



Case sharing a case of Eosinophilic esophagitis (EoE)

台中榮總 林穎正/連漢仲

Fellow 1 黃凌嵩

王OO, 42歲, 男

Subjective

Hx of small bowel intussusception and obstruction, s/p op 20 years
Denied family CRC
Father: lung Ca

2021/01/07 colon polyp last year, s/p polypectomy at H803. GERD suspected

Objective

身高 cm 體重 kg BP / mmHg PR /min
血糖 耳溫 °C 腰圍 頸圍 cm

INTERMITTENT DYSPHAGIC EPISODES FOR 2 YEARS, ESP TO SOLID MEALS SUCH AS RICE OR MEAT, ASSOCIATED WITH CHOKING SENSATION, OCCURRED ONCE TO TWICE PER MONTH AND PROGRESSED TO 1-2 TIMES/WEEK

- Intermittent dysphagic episode for 2 years
- Especially solid meals such as rice or meat
- Associated with choking sensation

Assessment

Planning

2021/01/07 UGI and LGI survey

2021/01/21 dysphagia with solid food and water, r/o motility disorder, refer to Dr. 連 for further management.

2021/02/01 INTERMITTENT FOOD STUCK IN ESOPHAGUS, ESP TO SOLID MEAL FOR 1 Y, NO BWL, UE/CE: NEG, DID NOT TAKE PPI, R/O EoE BY UE PICTURE, SUGGEST HRIM & BaS

DYSPHAGIA, LUMP THROAT, THROA CLEARING, ALLERGIC RHINITIS, DIARRHEA, BW 74.5

2021/02/18 FU UE WITH BIOPSY. R/O EoE,

2021/03/08 PPI & 7D-DR, 2-3 EPISODES OF DYSPHAGIA/WEEK

2021/03/26 PPI IMP 80%, REPEAT UE IN 2M

2021/04/07 REFILL FOR 2M REGIMEN, FU UE

2021/07/14 REFILL FOR 3M REGIMEN, PT-, BY HIS WIFE, FU ECKARDT SCORE

2021/10/06 NO DYSPHAGIA AFTER PPI, ECKARDT SCORE, FU UE WITH BIOPSY

2022/01/03 BW GAIN AFTER EATING MUCH, ECKARDT SCORE 1,

王OO, 110/1/14, UE

ENDOSCOPY FINDINGS:

Esophagus: normal appearance
EC junction: mucosa break < 5 mm
Fundus: normal appearance
Body: normal appearance
Angularis: normal appearance
Antrum: hyperemia, s/p H.p plate test
Pylorus: normal appearance
Duodenum: normal appearance

DIAGNOSIS/IMPRESSION:

1. Reflux esophagitis, LA, Gr A
2. Antral gastritis, s/p H.p plate test

ADDITIONAL PROCEDURE: biopsy for H.p plate test

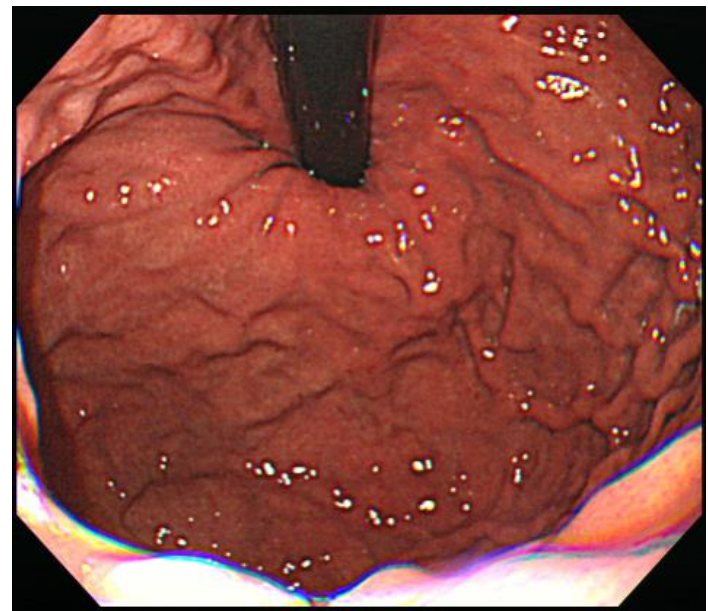
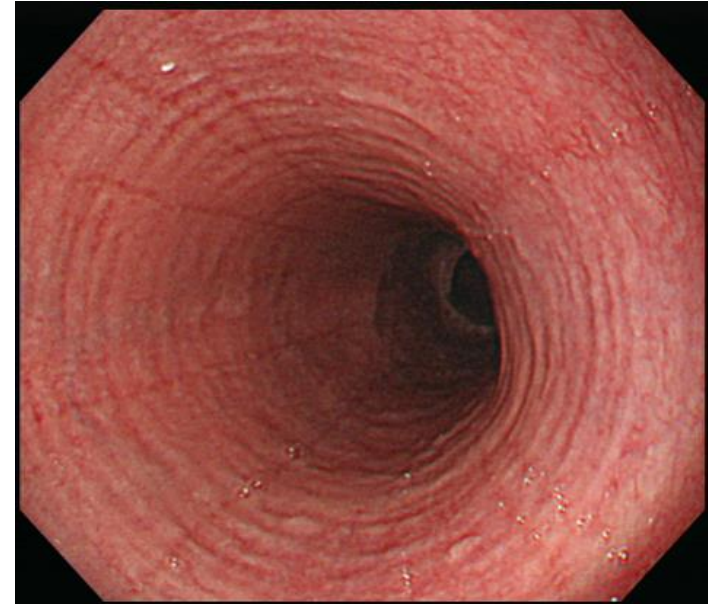
COMPLICATIONS: There were no complications associated with the procedure.

