



대한산부인과내분비학회

증례 위주 환자 접근: 미성년

월경통이 심한 17세 여성

부산의대 주 종 길

# Introduction (I) : definition

**Dysmenorrhea** : dull, throbbing pain & lower abdomen, pelvis

: it was not considered a medical problem until the 1970's

- **Primary dysmenorrhea – 90%**
  - absence of underlying disease
  - normal pelvic examination
  - onset shortly after menarche
  
- **Secondary dysmenorrhea – 10%**
  - caused by an underlying pelvic pathology or disease

# Introduction (II) : epidemiology

- 538 healthy Korean, middle-high school students (14-18yrs)

Variable	(%)
Duration (day)	
no dysmenorrhea	18.0
≤ 1	25.5
1-2	38.3
2-3	14.7
≥ 3	3.5

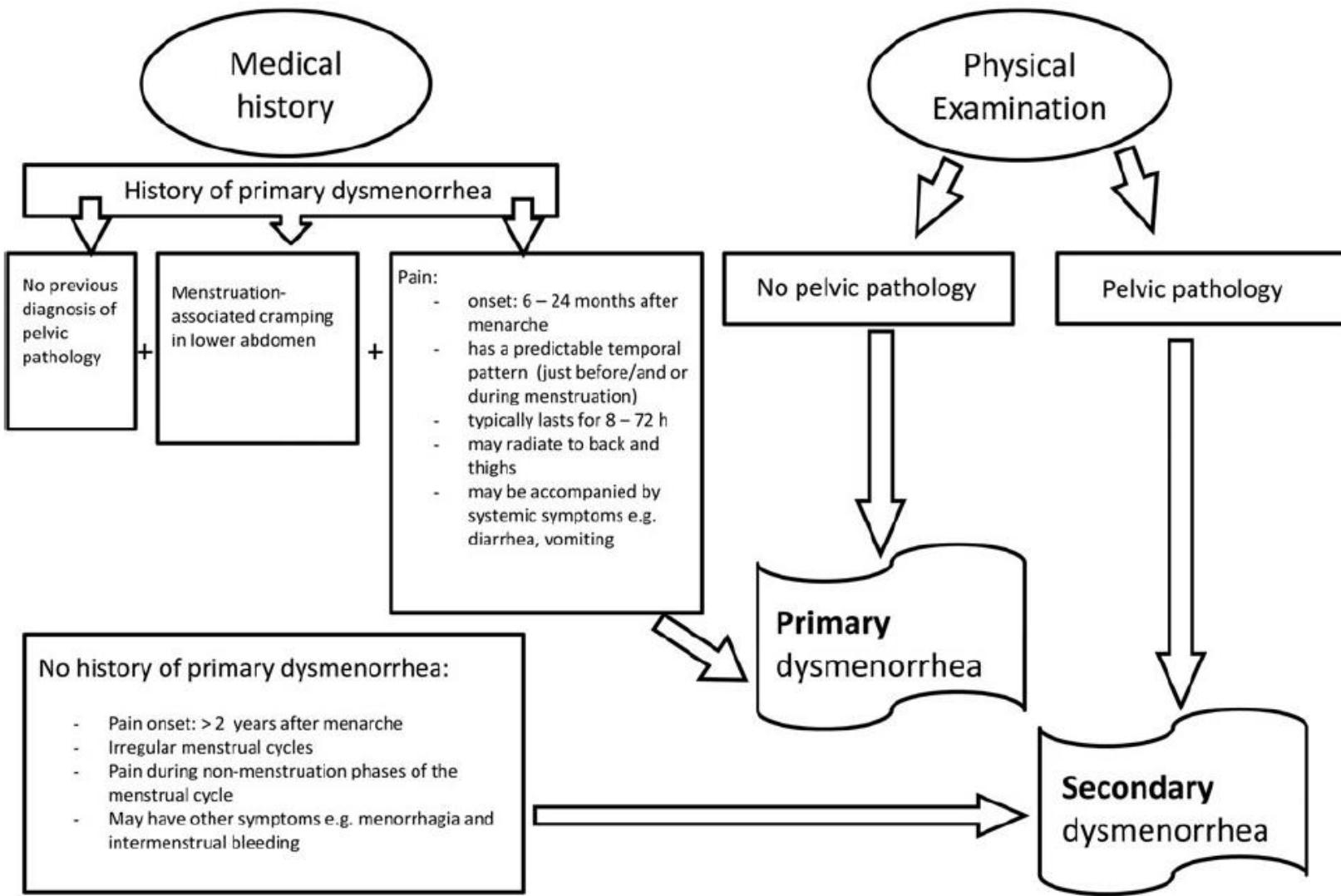
**incidence 82%**

- Longitudinal study (Sweden, 1990)
  - prevalence : 19 years → 67%, 24 years
  - severity : 4.1(19 years) → 3.4(24 years)

