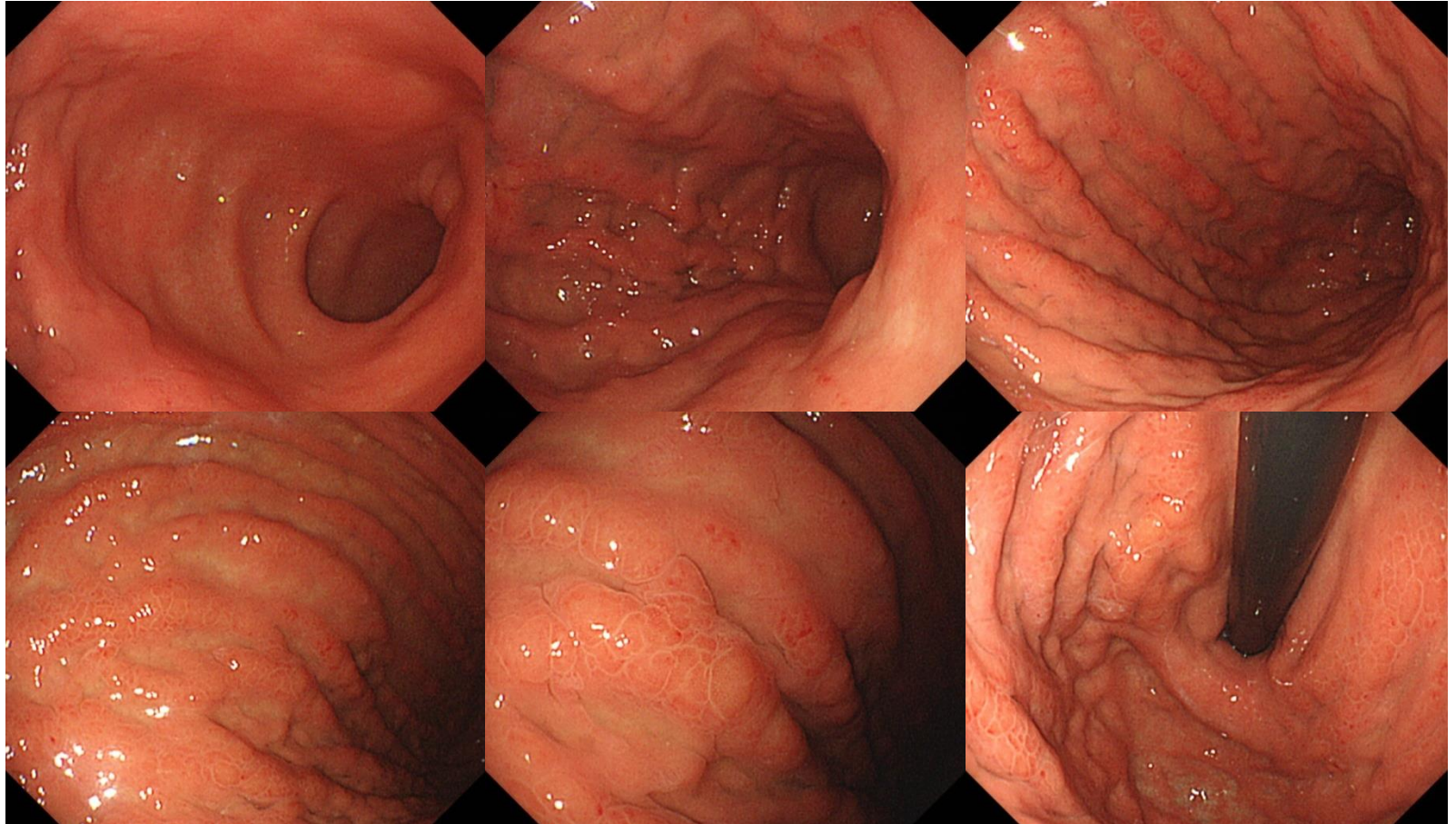


Gastric folds and wall thickening

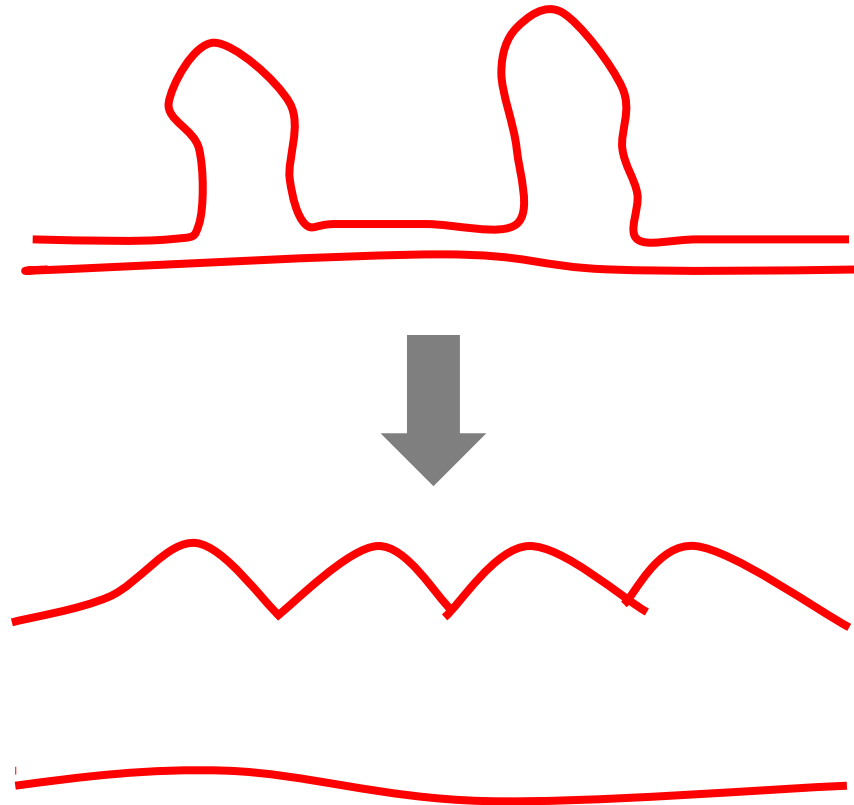


Fold thickening

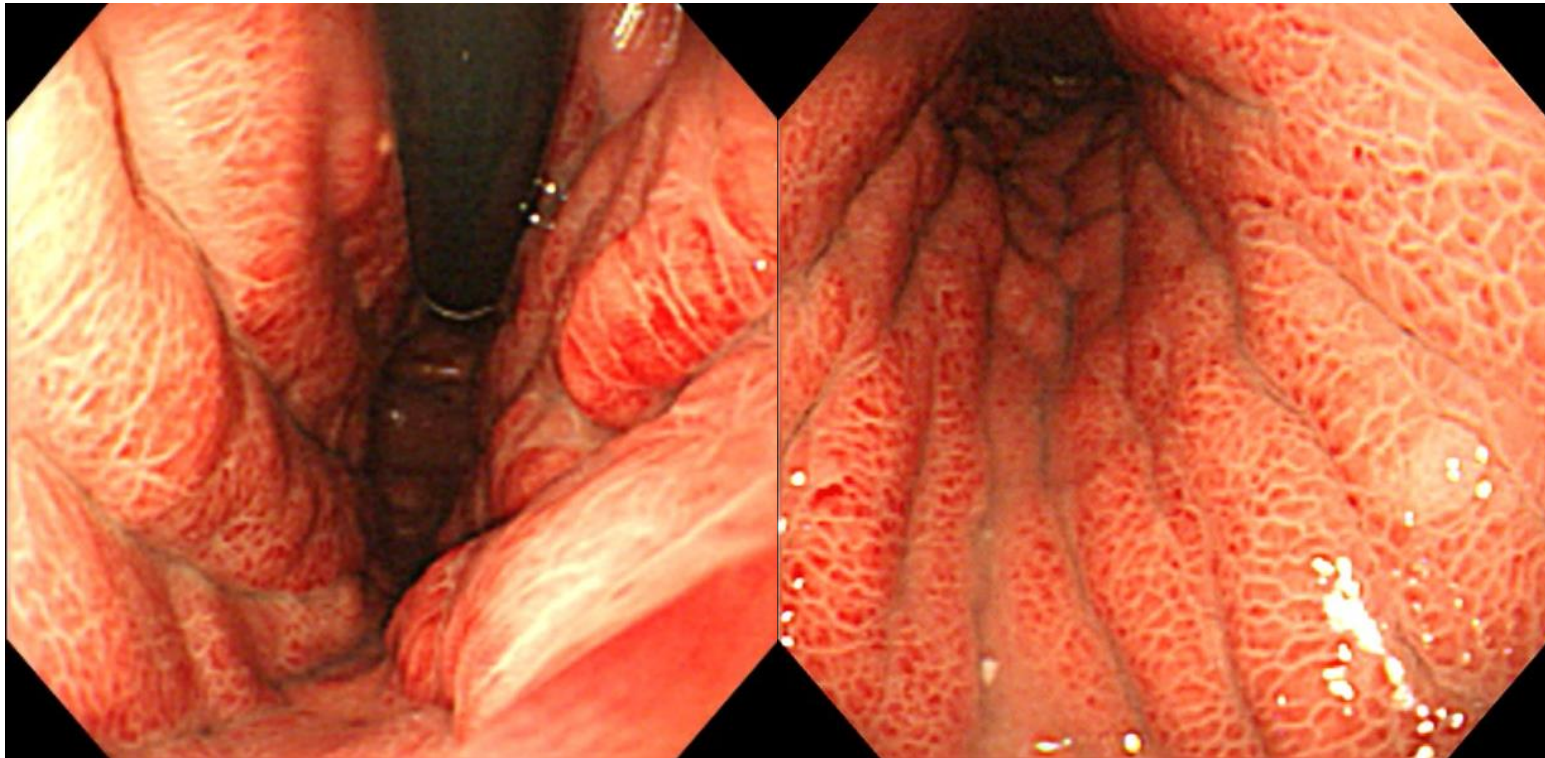
- Initially peritoneal seeding (+)