RECOMMENDATION: Follow up

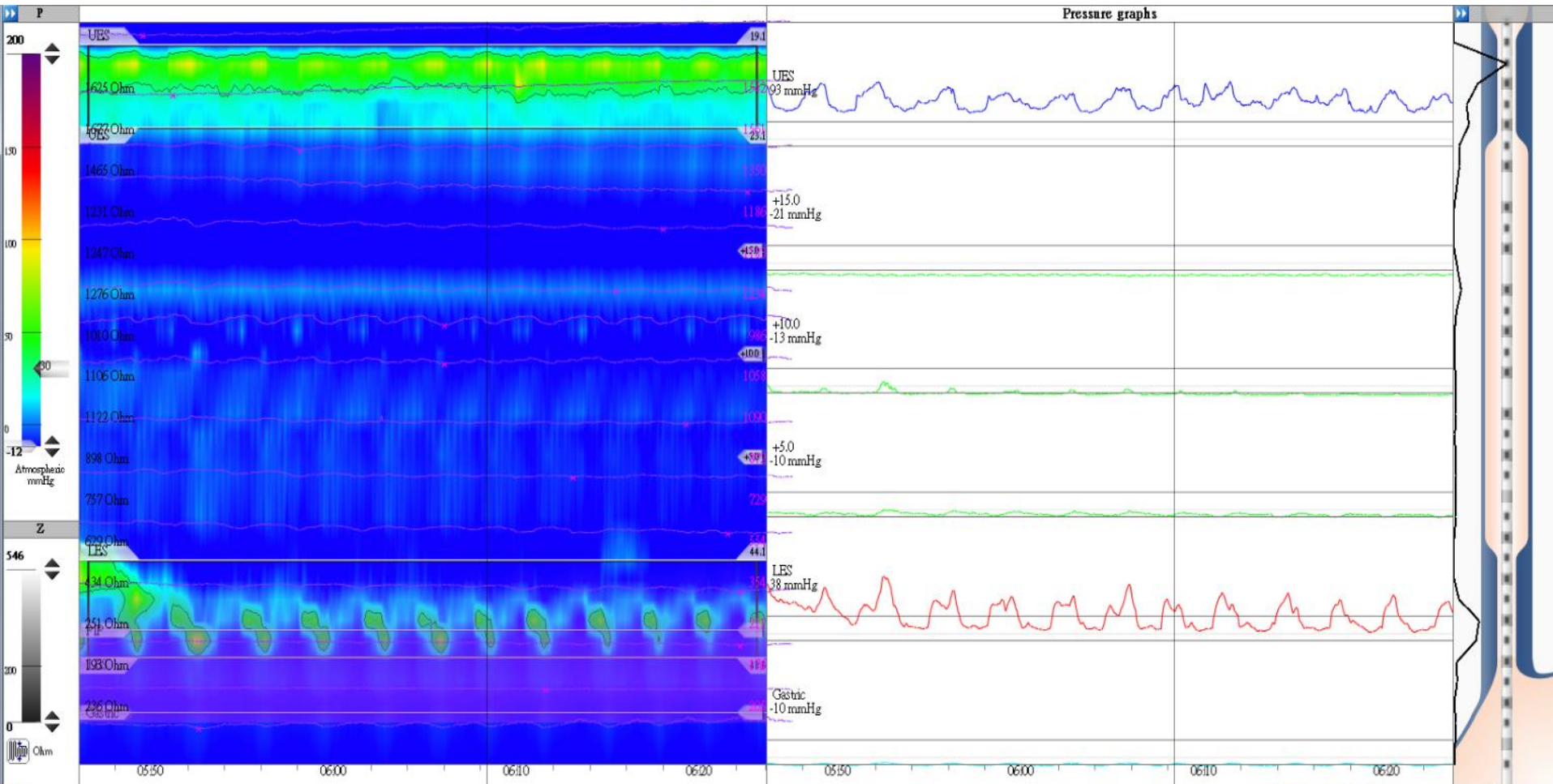
CLINICAL DIAGNOSIS/SYMPTOMS:GERD

ENDOSCOPE CODE NO: G36

PREMEDICATION: Xylocain spray;gascon



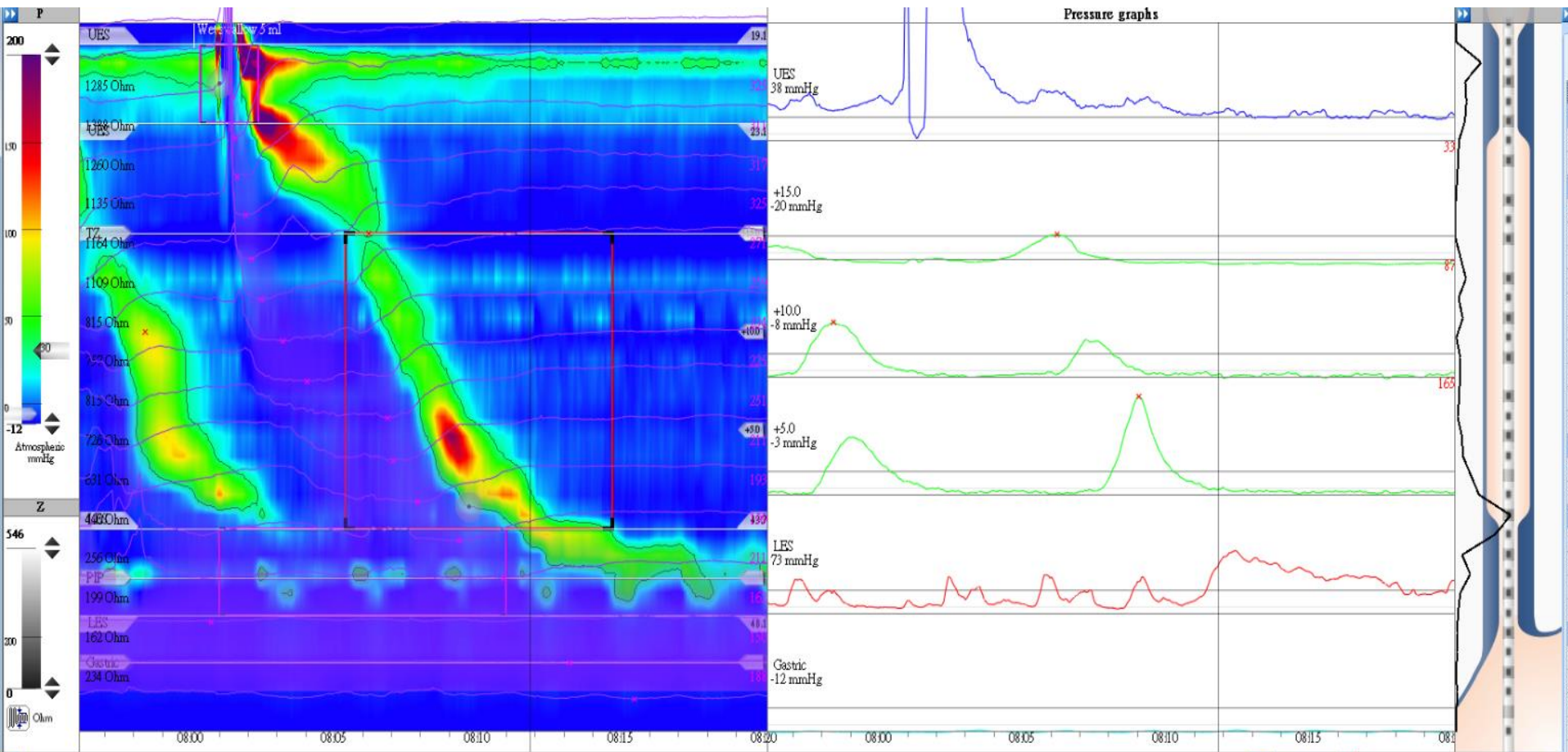
王OO, HRIM, 110/2/2



UES	LES	Esophagus
Upper border 19.1 cm	Upper border 44.1 cm	
Lower border 23.1 cm	Lower border 48.8 cm	
Length 4.0 cm	Length 4.7 cm	
Resting (5th) 48 mmHg	Resting (5th) 19 mmHg	
Resting (mean) 66 mmHg	Resting (mean) 43 mmHg	

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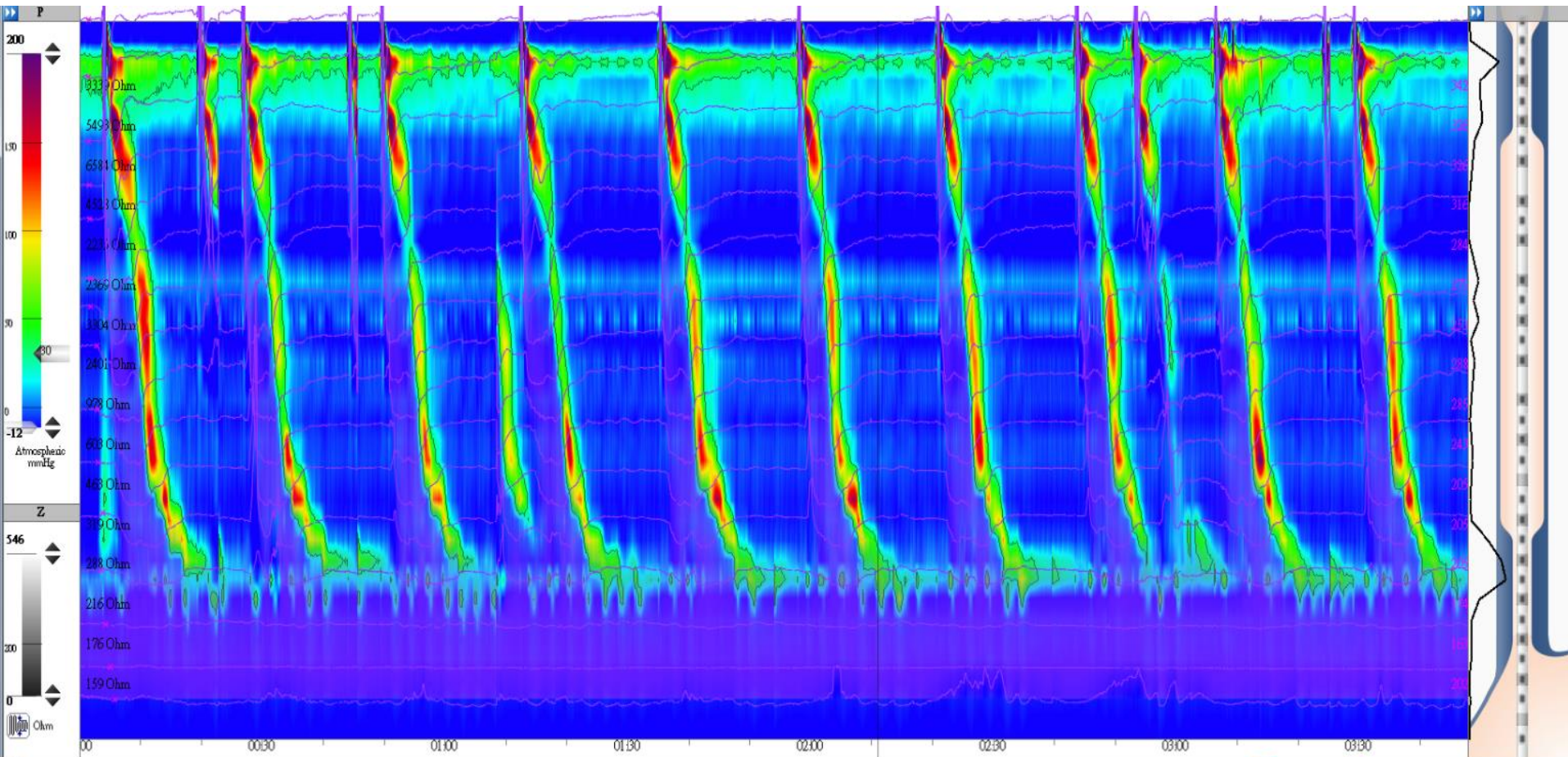
王OO, HRIM, 110/2/2



UES	LES	Esophagus
Upper border 19.1 cm	Upper border 43.7 cm	DCI 1213 mmHg.s.cm
Lower border 23.1 cm	Lower border 48.1 cm	DCIa 59 mmHg.s
Length 4.0 cm	Length 4.4 cm	Peristaltic breaks 0.0 cm
IRP 0.2 s -4 mmHg	IRP 1 s 12 mmHg	Distal Latency 8.7 s
IRP 0.4 s 1 mmHg	IRP 2 s 14 mmHg	Largest break 0.0 cm
IRP 0.6 s 9 mmHg	IRP 3 s 15 mmHg	DCI Exp. 1455 mmHg.s.cm
IRP 0.8 s 20 mmHg	IRP 4 s 16 mmHg	
	IRP 5 s 17 mmHg	
阻抗		Scoring
Bolus transit <input type="checkbox"/> Undefined*		Intrabols pressure pattern <input type="checkbox"/> Unknown pressurization*
		Contraction vigor <input type="checkbox"/> Normal*
		Contraction pattern3 <input type="checkbox"/> Intact*
		Bolus transit <input type="checkbox"/> Undefined*