# Case 1 : Primary dysmenorrhea – diagnosis

Date	History & management
12.8.6	<ul style="list-style-type: none"><li>• 15세, 월경통 심해 내원, 초경 11세<ul style="list-style-type: none"><li>✓ 월경 시작하기 1일전부터 이틀째까지 심한 통증</li><li>✓ 13세경부터 월경통 심했다고 함</li></ul></li></ul>
	<ul style="list-style-type: none"><li>• US – non-specific finding</li></ul>
	<ul style="list-style-type: none"><li>• <b>Impression : CPP</b></li><li>• Treatment : mefenamic acid 500mg bid for 15days</li></ul>
14.1.23	<ul style="list-style-type: none"><li>• <b>US – R/O pelvic congestion syndrome</b></li><li>• Treatment : mefenamic acid 500mg bid for 1month</li></ul>
15.10.8	<ul style="list-style-type: none"><li>• Repeat for 1month</li></ul>
16.1.28	<ul style="list-style-type: none"><li>• Repeat for 1month / rec. annual follow up</li></ul>

# Dysmenorrhea : diagnosis



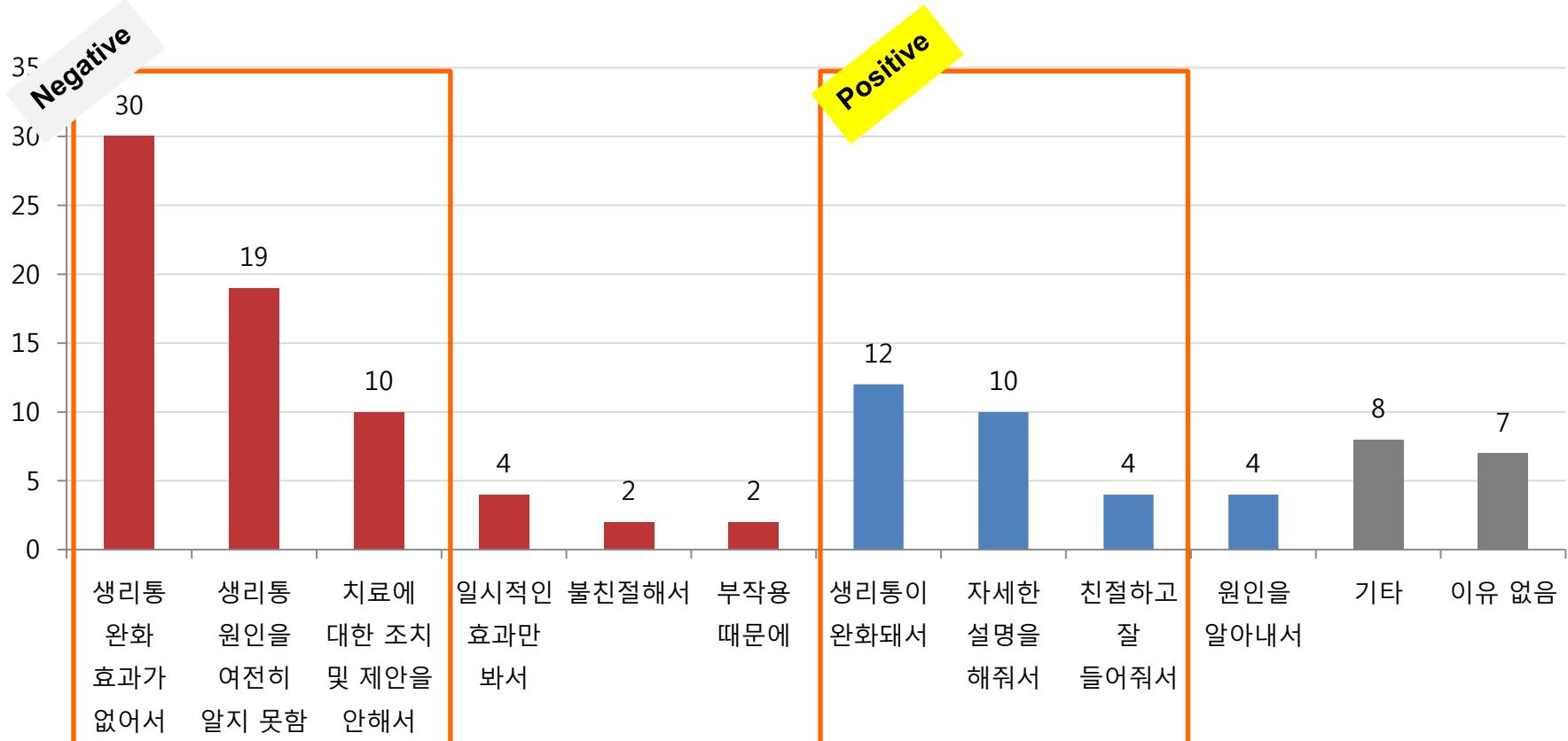
# 1. 월경통 – 통증 관리의 중요성



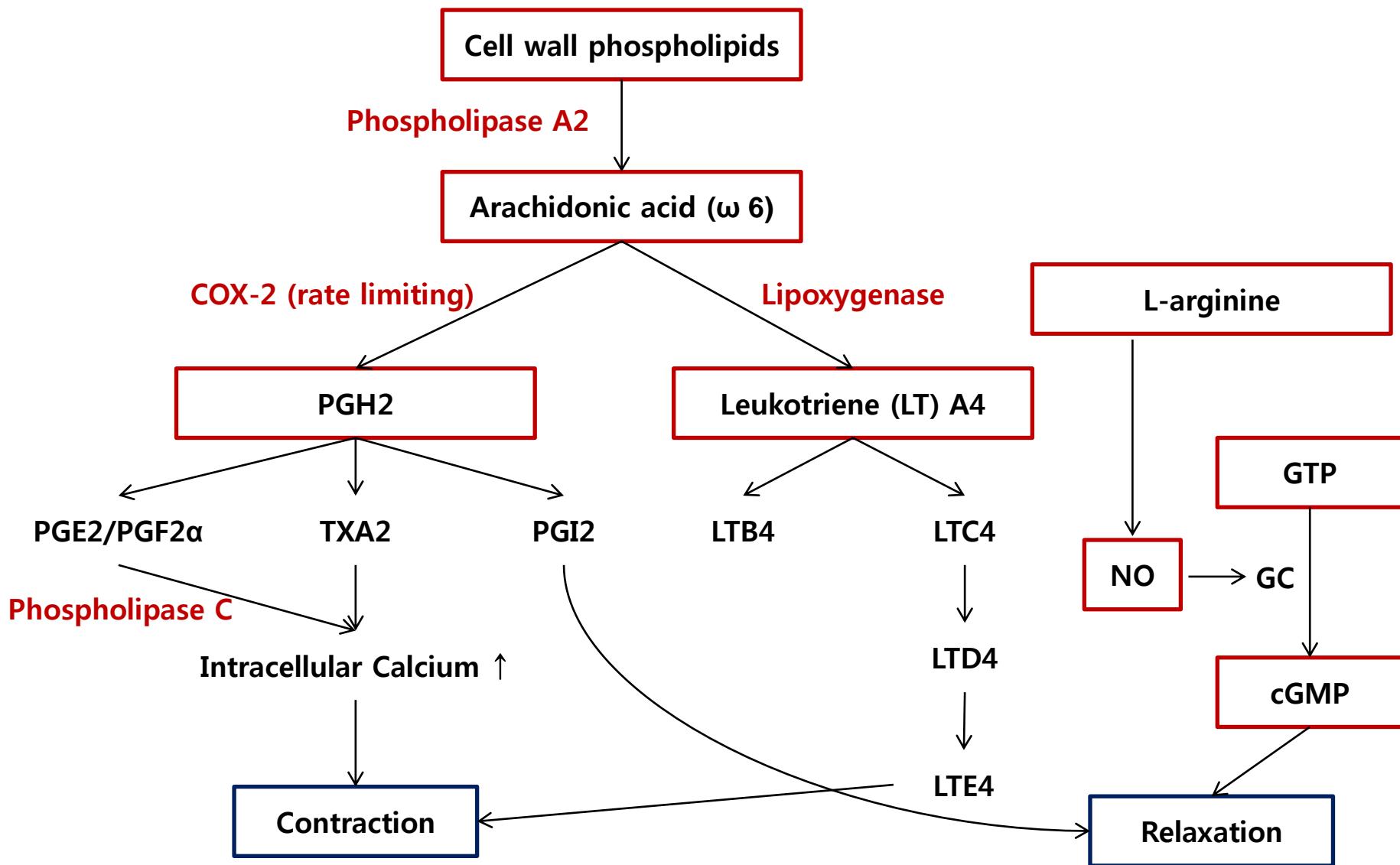
전문의 상담에 대한 만족도를 /-- 점/이라고 평가한 이유는 무엇입니까? [서술]

[명]

[Base: n=100, women who visited OB/GYN in the last 1 year for dysmenorrhea]  
[Unit: % of women]