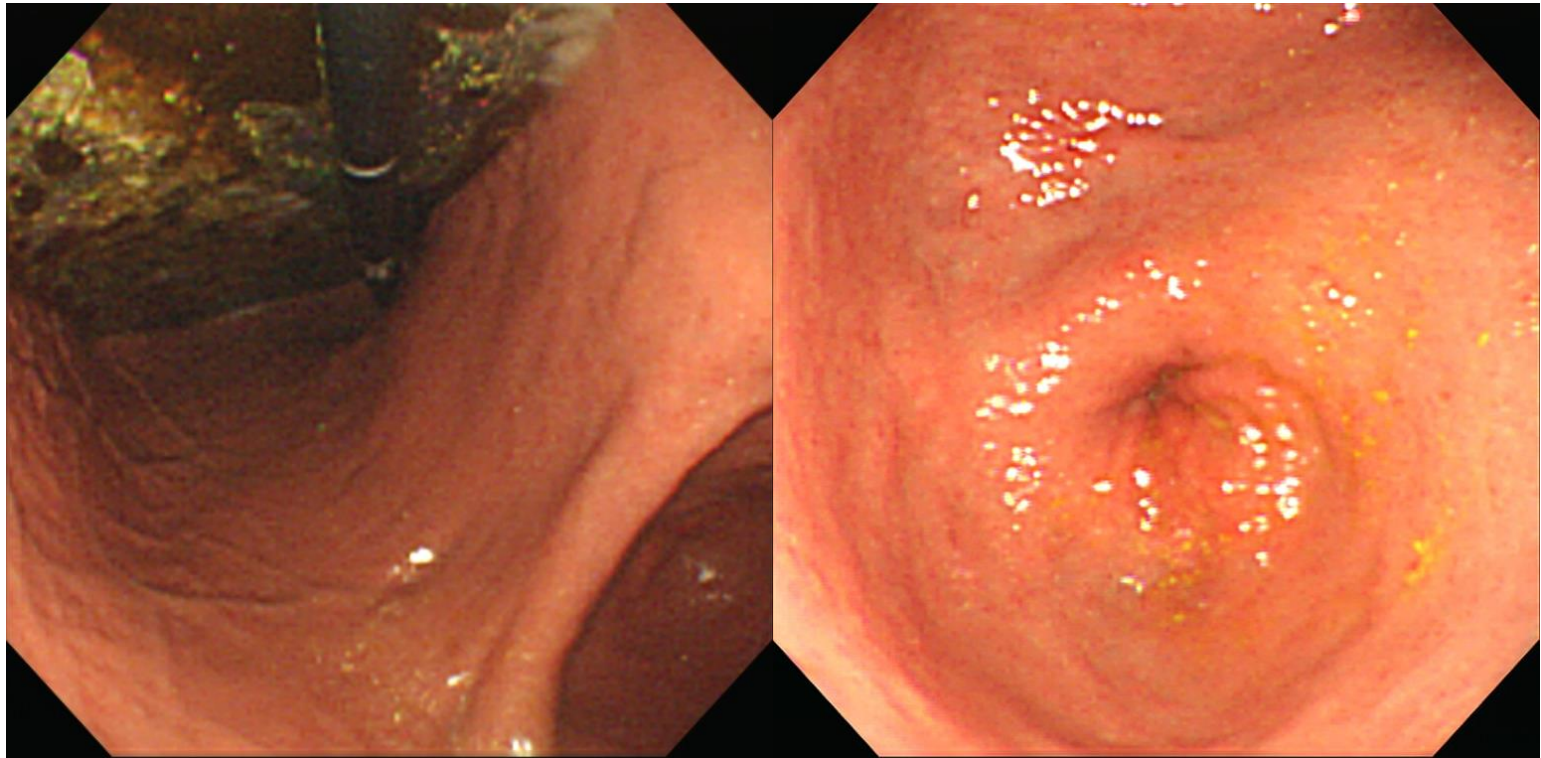
Shoulder by shoulder



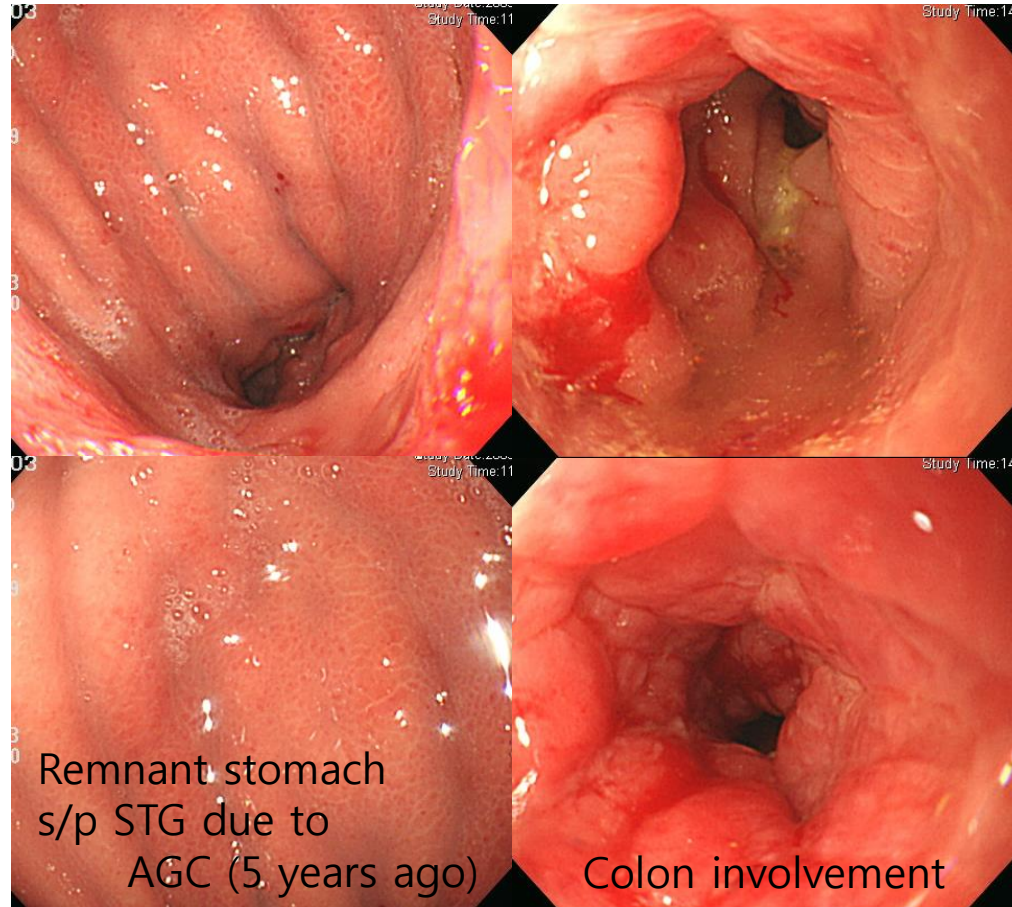
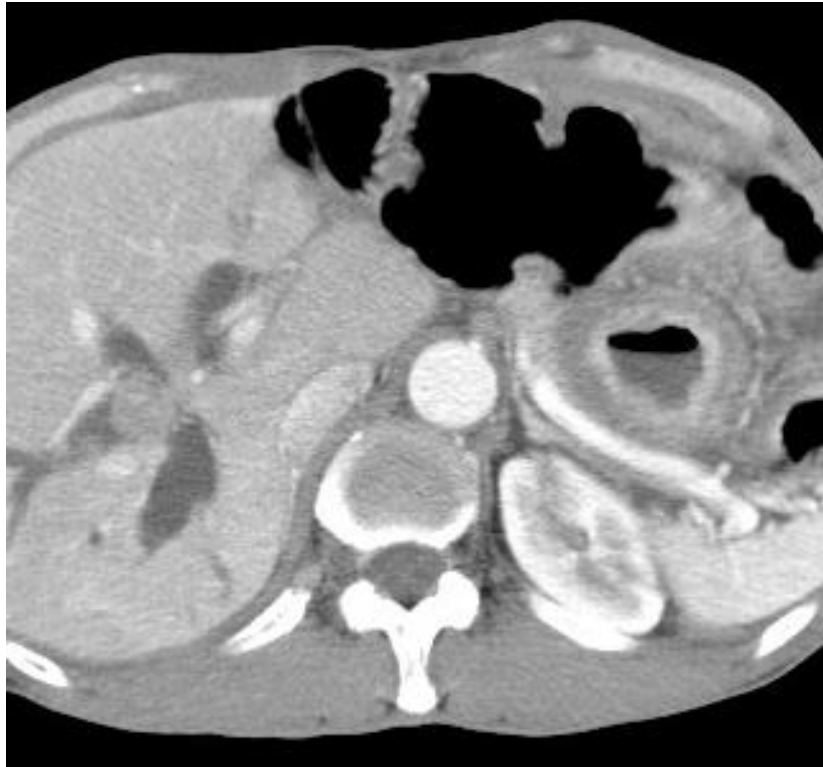
**Shoulder by shoulder
Limited expansion by air**