台中榮總 林穎正/連漢仲

王OO, HRIM, 110/2/2



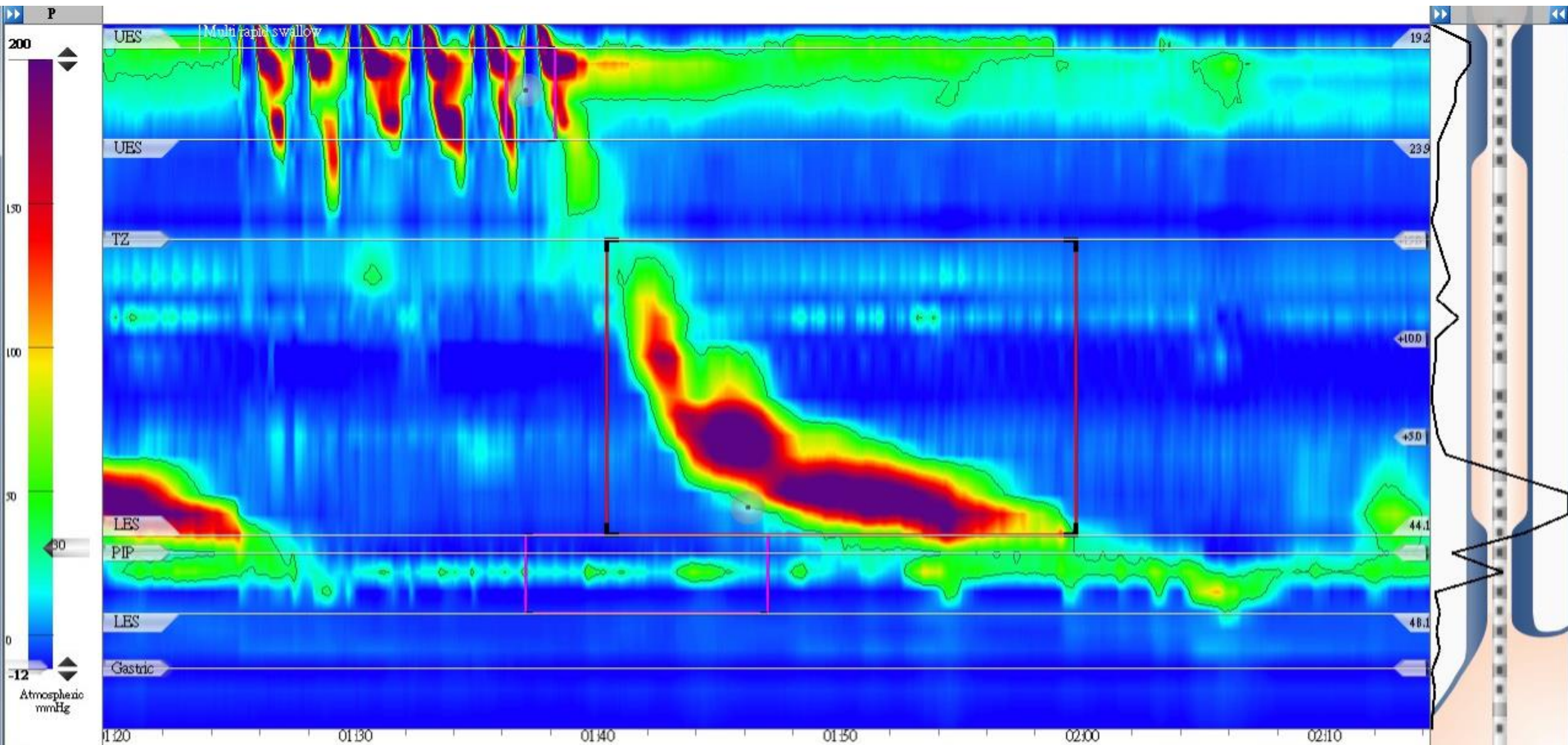
UES	
Upper border	19.1 cm
Lower border	23.1 cm
Length	4.0 cm
IRP 0.2 s	-5 mmHg
IRP 0.4 s	-1 mmHg
IRP 0.6 s	5 mmHg
IRP 0.8 s	16 mmHg
阻抗	
Bolus transit	Undefined

LES	
Upper border	44.1 cm
Lower border	48.1 cm
Length	4.1 cm
Median IRP	15.71 mmHg
IRP 4 s	16 mmHg

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Esophagus	
DCI	2008 mmHg.s.cm
DCI ₈	96 mmHg.s
Peristaltic breaks	0.0 cm
Distal Latency	7.2 s
Largest break	0.0 cm
DCI Exp.	2139 mmHg.s.cm
Classification	
LES Obstruction 3	35*
Chicago classification 3	Normal*
LES Obstruction	35*
Bolus transit	Undefined

王OO, HRIM, 110/2/2



Multi rapid swallow [1]

Show in table Not shown in report Select next

UES

Upper border	19.2	cm
Lower border	23.9	cm
Length	4.7	cm
IRP 0.2 s	5	mmHg
IRP 0.4 s	8	mmHg
IRP 0.6 s	18	mmHg
IRP 0.8 s	42	mmHg
IRP 1.0 s	57	mmHg

LES

Upper border	44.1	cm
Lower border	48.1	cm
Length	4.0	cm
IRP 1 s	27	mmHg
IRP 2 s	28	mmHg
IRP 3 s	29	mmHg
IRP 4 s	30	mmHg
IRP 5 s	31	mmHg

Esophagus

DCI	9685	mmHg.s.cm
DCIa	479	mmHg.s
Peristaltic breaks	0.0	cm
Distal Latency	9.1	s
Largest break	0.0	cm
DCI Exp.	10334	mmHg.s.cm
DCI jackhammer	<input checked="" type="checkbox"/>	是*

阻抗

Bolus transit Undefined*

Scoring

Intrabolus pressure pattern Unknown pressurization*
 Contraction vigor Hyper*
 Contraction pattern3 Intact*
 Bolus transit Undefined*

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王OO, Manometry&Bernstein, 110/2/2

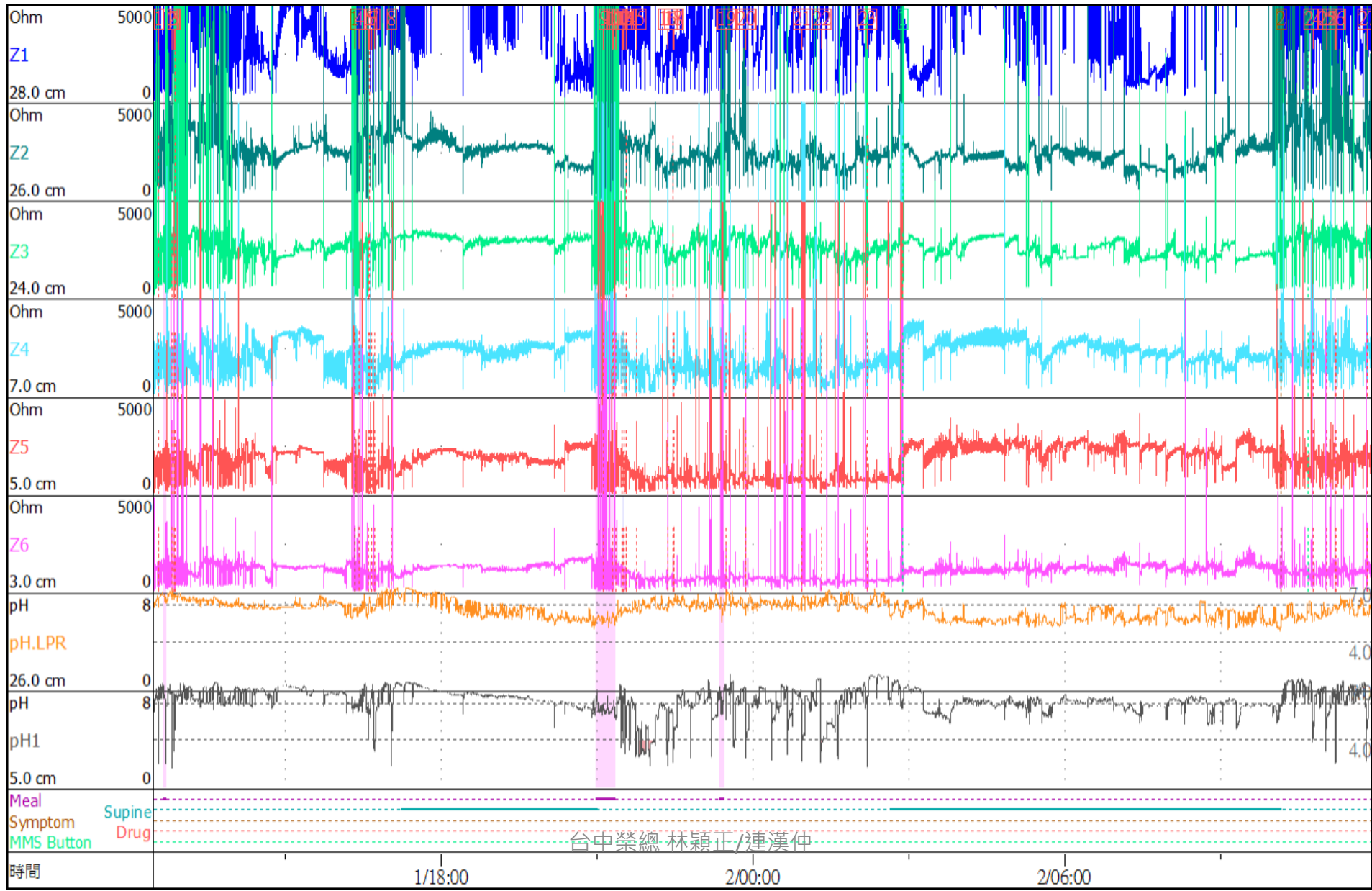
- Finding: **Normal esophageal motility profile**
- LES pressure: 42 (10-40mmHg)
- UES pressure: 66
- Amplitude
 - P13: 36 (70±32mmHg)
 - P8: 115 (90±41mmHg)
 - P3: 149 (109±45mmHg)

NOTES: HRIM C.Cv3.0:100% Normal contraction,IRP:15.71<21
Cutoff,DCI:2014,DL:7.2.

