Basic skills and tips for good endoscopic examination

- There is a royal road to learning endoscopy.

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Introduction (1)

• There has been a great advancement in the fields of diagnostic and therapeutic endoscopy. However, endoscopic education for the beginners has been widely neglected.

• As a result, a great proportion of endoscopic examinations are performed by suboptimally educated endoscopists.

• The volume of endoscopic examination is huge in Korea, so the quality control of the endoscopists should have a great impact on the quality of the whole healthcare system.
Learning endoscopy is not easy.

In order to become an endoscopy specialist, it usually takes two years of full-time training in a dedicated training center.

However, a few months of training can be enough to learn the basic knowledge and skills for a primary clinic-level screening endoscopist.

Efficient training system needs to be established.
Old style

2-3 observation sessions

Procedure alone

New style

Box simulator training (BOXIM)

Description exercise (DEX)

Book reading, EndoTODAY

Clinical observation

Procedure under supervision

CEE (off-line & on-line)
Tips for good examination

Good exam routine

Case study

Examination time
Tips for good examination

Good exam routine

Case study

Examination time
1. Good routine = good habit = no blind area

Basic box simulator training with Koken simulator

Real patient endoscopy following box simulator training protocol
Diagnosis: multiple tiny neuroendocrine tumors in the background of severe atrophic gastritis (hypergastrinemia +)
Box simulator training (BOXIM)
1) Gastroscopy simulators

I found a box simulator in 2005.
The first BOXIM training in SMC
What kind of simulators?
New Korean gastroscopy simulator from Asan Medical Center

상부 위장관 내시경 트레이닝 시스템
EGD Method Training (EMT) System

EndoTODAY 바른내시경 연구소
2) Endoscopes

- Olympus
- Fujifilm
- Pentax

❖ At SMC, we are using endoscopes from **ALL** three vendors for endoscopy training.
SMC clinical simulation center
- 5 Olympus endoscopy systems

♣ Retirement home of the old endoscopes.
Simulator room in the endoscopy unit
- 2 Fujifilm endoscopy systems
EndoGEL ESD training system is actively developed by Pentax company
Home-made box for biopsy training
Stepwise Training Program

- Clinical case
- Anymedi simulator
- Biopsy training
- New Koken simulator
- Old Koken simulator
- Endoscopy handling and torque rotation
BOXIM hands-on workshops
Special BOXIM training for foreigners
- KINGCA2019 Master Class at SMC
BOXIM training outside SMC
- BDN (Boxim Dex Network)

Boxim at Jeju University Hospital (2019-10-5)
대한외과위내시경연구회 2019 연수강좌에 참여 해주시어 깊은 감사를 드립니다.

안녕하십니까?
대한위암학회 산하 대한외과위내시경연구회(KSESG) 입니다.

2019년 7월 6일 “대한외과위내시경연구회 2019 연수강좌”에 참여해 주신 여러분들께 감사드립니다.
2-day BOXIM workshop program for foreign doctors

**Basic course**
- Introductory lecture (1h)
- Basic skills (1h)
- Observation of the stomach (1h)
- Self training (1h)

**Intermediate course**
- Passing the throat (1h)
- Biopsy techniques (1h)
- Case discussion (1h)
- Self training (1h)
Tips for good examination

- Good exam routine
- Case study
- Examination time
Case study

• Off-line endoscopy conference
• On-line endoscopy conference
• On-line education materials
Off-line endoscopy conference
- with lunch boxes before Covid-19
- with masks during Covid-19 pandemic
On-line endoscopy conference
- EndoTODAY on Air (EoA) YouTube live streaming lecture
On-line education materials

65 years old female was referred due to an EGC (biopsy: moderately differentiated adenocarcinoma). It was a small non-atrophic area in the GC side of the proximal antrum. In the close-up image, it was a small flat elevated lesion with slight depression in the center.