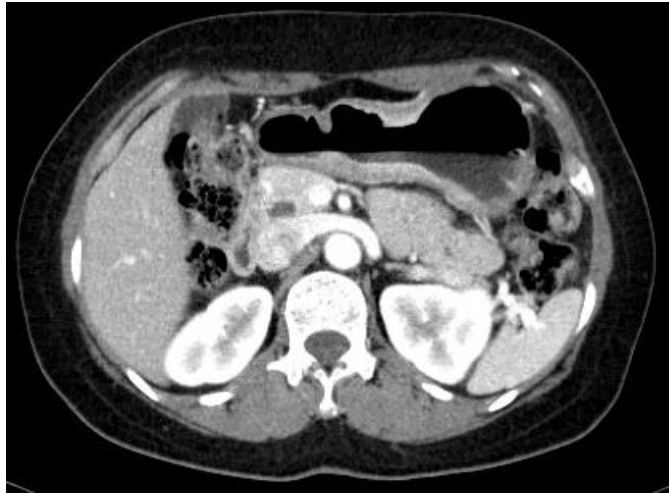
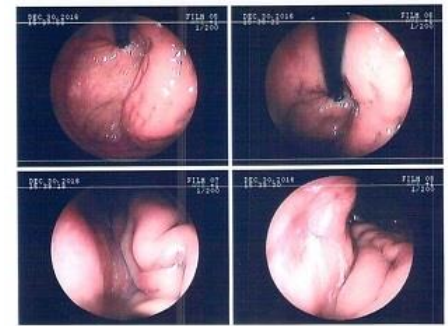
Antral type



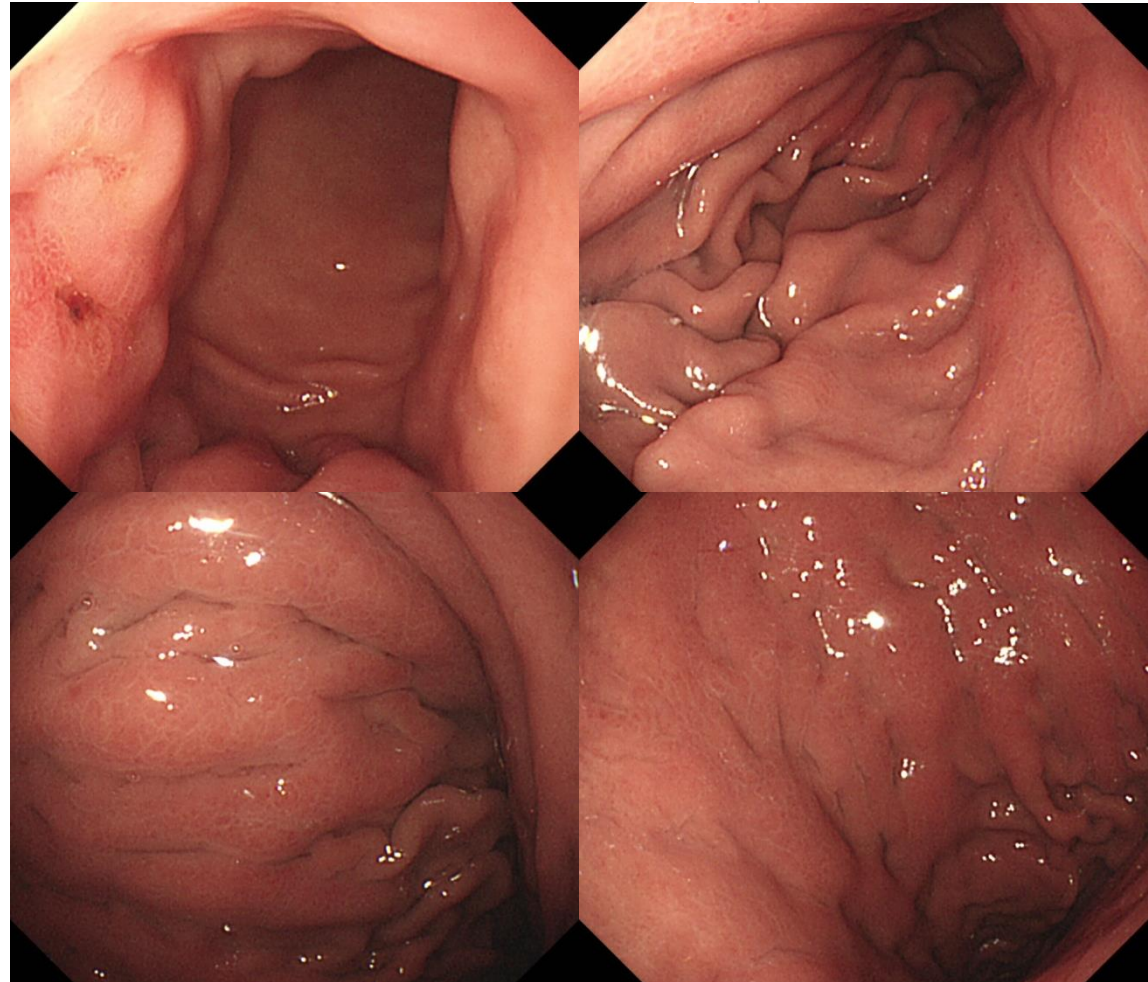
AGC B-4 of the remnant stomach



Biopsy negative AGC B-4



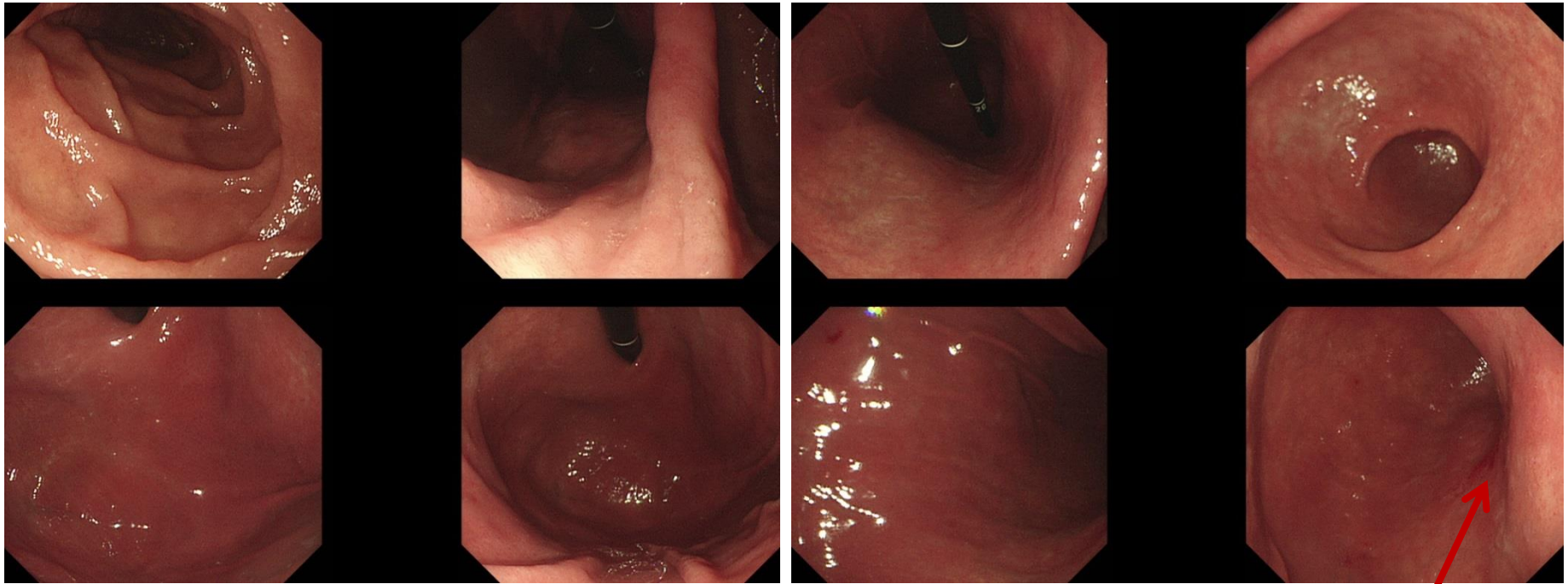
- 2016년 3월 17일 외래 방문: "Multiple erosion & submucosal lesions on body, 송기를 하여도 expansion 잘 안됨. Fundus에도 elongated mass 양상 Bx: CG with granulation tissue" 소견으로 의뢰됨
- 3월 17일. 당일 내시경 검사 시행. 이준행 교수가 오후 시술을 끝낸 후 내시경 결과를 확인하고 환자께 연락하여 다음 날 외래로 오시게 함
- 3월 18일 외래에서 조직검사에서 암이 나오지 않더라도 수술이 필요한 상황임을 설명함. 당일 입원
- 3월 19일 외과 전과. Bx: 암 (-)
- 3월 20일 total gastrectomy



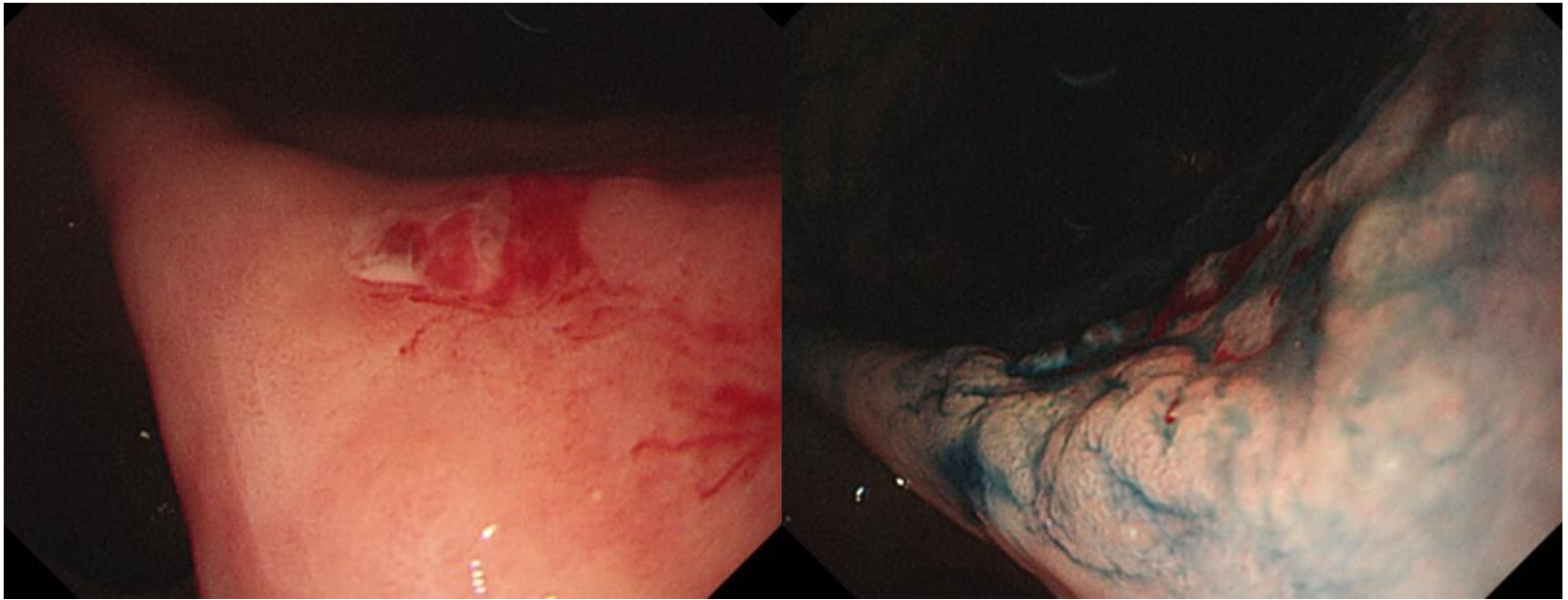
Case 2. EGC at blind area

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Something wrong is found at posterior wall aspect of the angle