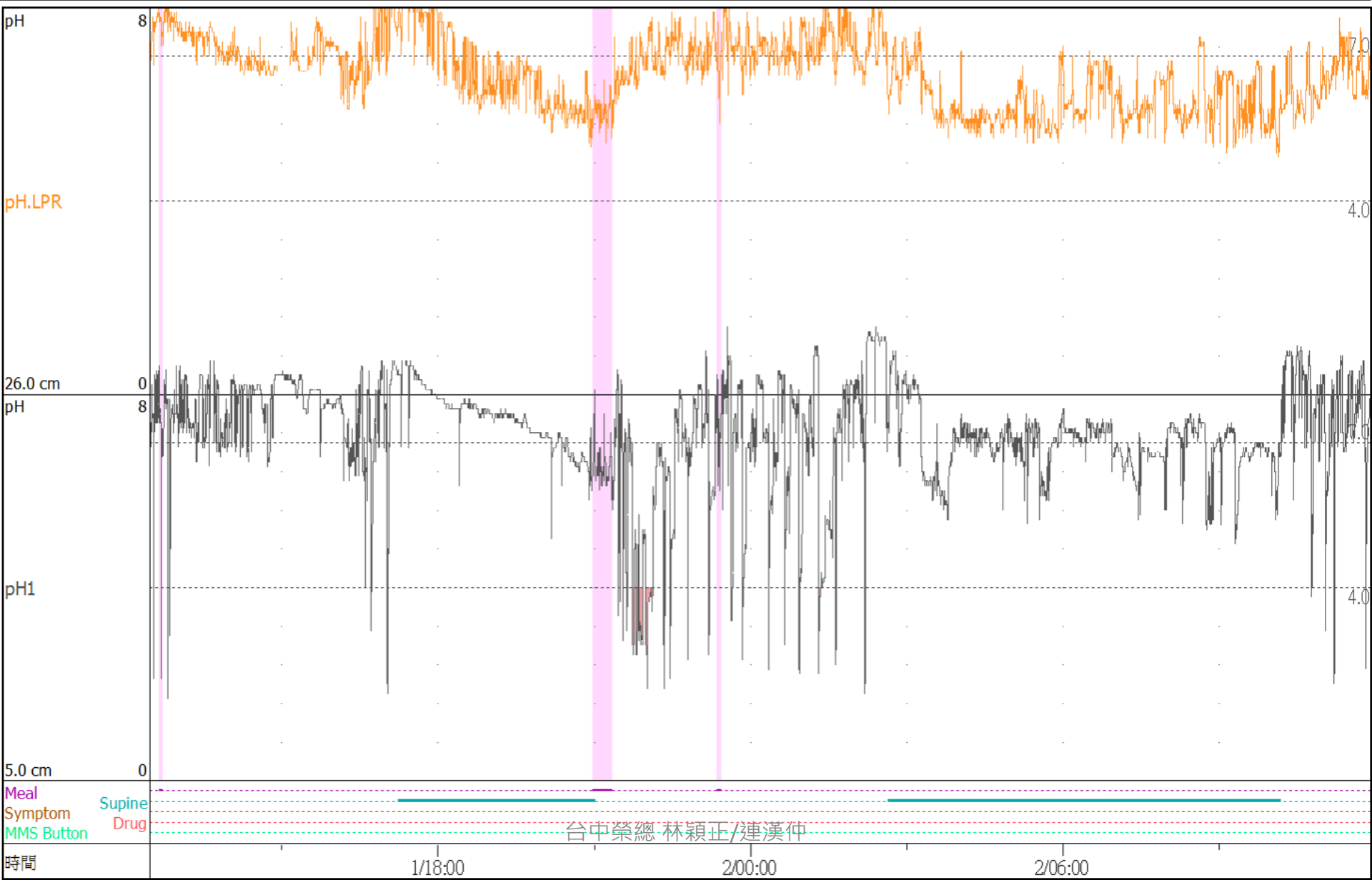
- Bernstein:

1st: 5	min	0	sec to produce	30 ML NAACL PRODUCE NO SYMPTOMS.
2st: 10	min	0	sec to produce	30 ML HCL PRODUCE DISTENSION.
Are the symptoms resemble to the patient's previous complaints?(Y/N)				N
Conclusions: POSITIVE				

Ξ00, MIIpH off PPI, 110/2/2



Ξ00, MIIpH off PPI, 110/2/2



王OO, MIIpH off PPI, 110/2/2

FRACTION TIME OF PH < 4.0= 1.6 % (NORMAL 4.0 ~ 4.5 %)

DEMEOSTER SCORE = 5.49 (NORMAL 14 ~ 15)

AET/no.of REFLUX	TOTAL	UPRIGHT	SUPINE	DEMEESTER SCORE
	(<4.2%)/ (<80)	(<6.3%)	(<1.2%)	(<14.7)
24HRS	1.6/25	3.2	0.0	5.49

THIS IS A PH-IMPEDANCE TEST WITH 2 PH SENSORS LOCATED AT HYPOPHARYNX AND DISTAL ESOPHAGUS, RESPECTIVELY, WHILE THE PATIENT WAS OFF PPI DURING THE STUDY.HE REPORTED NO SYMPTOM DURING THE RECORDING PERIOD.THERE WAS NO ACID IN HYPOPHARYNX.IN ADDITION, FREQUENT NON-ACIDIC RELUXES WERE OBSERVATED WITH NO SYMPTOMS REPORTED AT BOTH UPRIGHT AND RECUMBENT POSITIONS.SUGGESTING A LOW POSSIBILITY OF GERD-RELATED COUGH AND DYSPHAGIA.

王OO, 110/2/26, UE

ENDOSCOPY FINDINGS:

Esophagus: circular rings, linear furrows over whole esophagus

Bx-B at distal esophagus (3 cm above EGJ); Bx-C at proximal esophagus (15 cm above EGJ)

EC junction: normal appearance

Fundus: normal appearance

Body: normal appearance

Angularis: normal appearance

Antrum: hyperemia, Bx-A

Pylorus: normal appearance

Duodenum: normal appearance

DIAGNOSIS/IMPRESSION:

1. R/O Eosinophil esophagitis, Bx-B & C

2. Antral gastritis, Bx-A

ADDITIONAL PROCEDURE: biopsy for H.p plate test

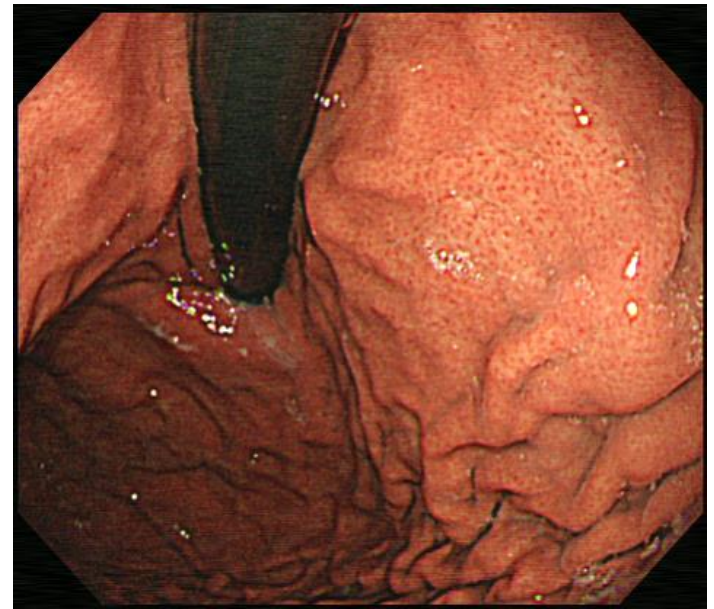
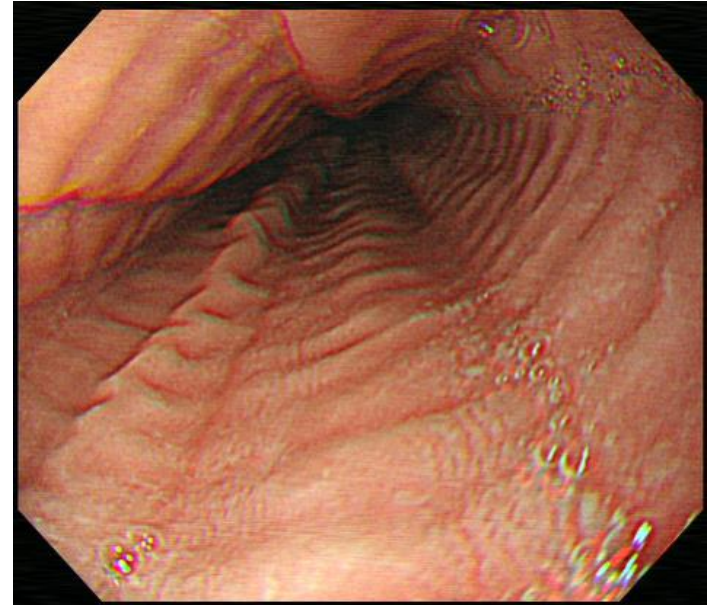
COMPLICATIONS: There were no complications associated with the procedure.