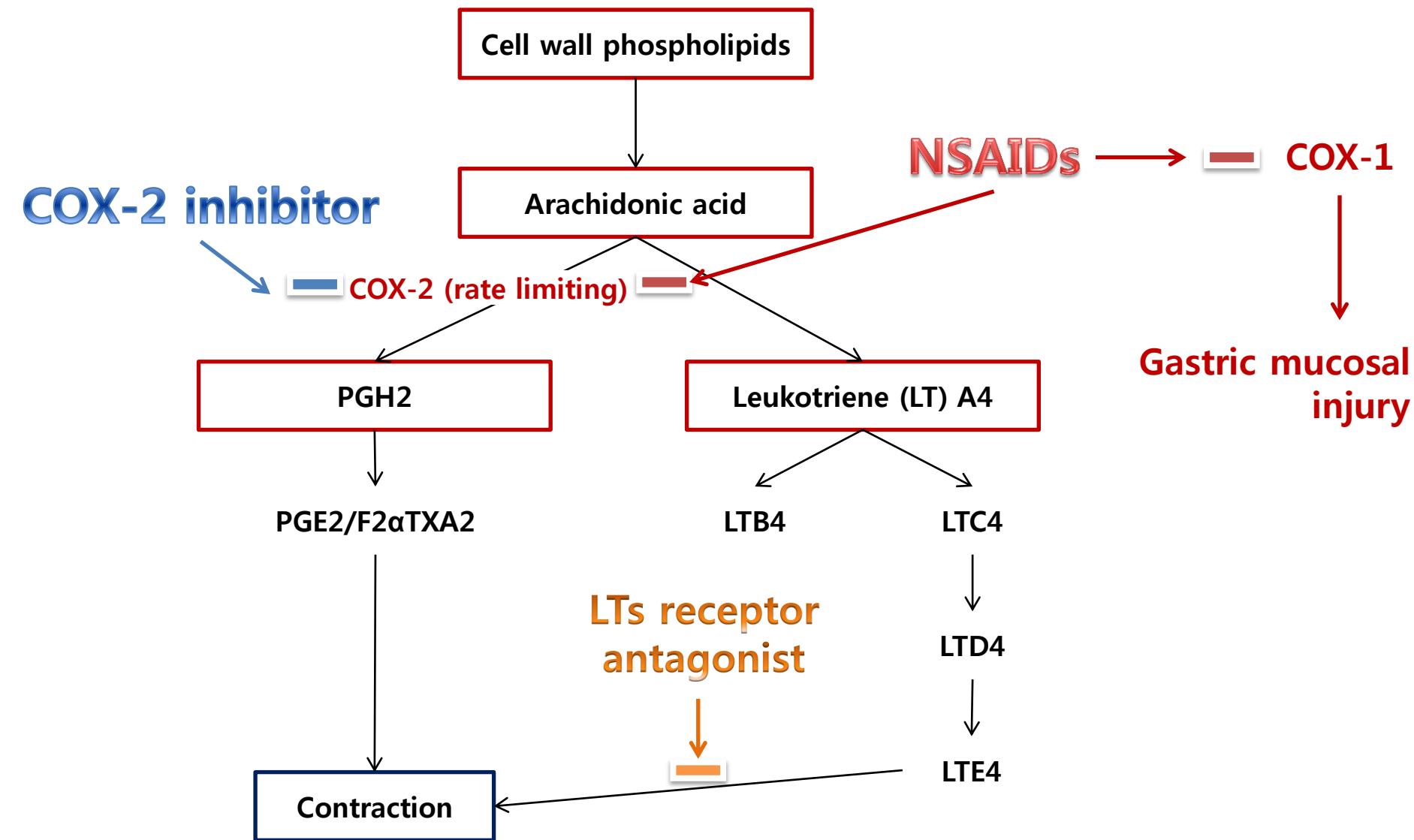
# Primary dysmenorrhea : pathophysiology



## Case 2 : Primary dysmenorrhea – treatment

Date	History & management
11.10.31	<ul style="list-style-type: none"><li>• 14세, 월경통 심해 local clinic 방문 후 <b>큰 병원 rec. 받고 내원</b></li><li>• US – non-specific finding</li></ul>
	<ul style="list-style-type: none"><li>• Impression : primary dysmenorrhea</li><li>• Treatment : ibuprofen 200mg /q 8h</li></ul>
11.12.05	<ul style="list-style-type: none"><li>• Dysmenorrhea – improved</li><li>• Treatment : ibuprofen 200mg /q 8h</li></ul>
15.1.5	<ul style="list-style-type: none"><li>• 월경통은 있으나 약 복용하면 조절 잘 됨</li></ul>

# Primary dysmenorrhea : pharmacologic Tx



# Primary dysmenorrhea : Tx

## ■ Non-pharmacologic approach

- *heat therapy, herbal preparations*
- *transcutaneous nerve stimulation, acupuncture, yoga*
- *physical activity*
  - *improving blood flow & release of β-endorphins ↑*
- *low-fat vegetarian, ω-3 fatty acids supplementation*