Initial biopsy: adenoma



■ STOMACH :

▷ EGC 11b + 11c. Chronic atrophic gastritis

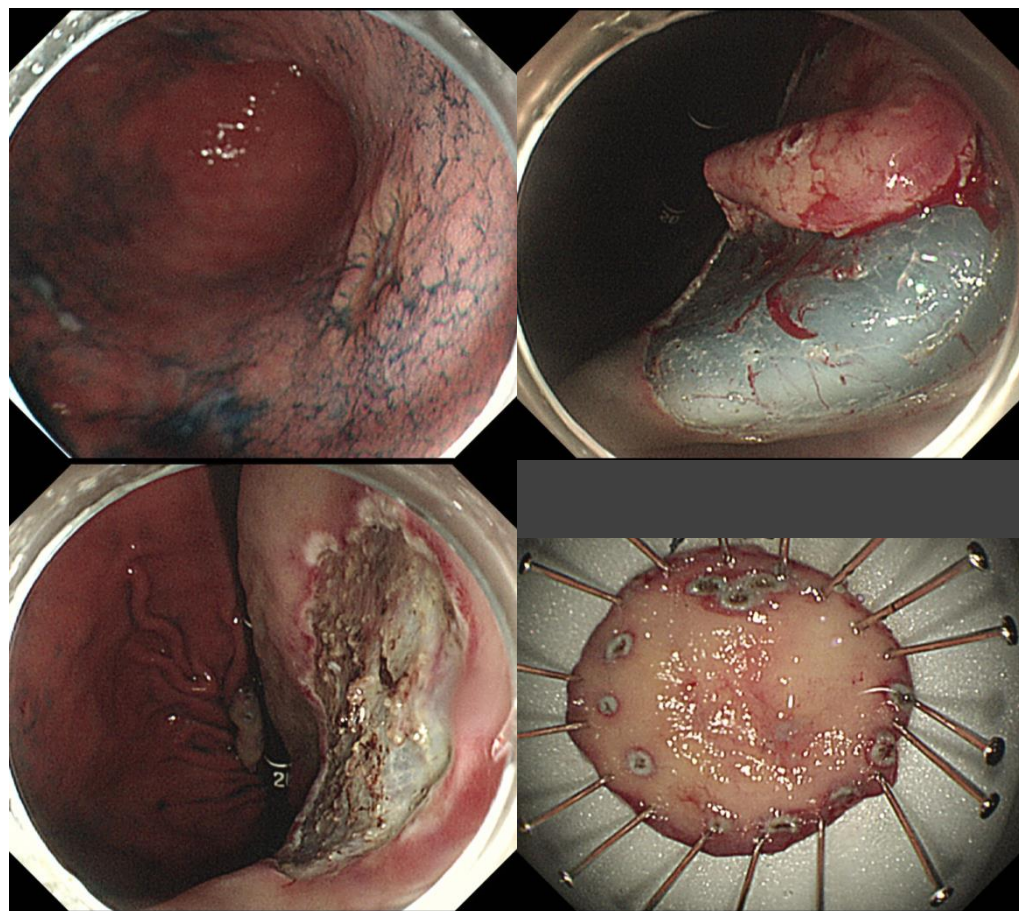
#1 x 3 (PW of angle)

- Location : posterior wall of angle

- Size : 1.8 x 1.6 cm

- Diffuse mucosal atrophy was seen on the antrum and lesser curvature side of body.
위암 의심부위가 보며 indigocarmine spray를 이용하여 상세히 관찰하였음. 위각에서 위
체하부 연결부 후벽에 1.8cm x 1.6cm 크기의 uneven surface를 보이는 ovoid lesion
lesion이 있으며 병소의 중앙에서 약간 소만쪽으로 약 0.5cm 크기의 deep erosion이 있
음. 주변 점막의 화생성 변화가 현저하여 경계는 불명확함. Abnormal fold는 없음

ESD was done → 18mm W/D EGC (M)



**** 【최종보고】 ****

【판독의1】 김경미

【검체】 Stomach 【병리번호】

□ 결론 및 진단

1. Stomach, #1x1 : Posterior wall of low body, biopsy(ESD) :

. Early gastric carcinoma

1. Location : low body, posterior wall

2. Gross type : EGC type IIc

3. Histologic type : tubular adenocarcinoma, well differentiated

4. Histologic type by Lauren : intestinal

5. Size of carcinoma : (1) longest diameter, 18 mm (2) vertical diameter, 9 mm

6. Depth of invasion : invades mucosa (lamina propria) (pT1a)

7. Resection margin : free from carcinoma(N)

safety margin : distal 8 mm, proximal 9 mm, anterior 10 mm,
posterior 8 mm, deep 1800 μ m

8. Lymphatic invasion : not identified(N)

9. Venous invasion : not identified(N)

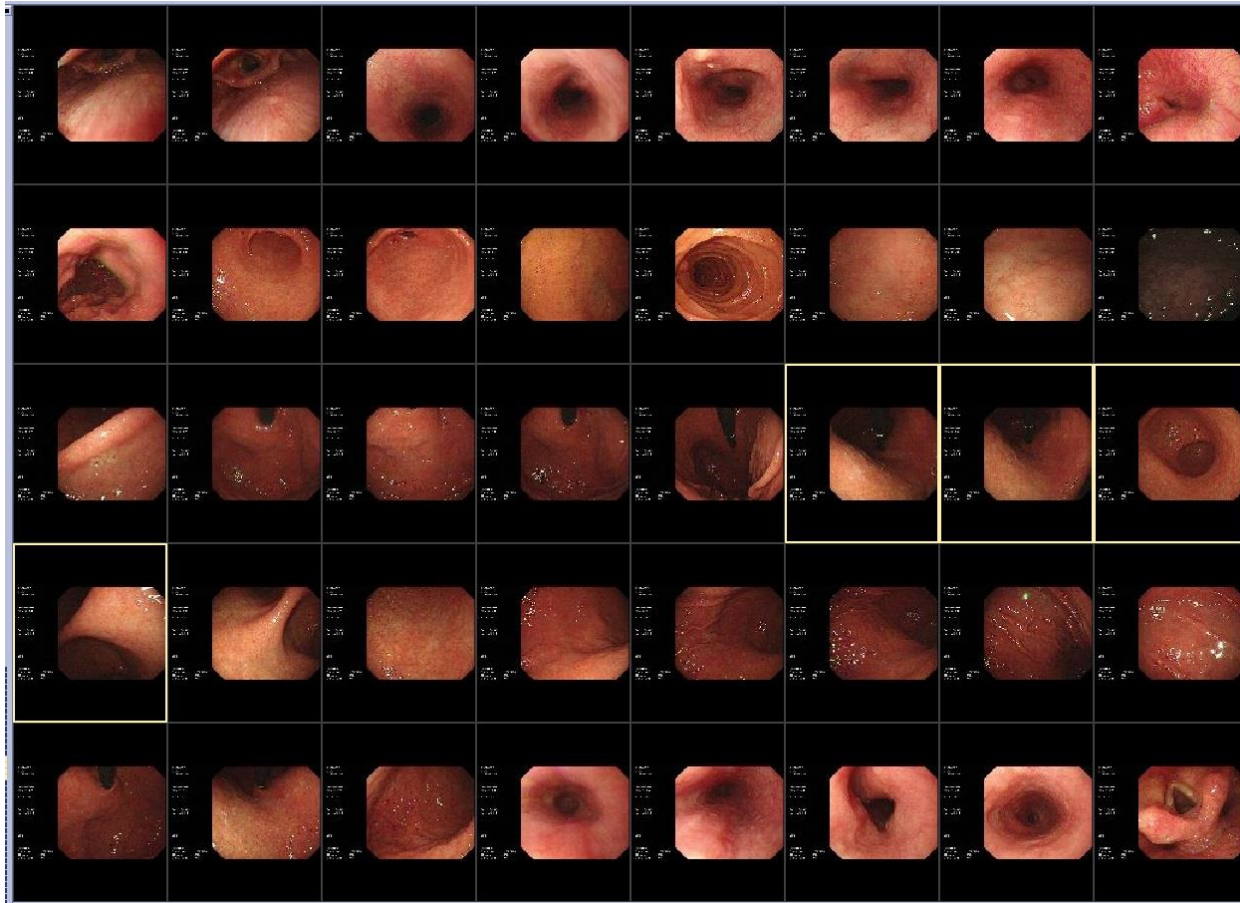
10. Perineural invasion : not identified(N)

11. Microscopic ulcer : absent

12. Histologic heterogeneity: absent

(본 진단은 조직구축학적 검사 후 판독결과입니다.)