ESD was done as usual.
F/58, Poorly differentiated adenocarcinoma
Careful repeated endoscopy

EGD:

■ STOMACH:
  ▶ Early gastric cancer IIb
    #1×4(GC of distal antrum), #2×2(GC of prepyloric antrum)
    - **Size**: 4×2 cm
    - Distal antrum의 GC side로 geographic shape의 hyerepma flat mucosal 병변이 관찰되는데 (Img 9-11) 경계가 불분명하고 육안상으로 hyperemic한 lesion은 distal antrum에서 GC의 AW-PW를 따라 4cm proximal에서 distal로 2cm정도로 추정됨. 경계가 명확하지 않아 dye 도포하여 관찰하였고, dye도포하였을때에도 명확하지 않았으며 hyperemic한 mucosa가 pylorus까지 이어져 보이는 양상이에서 main 병변의 조직검사는 img 26의 정중앙의 가장 hyperemia를 보이는 위치에서 시행하였고 pylorus까지 이어질 가능성으로 prepyloric GC에서 2piece 추가로 조직검사 시행하였음. (Img 24-26)

■ 결론 및 진단
  1. Early gastric cancer IIb (#1, #2)
  2. Chronic atrophic gastritis

Bx:
  1. Stomach. #1x4 : GC of distal antrum, biopsy :
     - **TUBULAR ADENOCARCINOMA, MODERATELY DIFFERENTIATED**
  2. Stomach. #2x2 : GC of prepyloric antrum, biopsy :
     - Chronic gastritis, inactive with lymphoid follicles
     - No H. pylori identified.
Outside slide review: M/D
Repeated biopsy: M/D
진료계획

드문 일이지만 관찰자간 차이가 나았습니다.

일전 외래에서 "원위 전정부 대만의 경계가 불분명한 미분화 조직형 위암의 수술적 치료를 위하여" 외과 의뢰한 바 있습니다. 그런데 외부 슬라이드 재판독과 본 병원 조직검사 재검에서 중등도 분화형 위암으로 판단되었습니다. (moderately differentiated adenocarcinoma) 같은 슬라이드를 판독한 결과가한 의료기관에서는 미분화조직형으로 본 병원에서는 분화조직형으로 판독된 경우인데 저희는 저희 병원 병리 의사의 판단에 따라 치료하고 있습니다. 내시경 육안소견에서 경계가 불분명하다는 것은 마찬가지였습니다. 4cm로 평가되었지만 이는 매우 부정확합니다. 내시경으로 경계 판정은 평탄형 조기위암에서는 오차가 매우 큽니다.

위암 내시경치료의 절대적응증은 점막에 국한된 궤양이 없는 2cm 이하의 분화형 조기위암입니다 (2012년 4월 1일 심평원). 이러한 기준을 벗어난 조기위암에 대해선 보통 수술을 권합니다. 분화형이고 4cm라고 가정하면 크기 기준이 벗어난 것입니다. 그러나 기준을 약간 벗어난 병소에 대해서는 내시경치료를 시도해 보기도 합니다. 이를 확대적응증이라고 합니다.
ESD; early gastric carcinoma

1. Location: distal antrum, postero-greater curvature

2. Gross type: EGC type IIc

3. Histologic type: tubular adenocarcinoma, **moderately differentiated** (WHYX type)

4. Histologic type by Lauren: intestinal

5. Size of carcinoma: (1) longest diameter, 22 mm (2) vertical diameter, 21 mm

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

7. Resection margin: **free from carcinoma** (N), safety margin: distal 7 mm, proximal 10 mm, anterior 12 mm, posterior 10 mm, deep 300 μm

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
Tips for good examination

Good exam routine

Case study

Examination time
Minimum exam time = 5 minutes
AGC (M/55, 2017)
Previous endoscopy : 39 days ago
Images of GC side of the high body

1) Not enough air inflation, 2) No observation of the fundus GC, PW
3) Not enough examination time
Longer Observation Time Increases Proportion of Neoplasms Detected by Esophagogastroduodenoscopy

Jae Myung Park, Sol Mi Huo, Han Hee Lee, Bo-In Lee, Ho Jin Song, and Myung-Gyu Choi

![Graph showing the correlation between examination time and detection rate of neoplasms. The Pearson's correlation coefficient is 0.54 (p=0.0468).]
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★ EndoGEL ESD hands-on training

EndoTODAY [Gastroscopy box simulator (G-BOXIM) workshop (since 2018-9-2)] - Schedule, Registration, End of document
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