## ■ Pharmacologic approach

- NSAIDs : conventional or COX-2 inhibitor
- Hormonal treatment
  - COCs, long acting progestin contraceptives

## Case 3 : Primary dysmenorrhea – NSAIDs dose

Date	History & management
13.12.2	<ul style="list-style-type: none"><li>• 18세, 초경 1년 후에 시작된 6년간의 월경통으로 내원<ul style="list-style-type: none"><li>✓ 월경시작되면 nausea, diarrhea, headache (+)</li><li>✓ 진통제 복용하여도 호전 없다고 함</li></ul></li><li>• US – non-specific finding</li></ul>
	<ul style="list-style-type: none"><li>• Impression : primary dysmenorrhea</li><li>• Treatment : ibuprofen 400mg / 200mg /q 8h</li></ul>
14.2.18	<ul style="list-style-type: none"><li>• Dysmenorrhea - improved</li></ul>
15.11.9	<ul style="list-style-type: none"><li>• 개인적으로 진통제 복용</li><li>• 통증에 변화가 있거나 약제의 효과가 떨어지면 방문하도록 함.</li></ul>

# Primary dysmenorrhea : pharmacologic Tx

- Conventional NSAIDs
  - RCTs proved NSAIDs
  - most effective method
    - loading dose & before the onset of menses
    - no relief , 2<sup>nd</sup> NSAIDs should be tried
- COX-2 inhibitors
  - spare PG production by COX-1
  - indication
    - prior Hx. of peptic ulcer or GI bleeding
    - GI adverse effect or high dose of conventional NSAIDs
    - coagulation deficiencies

*Durant RH et al., Am J Dis Child 1985; Owen PR. Am J Obstet Gynecol 1984  
Daniels S et al., Clin Ther 2009*

# **Primary dysmenorrhea : NSAIDs & COX-2 inhibitor**

Drug	Dosage
Ibuprofen	800mg initially, followed by 400-800mg every 8h as needed
Naproxen sodium	440-550mg initially, followed by 220-550mg every 12h as needed
Mefenamic acid	500mg initially, followed by 250mg every 6h as needed
Celecoxib	400mg initially, followed by 200mg every 12h as needed

## Case 4 : Primary dysmenorrhea – COCs

Date	History & management
15.11.9	<ul style="list-style-type: none"><li>• 18세, 월경통 심해 내원, 초경 14세<ul style="list-style-type: none"><li>✓ 초경 1년 후부터 월경통 시작</li><li>✓ 진통제 하루에 2-3알 복용 → 효과가 약함</li></ul></li></ul>
	<ul style="list-style-type: none"><li>• US – non-specific finding</li></ul>
	<ul style="list-style-type: none"><li>• Impression : primary dysmenorrhea</li><li>• Treatment : COCs cycling</li></ul>
16.1.4	<ul style="list-style-type: none"><li>• dysmenorrhea improved, still painful</li><li>• COCs + ibuprofen 200mg /q 8h start</li></ul>
16.3.28	<ul style="list-style-type: none"><li>• tolerable dysmenorrhea</li></ul>

# Primary dysmenorrhea : hormonal Tx

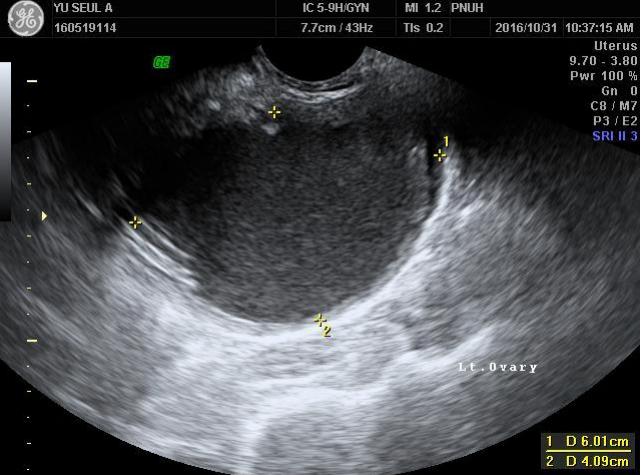
- Combined oral contraceptives
  - prevent or improve dysmenorrhea
    - limiting endometrial growth & reducing amount of endometrial tissue  
→ PG & LT production & intrauterine pressure ↓
    - inhibiting ovulation & subsequent progesterone secretion
  - consistent effect – population & different pill formulation