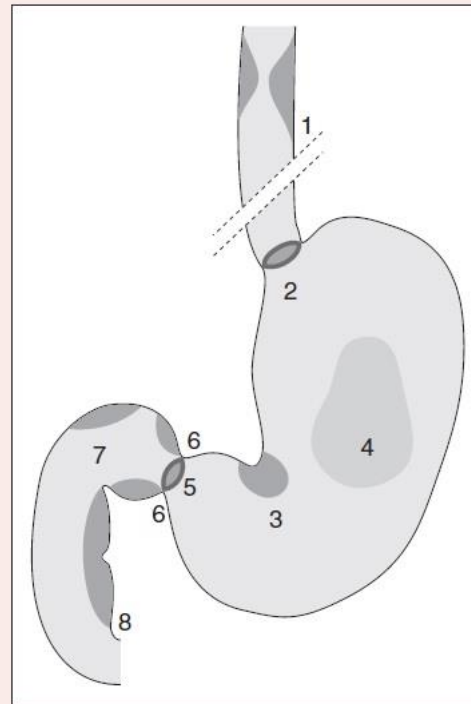
EGD 1 year ago



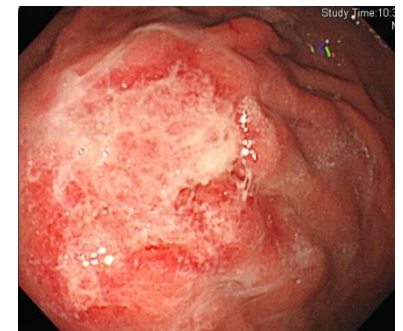
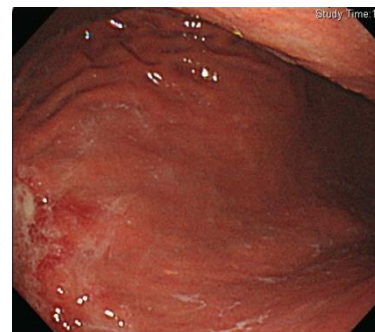
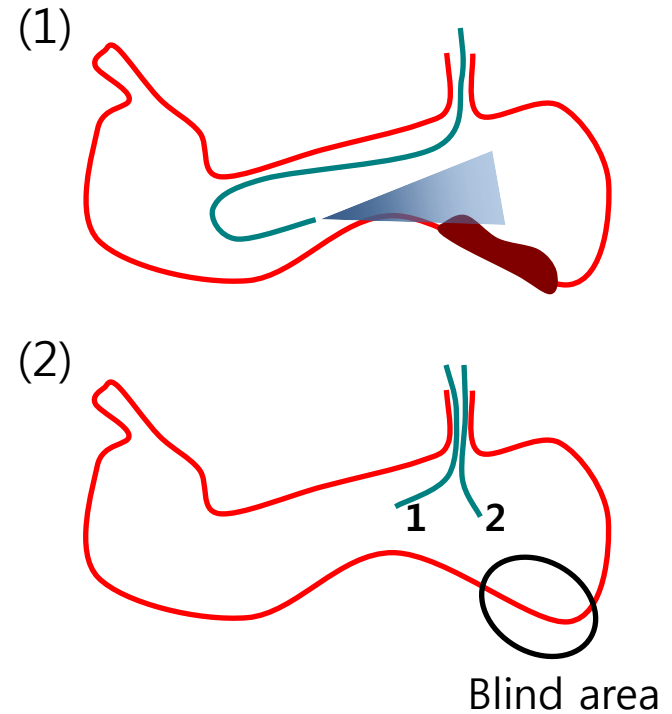
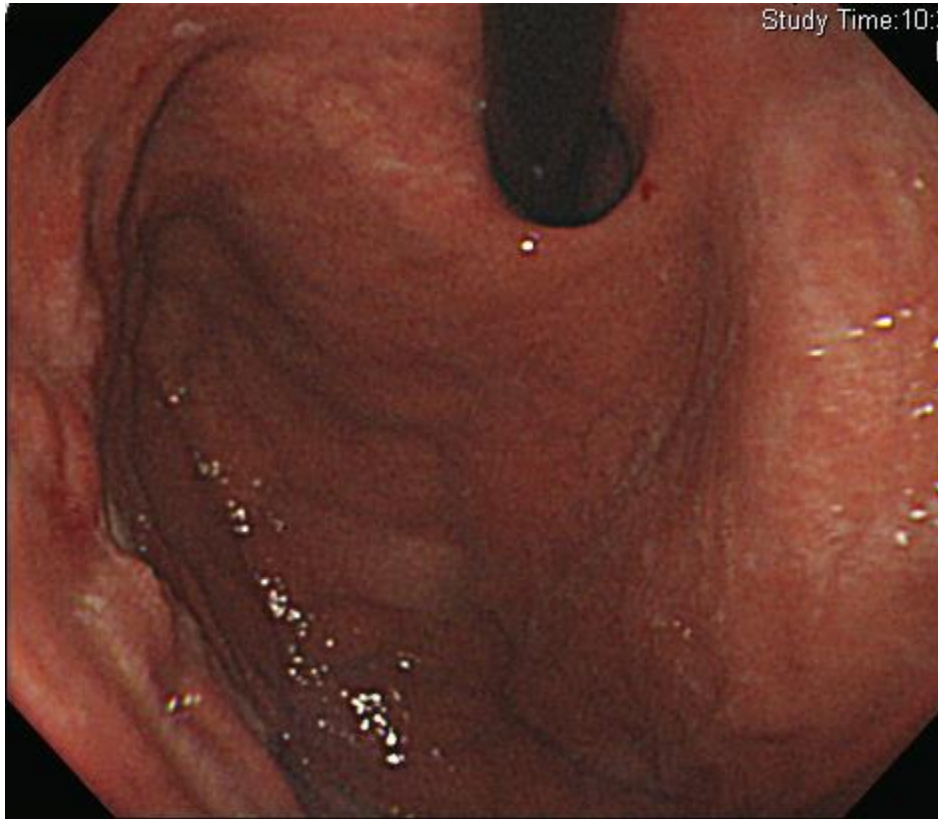
Blind area

The following areas may not be viewed clearly. They should be examined *carefully* by the endoscopist:

1. The cervical esophagus.
2. Cardia.
3. Incisura.
4. Posterior wall of the body.
5. Pylorus.
6. Immediate post-pyloric area of the duodenal bulb.
7. Superior flexure of the duodenum.
8. Medial wall of the second part of the duodenum.



GC side of the fundus – a blind spot



Good habit = good routine

Region	Area	Alpha Numeric Code
Pharynx	Hypopharynx	P1
Esophagus	Esophageal Upper Third Esophageal Upper Third Esophageal Upper Third Esophageal hiatus	E2 E3 E4 E5
Antrum	Pyloric ring Antrum, Anterior Wall Antrum, Lesser Curvature Antrum, Posterior Wall Antrum, Greater Curvature	A6 A7 A8 A9 A10
Stomach Body, Lower Third	Lower Third, Anterior wall Lower third, Lesser Curvature Lower Third, Anterior Wall Lower Third, Greater Curvature	L11 L12 L13 L14
Stomach Body, Middle Third	Middle Third, Anterior Wall Middle Third, Lesser Curvature Middle Third, Posterior Wall Middle Third, Greater Curvature	M15 M16 M17 M18
Stomach Body, Upper Third	Upper Third, Greater curvature Upper Third, Anterior-Posterior wall Fornix Cardia	U19 U20 U21 U22
Stomach Lesser Curvature	Lesser Curvature, Upper Third Lesser Curvature, Middle Third Lesser Curvature, Lower Third Angulus	Lc32 Lc24 Lc25 Lc26
Duodenum	Duodenal Bulb Duodenum Second Portion	D27 D28