RECOMMENDATION: Follow up

CLINICAL DIAGNOSIS/SYMPTOMS:

ENDOSCOPE CODE NO: G36

PREMEDICATION: Xylocain spray; gascon



Pathologic diagnosis:

1. Stomach, antrum, "A", endoscopic biopsy --- Chronic gastritis.
2. Esophagus, distal, 3 cm from esophagocardiac junction, "B", endoscopic biopsy --- Reactive esophageal epithelial change with increased eosinophils. See comment.
3. Esophagus, proximal, 15 cm from esophagocardiac junction, "C", endoscopic biopsy --- Reactive esophageal epithelial change with increased eosinophils. See comment.

Ancillary study for diagnosis:

Giemsa stain for Helicobacter Pylori identification done for specimen A.

Prognostic and predictive factor:

No Helicobacter-like microorganism found in specimen A.

Gross description:

The specimen consists of 1) 2 pieces of tan soft tissue, up to 0.3x0.2x0.2 cm, labeled as "stomach, antrum". 2) 3 pieces of tan soft tissue, up to 0.2x0.1x0.1 cm, labeled as "distal esophagocardiac junction, 3 cm". 3) 2 pieces of tan soft tissue, up to 0.4x0.2x0.2 cm, labeled as "proximal esophagocardiac junction, 15 cm". All for section: A-B.

Microscopic description:

Section of specimen A shows gastric mucosa with

1. Neutrophils activity- Absent.
2. Chronic inflammation/Mononuclear cells infiltration- Mild.
3. Atrophy of glands- Absent.
4. Intestinal metaplasia- Absent.

Sections of specimen B and C show squamous mucosa with mucosal hyperplasia, including basal cell hyperplasia, submucosal fibrosis, and increased eosinophils in the mucosa. More than 50 eosinophils / HPF is seen at the hotspot.

- 經過PPI QD 治療之後.....

The Patient-Reported Outcome for Eckardt score

		110/ 2/2	110/ 2/18	110/ 3/8	110/ 3/26	110/ 7/14	110/ 9/2	110/ 10/5	110/ 12/30	111/ 8/9
1	體重減輕	0	0	0	0	0	0	0	0	0
2	吞嚥困難	1	2	2	1	1	0	1	1	0
3	胸口疼痛	0	0	0	0	0	0	0	0	0
4	逆流	0	0	0	0	0	0	0	0	0
	Total	1	2	2	1	1	0	1	1	0

Patient-Reported Outcome for LPR symptoms

The Reflux Symptom Index (RSI)		110/ 2/2	110/ 2/18	110/ 3/8	110/ 3/26	110/ 7/14	110/ 9/2	110/ 10/5	110/ 12/30	111/ 8/9
1	你有沙啞或聲音的問題	0	0	0	0	0	0	0	0	0
2	清喉嚨	1	1	1	1	1	0	1	0	1
3	過多喉嚨黏液或鼻涕倒流	1	0	0	1	1	0	0	0	1
4	吞嚥食物，液體或藥丸困難	3	1	3	2	0	0	0	0	0
5	進食或躺下後咳嗽	0	0	0	0	0	0	0	0	0
6	呼吸困難或噎到事件	0	0	0	0	0	0	0	0	0
7	令人討厭或惱人的咳嗽	1	1	0	0	0	0	0	0	0
8	有東西黏在你喉嚨或有塊狀物在你喉嚨的感覺	1	1	3	2	1	0	0	0	0
9	心灼熱，胸痛，消化不良或胃酸跑上來	0	0	0	0	0	0	0	0	0
Total		7	4	7	6	3	0	1	0	2

Score range: 0-45 (normal ≤ 13),
the higher the score, the more severe the symptom.

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Belafsky PC, 2002 J Voice.
Lien HC, 2015 Value Health

The Patient-Reported Outcome for QoL in GERD

The GERDyzer (0-完全沒有；10-很嚴重)		110/ 2/2	110/ 2/18	110/ 3/8	110/ 3/26	110/ 7/14	110/ 9/2	110/ 10/5	110/ 12/30	111/ 8/9
1	整體來說，過去7天您覺得如何？	2.5	2	3	2	1	0	1	0	0
2	過去7天，生病所帶來的痛苦/不適對您造成的影響有多大？	2.5	2	7	2	1	0	1	0	0
3	過去7天，生病對您身體健康造成的影響有多大？	1.5	2	6	2	1	0	0	0	0
4	過去7天，生病對您精神活力造成的影響有多大？	2.5	4	6	2	1	1	0	0	0
5	過去7天，生病對您日常活動造成的干擾有多大？	2.5	2	4	2	1	0	0	0	0
6	過去7天，生病對您休閒活動造成的干擾有多大？	1.5	2	3	2	1	0	0	0	0
7	過去7天，生病對您社交生活造成的干擾有多大？	1.5	2	3	2	1	0	0	0	0
8	過去7天，生病對您飲食習慣造成的干擾有多大？	1.5	4	6	3	1	0	0	0	0
9	過去7天，生病對您心情造成的影響有多大？	1.5	3	4	2	0	0	0	0	0
10	過去7天，生病對您睡眠造成的影響有多大？	0.5	1	2	1	0	0	0	0	0
Total		13.0	13.5	29.5	11	6	0.25	2.4	0	0

王OO, 110/12/2, UE

ENDOSCOPY FINDINGS:

Esophagus: normal appearance, BX-B (DISTAL ESOPHAGUS), BX-C (PROXIMAL ESOPHAGUS)

EC junction: mucosa break < 5 mm

Fundus: normal appearance

Body: normal appearance

Angularis: normal appearance

Antrum: hyperemia, BX-A

Pylorus: normal appearance

Duodenum: normal appearance

DIAGNOSIS/IMPRESSION:

1. C/W EoE IN RESOLUTION, BX-B & -C
2. Antral gastritis, s/p H.p plate test

ADDITIONAL PROCEDURE: biopsy for H.p plate test

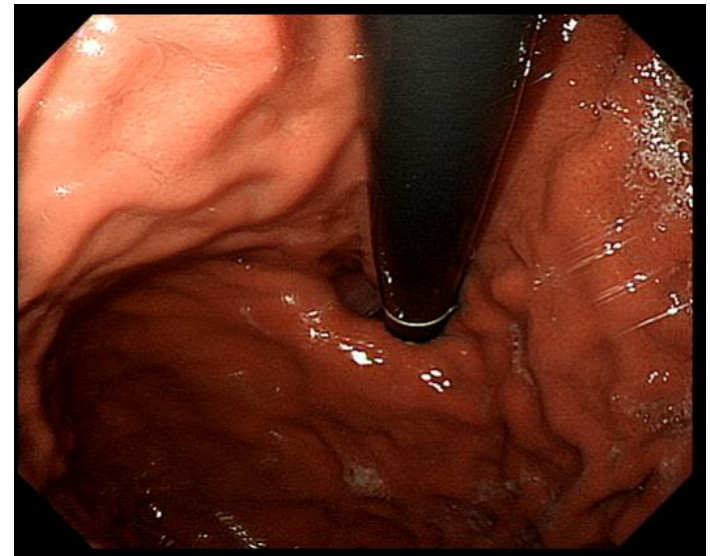
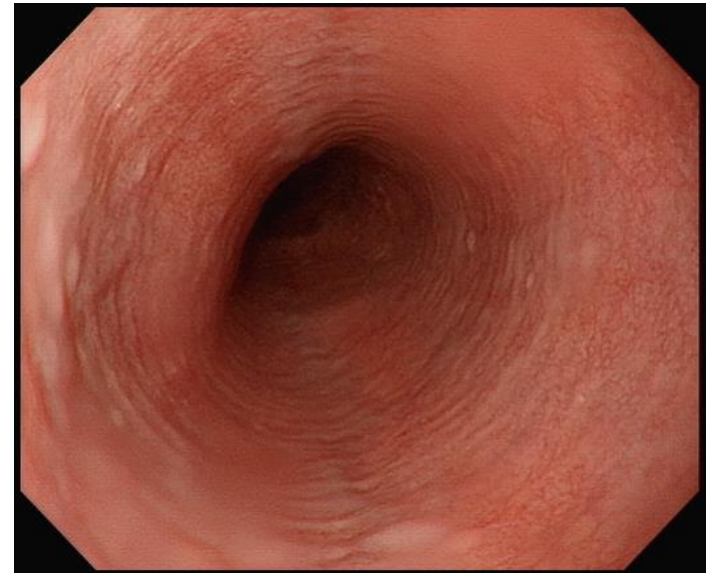
COMPLICATIONS: There were no complications associated with the procedure.

RECOMMENDATION: Follow up

CLINICAL DIAGNOSIS/SYMPTOMS:

ENDOSCOPE CODE NO: G36

PREMEDICATION: Xylocain spray; gascon



Pathologic diagnosis:

1. Stomach, antrum, "A", endoscopic biopsy --- Chronic inflammation.
2. Esophagus, labeled "distal", "B", endoscopic biopsy --- Chronic inflammation and lymphoid aggregates, non-specific.
3. Esophagus, labeled "proximal", "C", endoscopic biopsy --- Chronic inflammation, non-specific.

Ancillary study for diagnosis:

Giemsa stain for Helicobacter Pylori identification done.