*Davis AR et al., Obstet Gynecol 2005*  
*Harada T et al., Fertil Steril 2011*

# **Secondary dysmenorrhea**

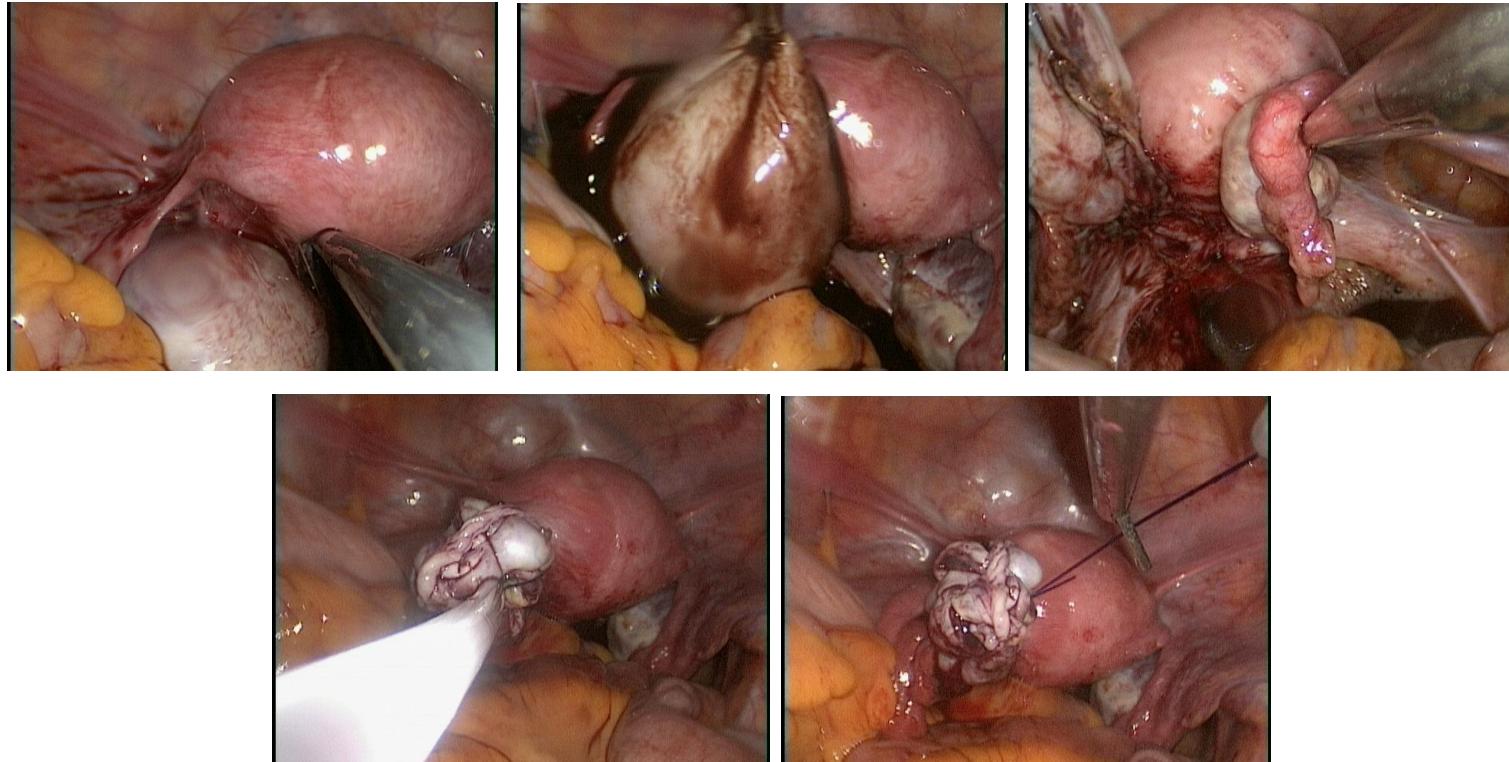
- Endometriosis
- Reproductive Tract Anomalies
- Pelvic adhesions
- Premenstrual syndrome
- Ovarian cyst, neoplasm (rarely)

# Case 5 : Secondary dysmenorrhea – ES

Date	History & management
12년	<ul style="list-style-type: none"><li>• 19세, 심한 월경통으로 local clinic 방문</li><li>• tolerable pain with NSAIDs</li></ul>
16.6.28	<ul style="list-style-type: none"><li>• Intolerable pain with NSAIDs</li><li>• local clinic US – R/O teratoma of Lt. ovary 3.5*2.9cm</li></ul>
16.10.28	<ul style="list-style-type: none"><li>• local clinic US – R/O teratoma of Lt. ovary 5.5*4.0cm</li></ul>
16.10.31	  <p><b>US</b></p> <p><b>CT</b></p>

## **Case 5 : Secondary dysmenorrhea – ES**

- 16.11.16 : laparoscopic Lt. ovarian cystectomy : endometriosis
- 16.11.23 : dienogest 2mg po qd start