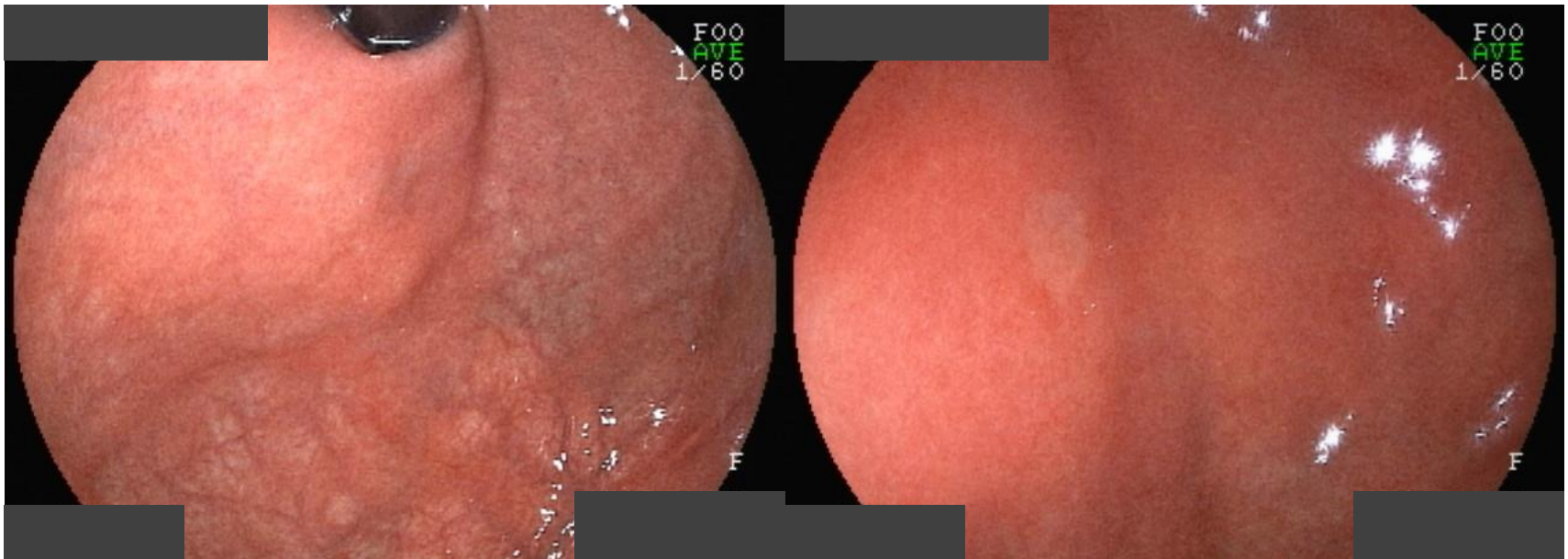


Some tips for finding EGC

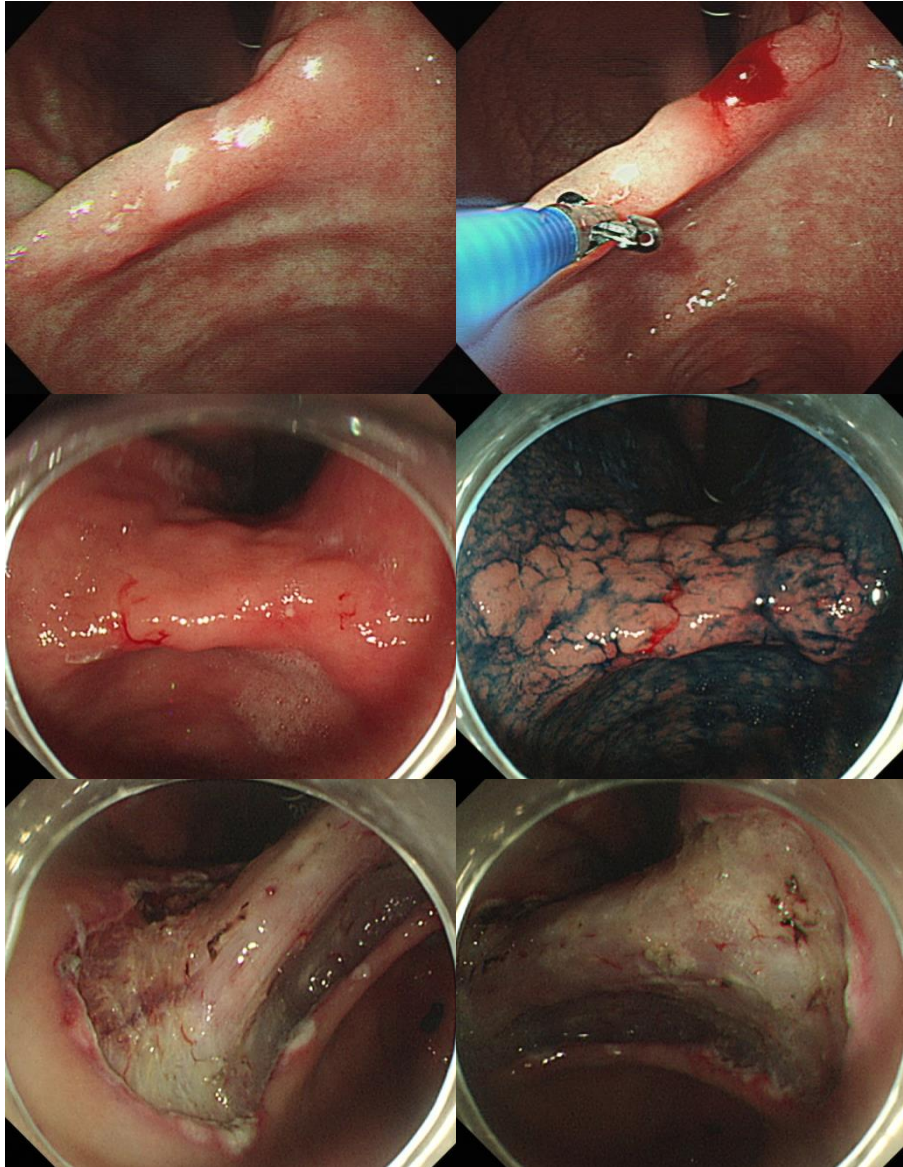
성균관대학교 의과대학 내과 이준행

Subtle color change

- P/D adenocarcinoma at fundus



It may be bigger than the first look.



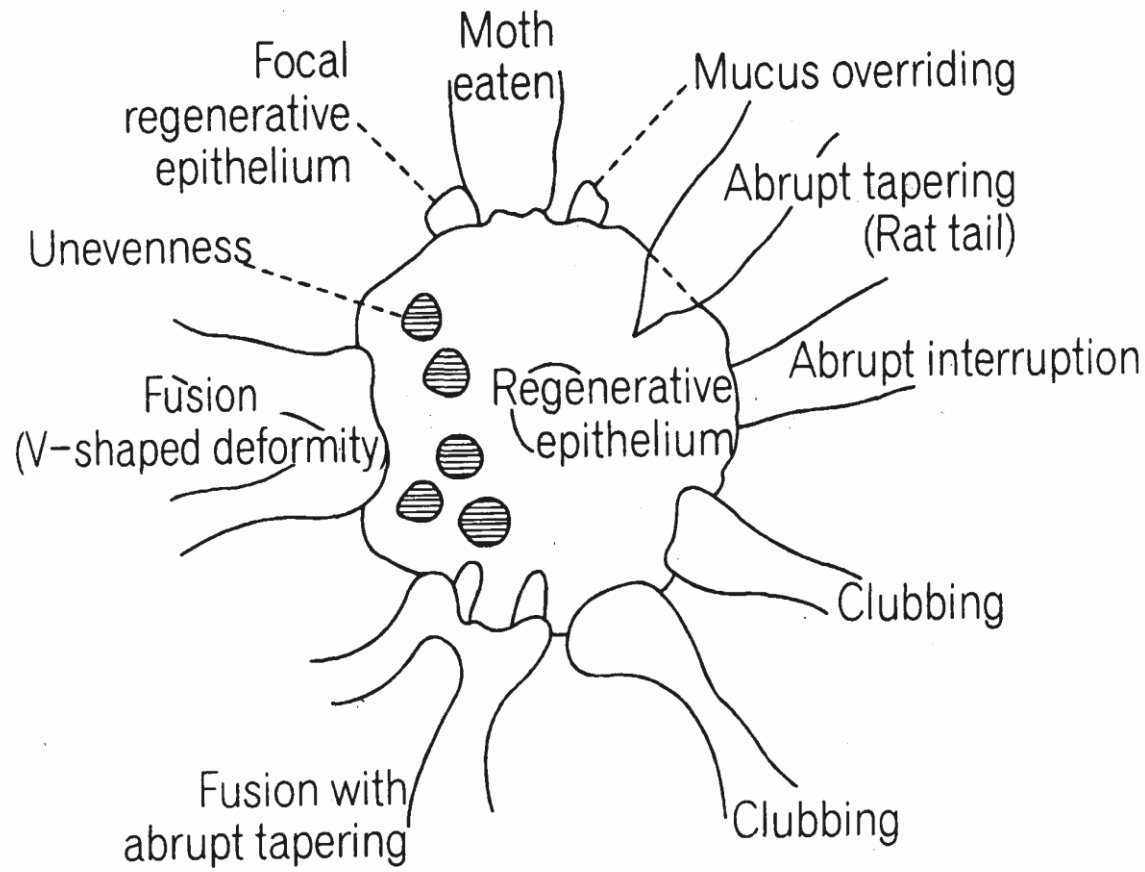
Two erosions

Left: adenoma with HGD

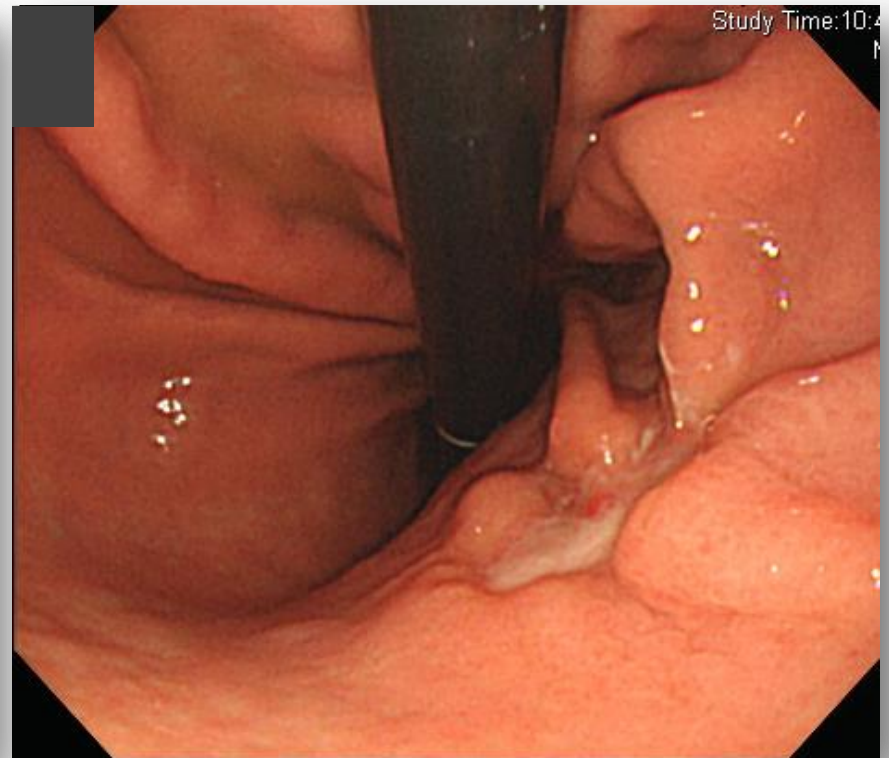
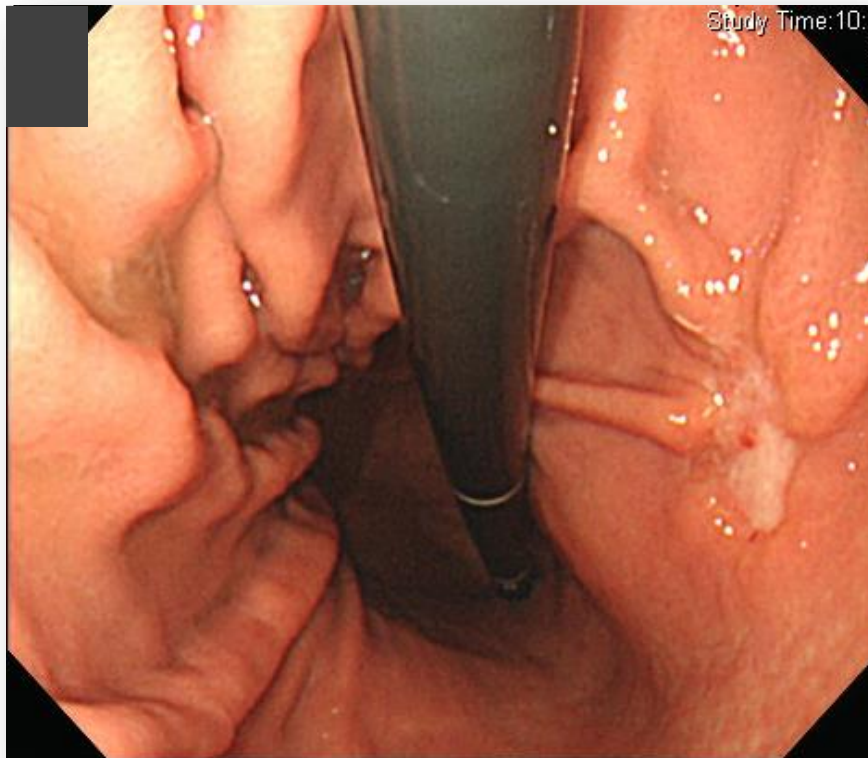
Right: W/D adenocarcinoma