Prognostic and predictive factor:

No Helicobacter-like microorganism found.

Gross description:

The specimen consists of 1) a piece of tan soft tissue, 0.6x0.2x0.2 cm, labeled as "stomach, antrum". 2) 2 pieces of tan soft tissue, up to 0.3x0.2x0.2 cm, labeled as "distal esophagus". 3) 2 pieces of tan soft tissue, up to 0.4x0.3x0.1 cm, labeled as "proximal esophagus". All for section: A) specimen A B) specimen B C) specimen C.

Microscopic description:

Section of specimen A shows gastric mucosa with

1. Neutrophils activity- Absent.
2. Chronic inflammation/Mononuclear cells infiltration- Mild.
3. Atrophy of glands- Can not be well-evaluated.
4. Intestinal metaplasia- Absent.

Section of specimen B shows squamous mucosa with chronic inflammatory cells infiltration and lymphoid aggregates. Section of specimen C shows squamous mucosa with chronic inflammatory cells infiltration. Clinical correlation or rebiopsy is recommended if malignancy is suspected clinically.

#T-56000_2 #M-43000_2 0 1340 000000

#T-57000_2 #M-43000_2 0 1340 000000

王OO, 112/01/10, UE

[Endoscope type] FG 5

[Indications]

Dysphagia or odynophagia

[Current medication] No

[Premedication]

Oral simethicone solution 10 mL

10 % Xylocaine spray

[Oxygen supplement] Room air

[Endoscopic findings]

ESOPHAGUS: NEGATIVE, DISTAL ESO BX-B, PROX ESO-BX-C

STOMACH: HYPEREMIA OVER ANTRUM, BX-A

DUODENUM: NEG

[Endoscopic diagnosis/Impression]

1. EOSINOPHILIC ESOPHAGITIS IN RESOLUTION, BX-B & C

2. ANTRAL GASTRITIS, BX-A

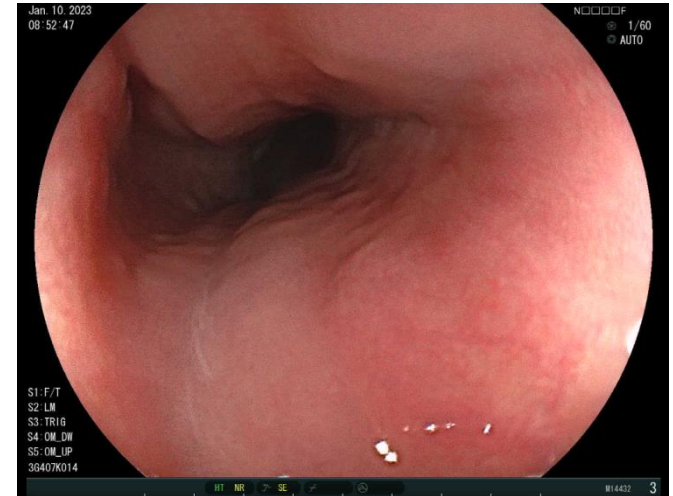
[Endoscopic treatment/Additional procedures] |

Specimen biopsy

[Complications of endoscopic examination] No

[Suggestions]

Follow-up in OPD



Pathologic diagnosis:

1. Stomach, antrum, "A", endoscopic biopsy --- Chronic gastritis with erosion.
2. Esophagus, distal part, "B", endoscopic biopsy --- Chronic inflammation, mild.
3. Esophagus, proximal part, "C", endoscopic biopsy --- Chronic inflammation, mild.

Ancillary study for diagnosis:

Giemsa stain for Helicobacter Pylori identification done for both specimens.

Prognostic and predictive factor:

No Helicobacter-like microorganism found in both specimens.

Gross description:

The specimen consists of 1) 2 pieces of tan soft tissue, up to 0.2x0.1x0.1 cm, labeled as "stomach, antrum". 2) 2 pieces of tan soft tissue, up to 0.2x0.1x0.1 cm, labeled as "esophagus, distal part". 3) a piece of tan soft tissue, 0.2x0.1x0.1 cm, labeled as "esophagus, proximal part". All for section: A) specimen A B) specimen B.

Microscopic description:

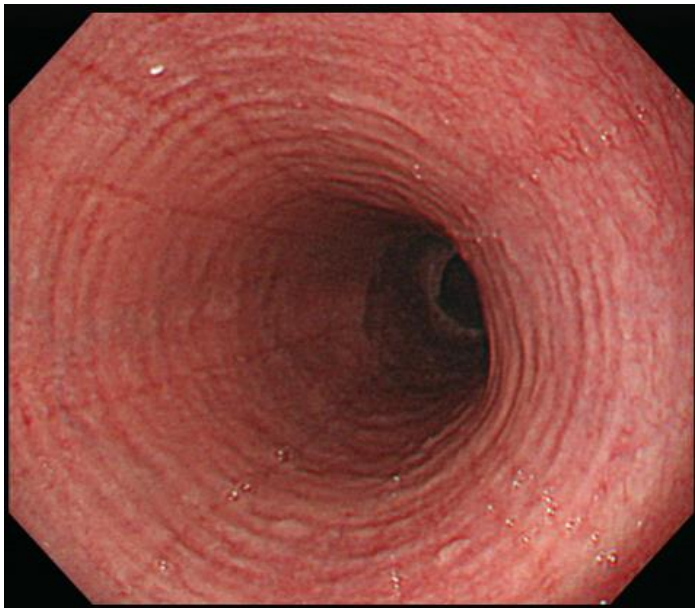
Section of specimen A shows gastric mucosa with chronic inflammation and erosion.

1. Neutrophils activity- Absent.
2. Chronic inflammation/Mononuclear cells infiltration- Mild.
3. Atrophy of glands- Absent.
4. Intestinal metaplasia- Absent.

Sections of specimen B and C show squamous mucosa with mild chronic inflammatory cells infiltration.

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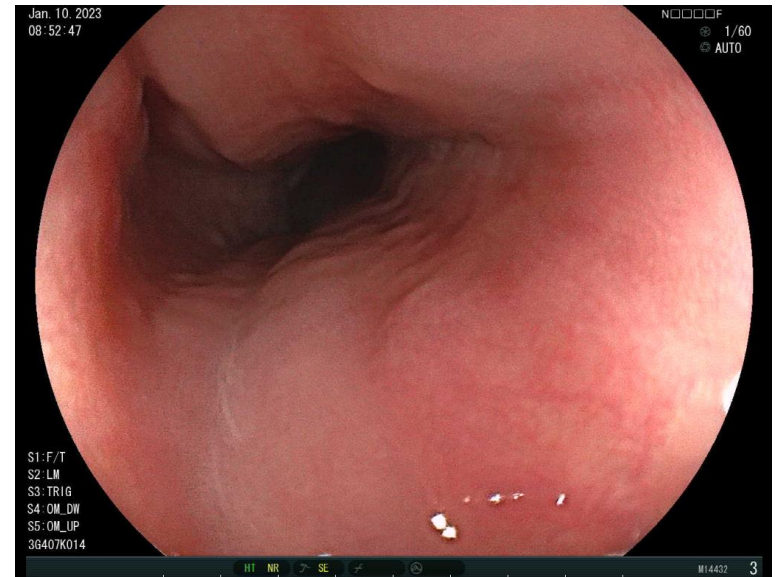
110/1/14



Takepron
30mg QD



112/1/10

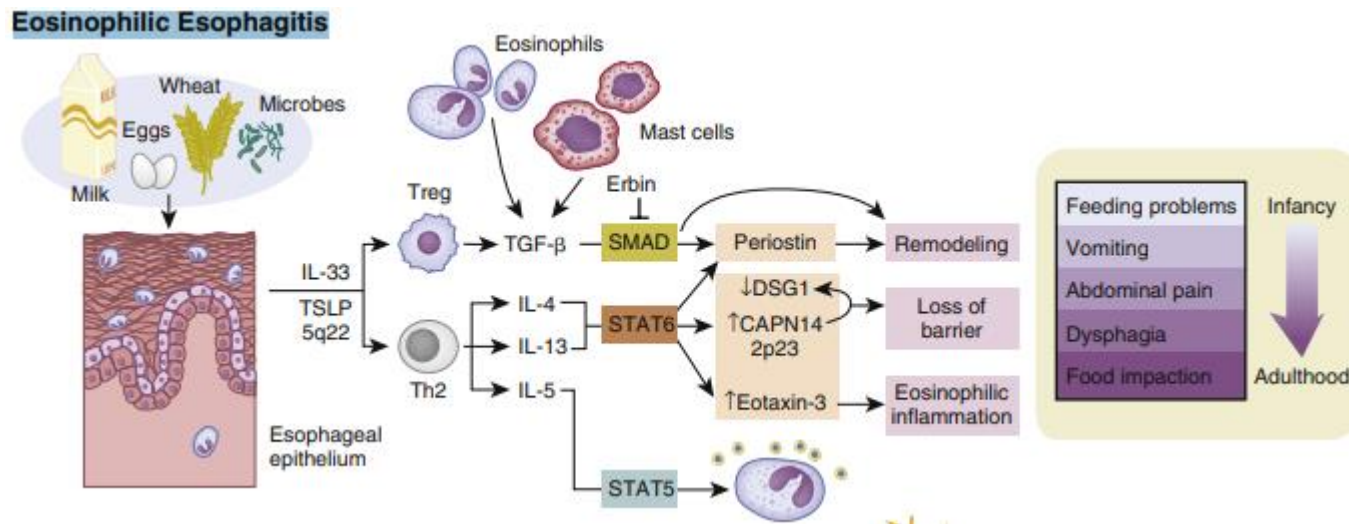


Discussion

嗜伊紅性食道炎

Eosinophilic esophagitis(EoE)

- 過敏原引發的免疫相關、慢性及發炎性的疾病
- 在臨床上會表現出**食道功能失調**，如**吞嚥困難**、**食物梗塞**和**胃食道逆流**相關等症狀



- 吞嚥困難而接受內視鏡檢查時，嗜伊紅性食道炎的比例更可高達15%
- 目前在發生食物梗塞（ food impaction ）的病人中，將近一半可被診斷為嗜伊紅性食道炎
- 嗜伊紅性食道炎可發生在各個年齡層，不論兒童或成人，男女比皆約3比1
- 成人中最常發生在30至40歲 間

- 在無症狀的人口族群中發現嗜伊紅性食道炎的盛行率大約為1%

Ronkainen J, Talley NJ, Aro P, et al. Prevalence of oesophageal eosinophils and eosinophilic oesophagitis in adults: the population-based Kalixanda study. *Gut* 2007; 56: 615-20.