# ES in adolescents

- MC cause of SD in adolescents & young adults
- Incidence
  - *Meigs reported in 1948, 6% in all adolescents*
  - 2/3 of adolescent girls with CPP or dysmenorrhea
    - : laparoscopic evidence of ES
  - 1/3 of adolescents with ES : moderate–severe disease  
(50% minimal, 27% mild, 18% moderate, 14% severe)

# ES diagnosis in adolescent

- Markers for adolescent endometriosis

---

Chronic pelvic pain, cyclic and/or **non-cyclic**

Severe dysmenorrhea

**Noncontraceptive use of oral contraceptives for dysmenorrhea**

**Dysmenorrhea resistant to NSAIDs and/or oral contraceptives**

Interference with daily living during menstruation

Dyspareunia and/or pain on defecation during menstruation

History of benign ovarian cysts

Early age of menarche ( $\leq 12$  years) (but not after 14 years)

Family history of endometriosis

---

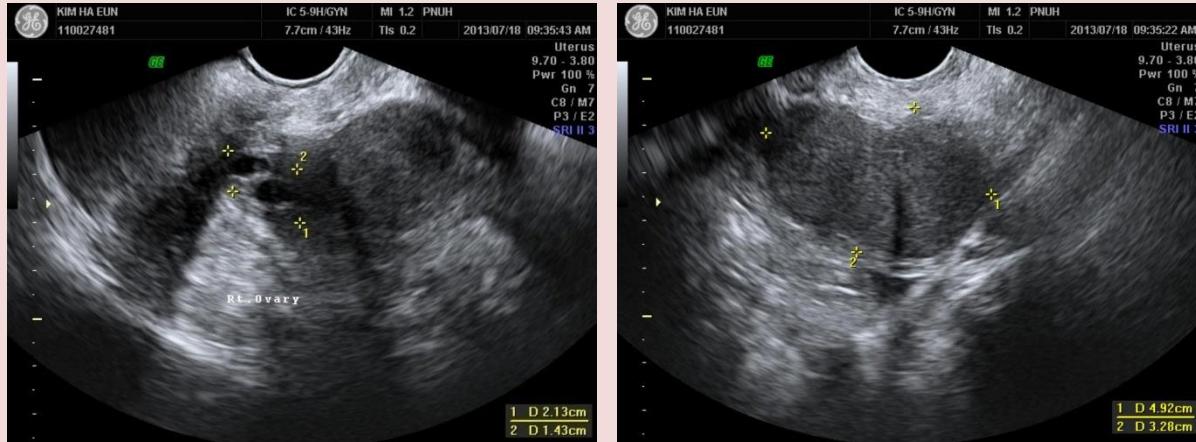
*+ symptomatic improvement does not rule out ES*

Steenberg CK et al., AOGS 2013; Saridogan E. Womens Health 2015

## Case 6 : Secondary dysmenorrhea – recurrent ES

Date	History & management
11.2월	<ul style="list-style-type: none"><li>• 17세, 1년 전부터 심해진 월경통으로 내원</li><li>• 초경 13세</li></ul> <ul style="list-style-type: none"><li>• TRS – 3.43*1.97 / 2.35*1.38cm cysts of Lt. adnexa</li></ul>  
11.2.24	<ul style="list-style-type: none"><li>• Laparoscopic Lt. ovarian cystectomy : ES of Lt. ovary</li></ul>