ESD was done for a laterally spreading EGC. Final pathology was Tubular adenocarcinoma, well differentiated, arising from adenoma

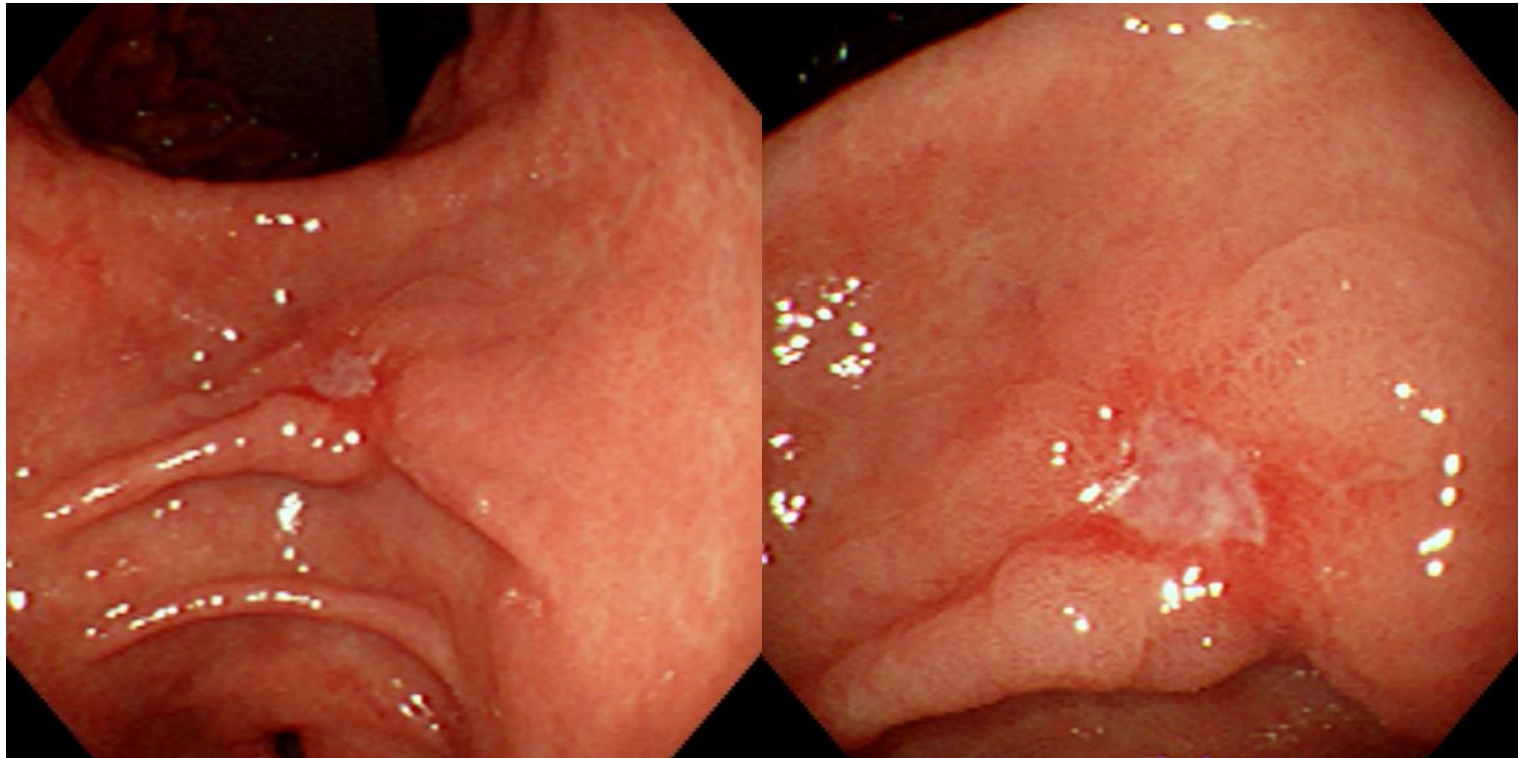
Fold changes and others



Typical fold changes of EGC (1)



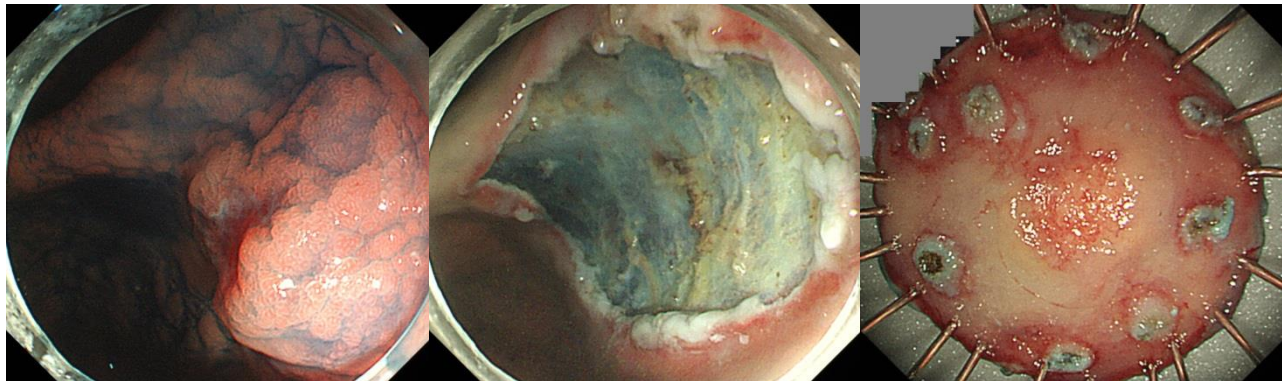
Typical fold changes of EGC (2)



Case 3. – Atypia / atypical glands

성균관대학교 의과대학 내과 이준행

Atypia at previous endoscopy

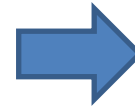


Papillary adenoca (M/D)
7 x 6 mm
Resection margin (-)
SM invasion : 1900 μ m
Venous invasion : present

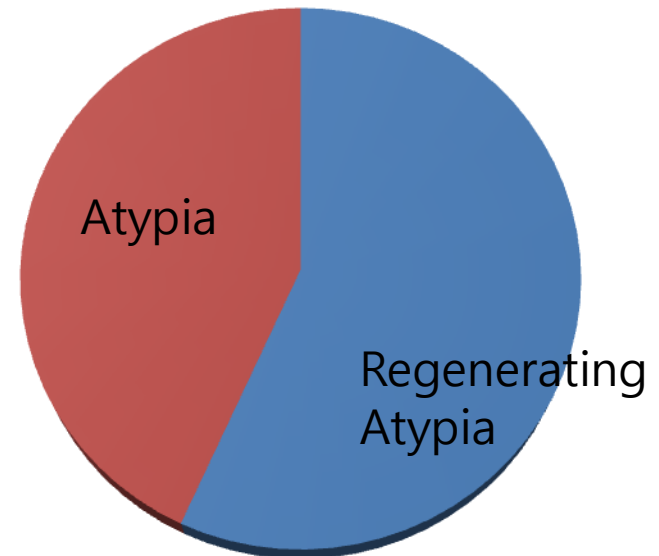
Atypia at biopsy (2004-2010, SMCHPC)

a few atypical gland (reactive regenerating gland)
atypical regenerative epithelium
atypical foveolar glands (regenerating)
atypical gland (regenerating atypia)
atypical gland (reactive regenerating atypia)
atypical glands (reactive change of regenerating gland)
atypical regenerating glands
atypical regenerative foveolar epithelium
focal atypical cells (reactive regenerating atypia)
atypical glands (regenerating atypia)
focal atypical glands (reactive change)
focal atypical glands (regenerating atypia)
focal regenerating atypia
regenerating atypia
regenerating epithelial atypia
focal atypical glands (regenerating atypia)
focal atypical glands (regenerating gland)
focal atypical regenerative glands
regenerative atypia
regenerating foveolar epithelium with mild atypia
regenerative foveolar epithelium with moderate atypia