- 有28%-86%的成人病患及42%-93%的兒童病患同時有過敏體質
- 兒童患者中有超過90%對某些食物過敏
- 而且在透過元素飲食或根據過敏試驗避免攝取某些食物後有超過75%的病患可以成功治療
- 嗜伊紅性食道炎會因季節不同而有不同的嚴重程度以及發生率，暗示此病也可能與空氣過敏原有關

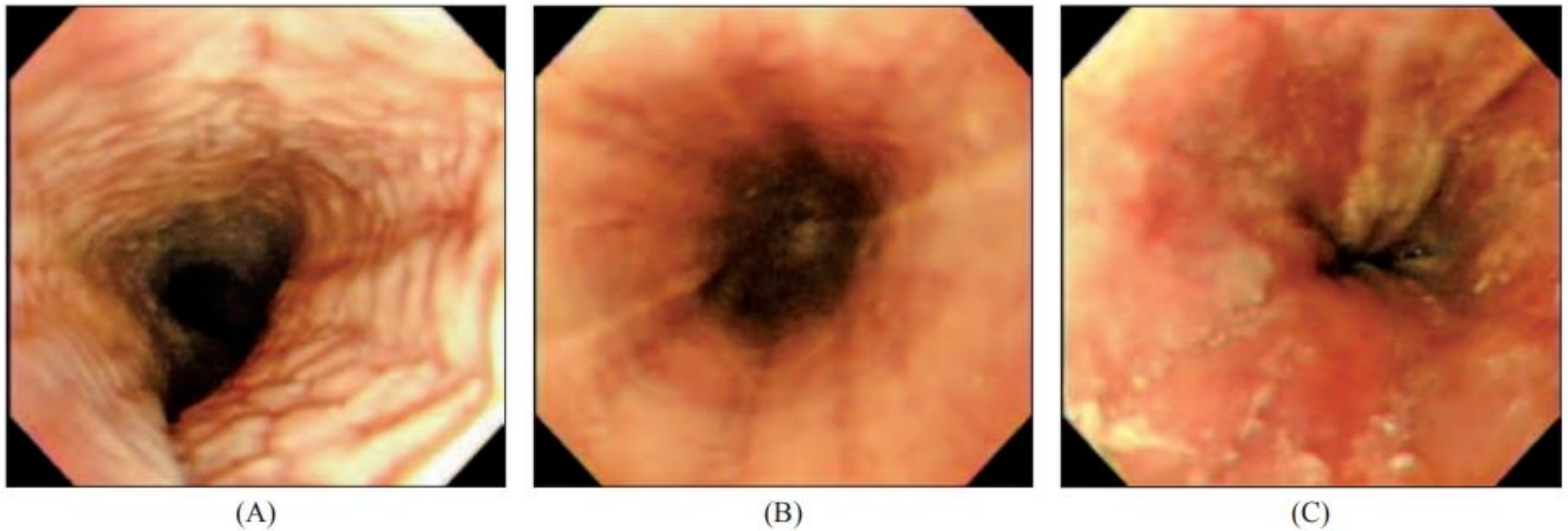
Liacouras CA, et al. J Allergy Clin Immunol 2011; 128: 3-20.

Almansa C, et al. Am J Gastroenterol 2009; 104: 828-33.

- 大一點的兒童大多表現為類似胃食道逆流的症狀，如火燒心或胃酸逆流，另外也可能出現嘔吐、腹痛
- 青少年及成人則以間歇性吞嚥困難（特別是固體食物，29-100%）和食物梗塞(25-100%)為主要表現。
- 某些成人患者亦會出現胃食道逆流症狀、胸痛或上腹痛

Liacouras CA, et al Clin Gastroenterol Hepatol
2005; 3: 1198-206.

Straumann A, et al. Clin Gastroenterol Hepatol
2008; 6: 598-600.



圖二：嗜伊紅性食道炎在內視鏡下表現（此為國人嗜伊紅性食道炎實際個案，發生在一名40歲男性）

(A) 食道環 (esophageal rings)。

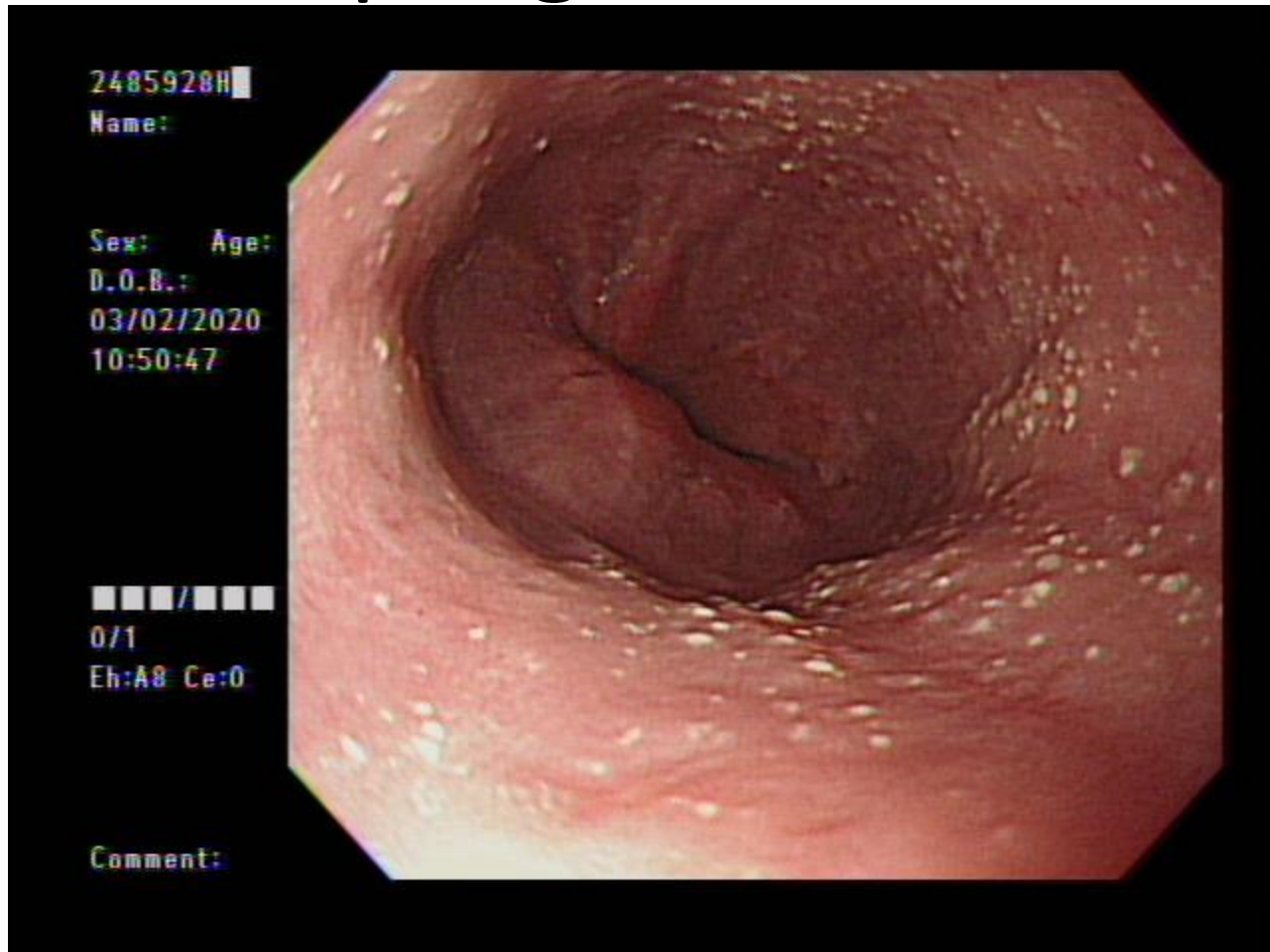
(B) 食道出現多條縱向裂痕 (longitudinal furrows)。

(C) 黏膜沾附白斑 (white plaques)，同時亦可見輕微逆流性食道炎。

Esophageal ring



Esophagus exudate



- 事實上，有13-22%的病患食道在內視鏡下看起來是正常的
 - 如果懷疑，還是只能靠切片

Kim HP, et al. Clin Gastroenterol Hepatol
2012; 10: 988-96.