Atypical cell / glands



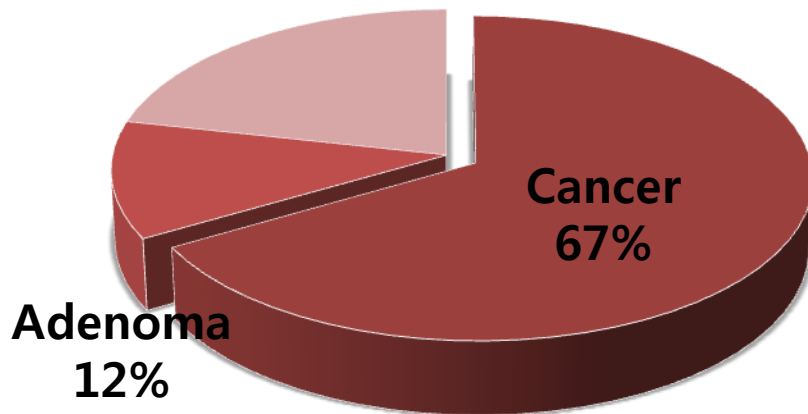
**Regenerating Atypia
(n=71, 57%)**



Atypia (n=54, 43%)

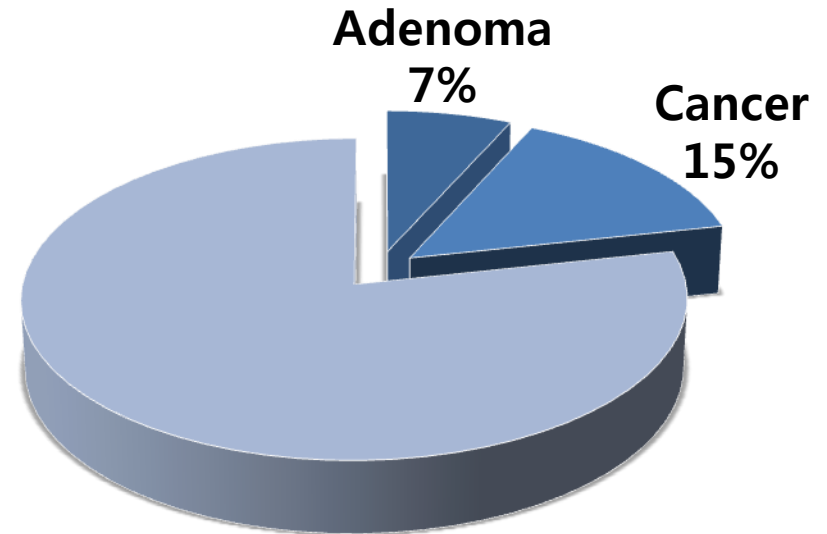
Final pathological diagnosis

Atypia



Mean follow-up (day)
351.02 ± 532.53
(range 11~2600)

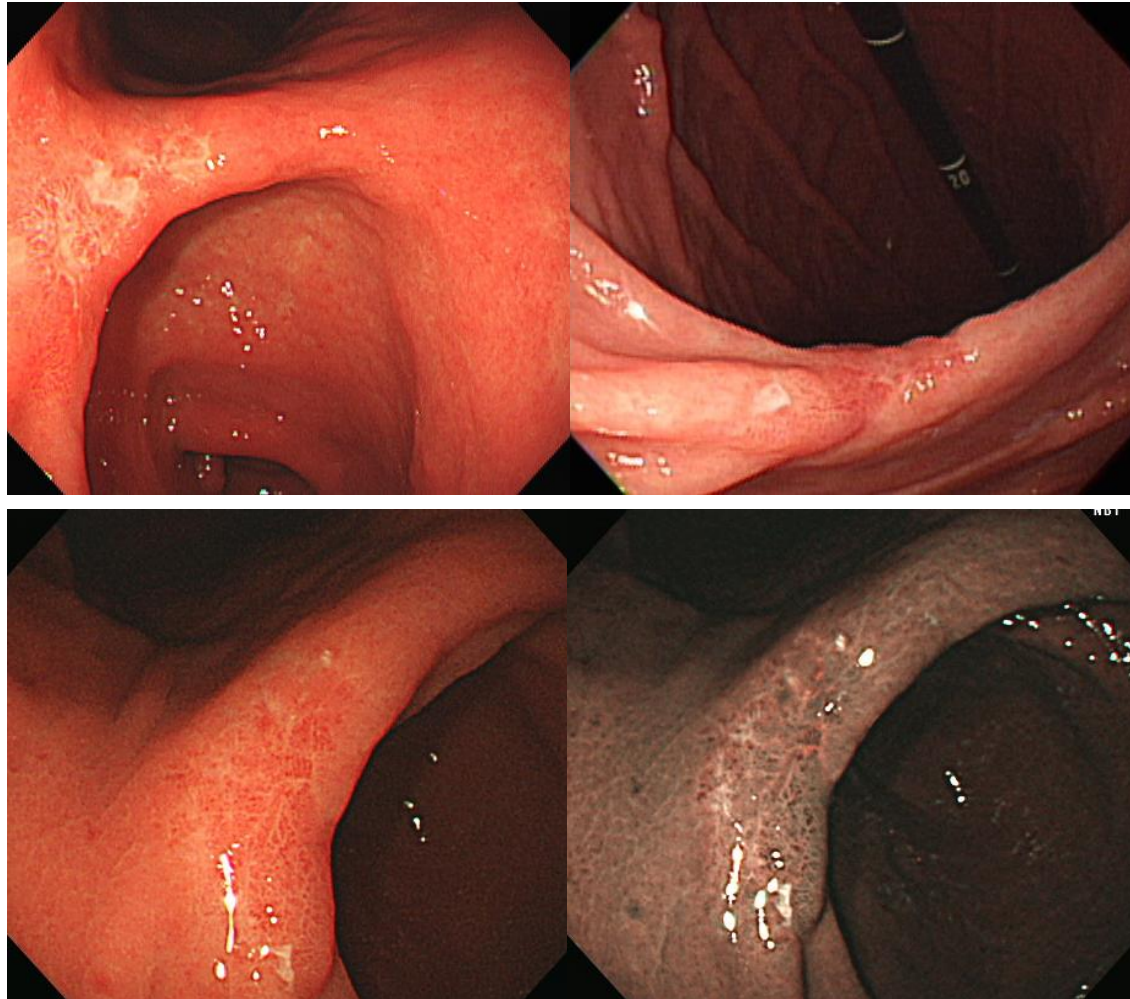
Regenerating Atypia



Mean follow-up (day)
1153.15 ± 805.04
(range 49~3191)

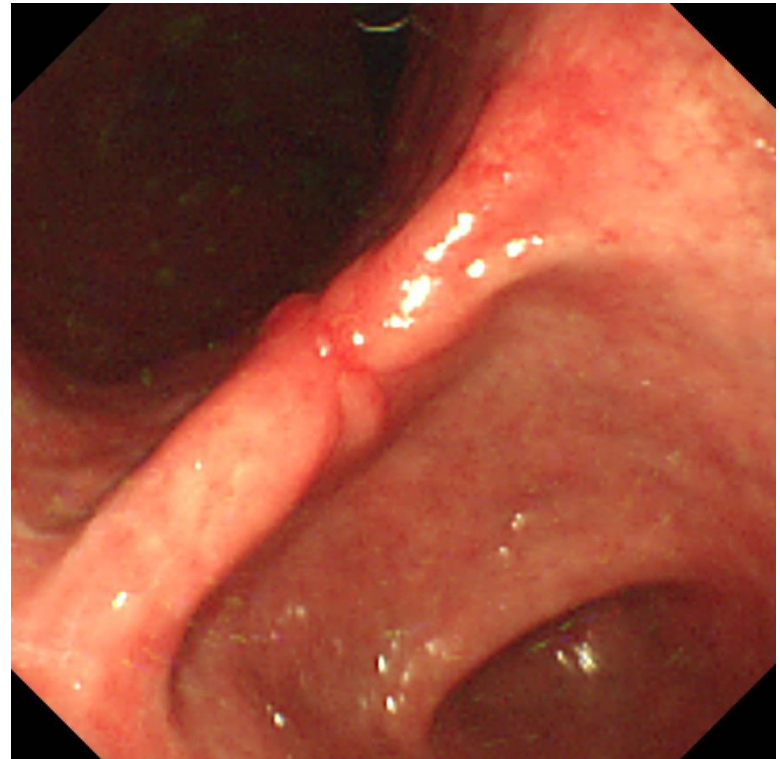
Atypical glands

→ Repeated biopsy after referral: P/D



Atypical cells

→ Repeated biopsy after referral: M/D



비록 많이 좋아져 보이지만 이번 조직 검사에서도 암으로 나왔습니다.



Early gastric carcinoma

1. Location : lower third, center at body and lesser curvature
2. Gross type : EGC type IIc and IIa
3. Histologic type : tubular adenocarcinoma, moderately differentiated
4. Histologic type by Lauren : intestinal
5. **Size : 3.9x2.5 cm**
6. Depth of invasion : invades mucosa (**muscularis mucosae**) (pT1a)
7. Resection margin: free from carcinoma
safety margin: proximal 3.5 cm, distal 6.3 cm
8. LN: no metastasis in 65 regional lymph nodes (pN0)
9. Lymphatic invasion : not identified
10. Venous invasion : not identified
11. Perineural invasion : not identified
12. AJCC stage by 7th edition: pT1a N0

Endoscopy for gastric cancer

- Take home messages

- Let's start with **Boxim** (box simulator training) and **DEX** (description exercise)
- Borrmann type IV is the most important disease.
- Be careful about blind areas.
- Interpretation of biopsy result is important, especially for atypia and atypical glands.