- 有兩個研究顯示 當切片取樣數量在5片或6片以上時，可使診斷的敏感度達到100%
- 因此目前的共識建議切片時要在近端和遠端食道各取樣2-4個標本
- 以15 eos/hpf為一個診斷分界點，必需大於等於這個數值才可診斷為嗜伊紅性食道炎

Gonsalves N, et al. Gastrointest Endosc 2006; 64: 313-9.

Shah A, et al. Am J Gastroenterol 2009; 104: 716-21.

診斷

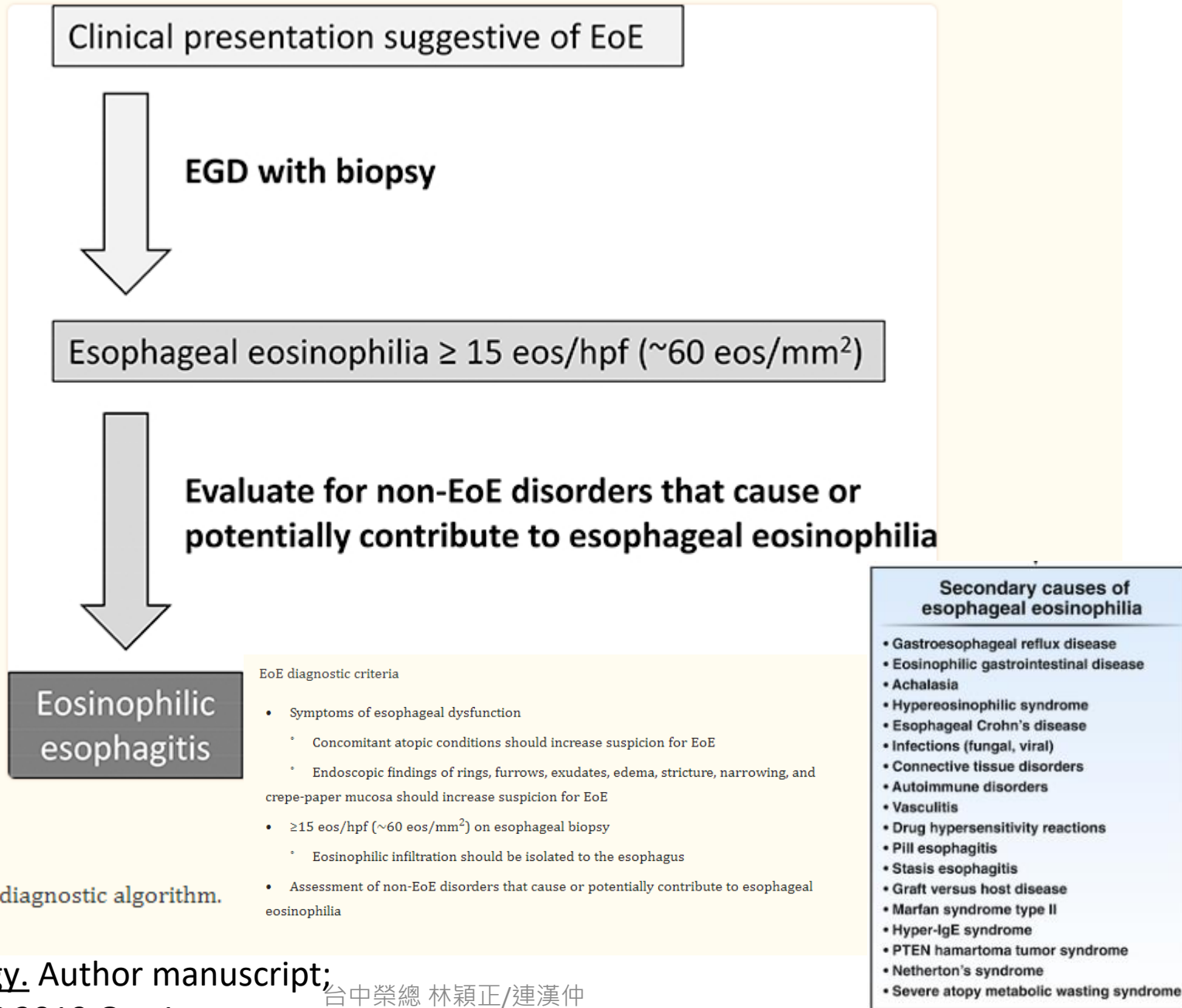
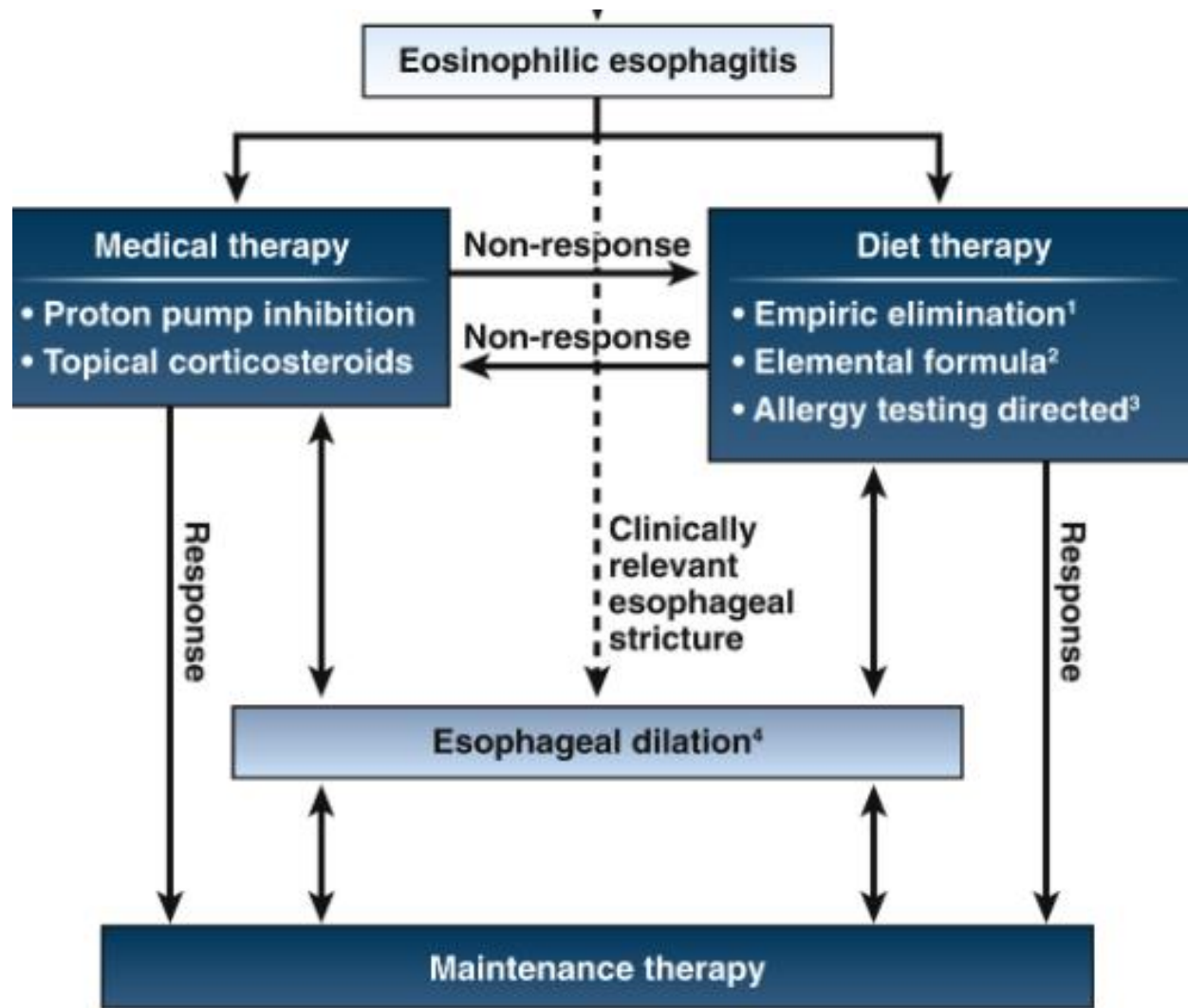


Figure 1.

Updated EoE diagnostic algorithm.

治療



表一：嗜伊紅性食道炎建議用藥

藥物	建議劑量
氫離子幫浦抑制劑 (PPI)	兒童：1mg/kg，BID，8-12 weeks 成人：20-40mg，QD or BID，8-12 weeks
類固醇—局部性 ^A	
Fluticasone (吸入型)	兒童：88-440 µg BID-QID，<12weeks 成人：440-880 µg BID，<12weeks
Budesonide (懸浮液)	兒童 (<10 歲)：1 mg，QD，<12weeks 兒童 (>10 歲) & 成人：2mg，QD，<12weeks
類固醇—全身性 ^B	
prednisone	1-2 mg/kg/daily

A：藥物使用後 30 分鐘內勿飲食。

B：只限用在嚴重病例 (嚴重吞嚥困難，體重減輕，需要住院)，或對局部類固醇無效的二線治療。

Adapted from Liacouras CA, Furuta GT, Hirano I, et al. Eosinophilic esophagitis: updated consensus recommendations for children and adults. J Allergy Clin Immunol 2011; 128: 3-20.

Prognosis

- high likelihood of symptom **recurrence after discontinuing treatment**
- **long-term** prognosis of EoE is **unclear**, but EoE **does not** appear to significantly **shorten lifespan**
- One of the largest natural history studies in adults focused on **30 adults** who were followed for an average of **seven years**: The inflammatory process remained confined to the esophagus **without gastric or duodenal involvement**. **No cases of dysplasia or esophageal malignancy** were observed.