## Case 6 : Secondary dysmenorrhea – recurrent ES

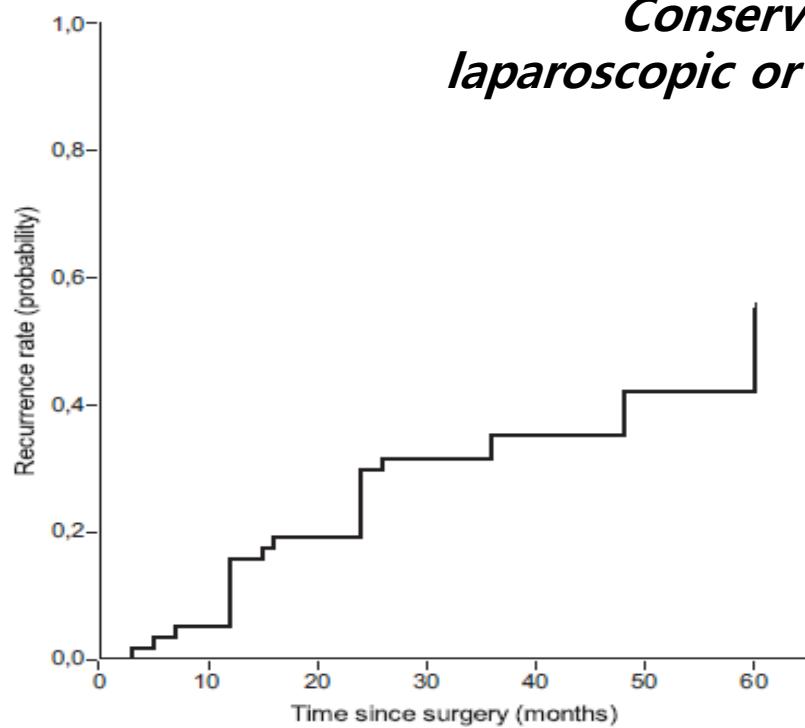
Date	History & management
11.3월 - 8월	<ul style="list-style-type: none"> <li>GnRH agonist with add-back 6cycle</li> </ul>
12.1.5	<ul style="list-style-type: none"> <li>2012.1.5 : yaz 1pack 복용 후 외래 방문 yaz cycling rec. → refused by patient &amp; parents</li> </ul>
13.3.28	<ul style="list-style-type: none"> <li>월경통 다시 발생하여 내원</li> <li>TRS : Lt. ovarian mass, R/O endometrioma 4.9*3.2cm</li> </ul>  <ul style="list-style-type: none"> <li>COCs cycling → mass size 감소, no dysmenorrhea</li> </ul>

# ES : recurrence in adolescent

57 patients  $\leq$  21 yrs  
(mean age :  $19.0 \pm 1.1$  yrs)

No HT : 27 (47%)  
OCPs < 12mo. : 14 (25%)  
OCPs > 12mo. : 16 (28%)

*Conservative  
laparoscopic or laparotomic*



**Recurrence rate at  
5yrs : 56%**

Tandoi I et al., J Pediatr Adolesc Gynecol 2011  
Guo SW. Hum Reprod Update 2009

# ES : GnRH agonist

- Diagnosis
  - empiric GnRH agonist use  
in adult with CPP or suspected ES
  - Tx. of presumed ES for young women over 18 : optional !!
- Postop. treatment
  - over 16yrs
  - add-back therapy, calcium, vitamin D supplementation

**GnRH agonist → permanent bone density loss**

*Laufer MR et al., J Pediatr Adolesc Gynecol 2003*

# ES : progestins

- Paucity of data on use of progestins in teenagers
- Lack of data of LNG-IUS in teenagers
- DMPA data
  - 64% of 12-20yrs girls (n=30) : less dysmenorrhea
  - may lead to relative estrogen deficiency

## FDA ‘Black Box Warning’

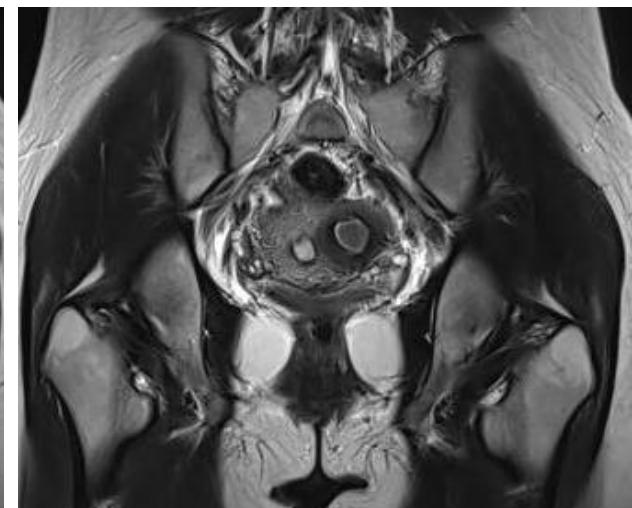
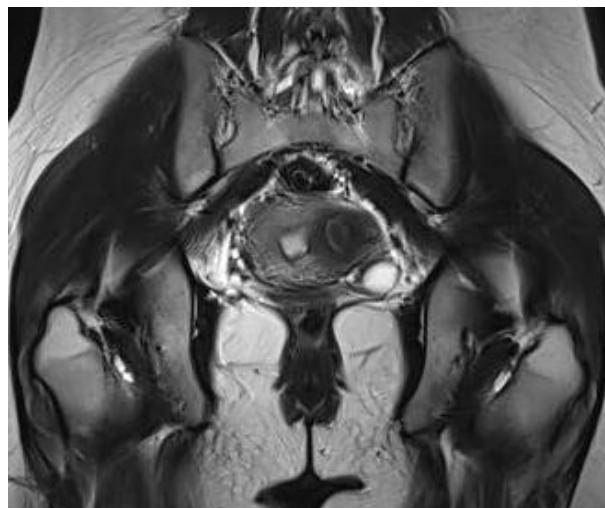
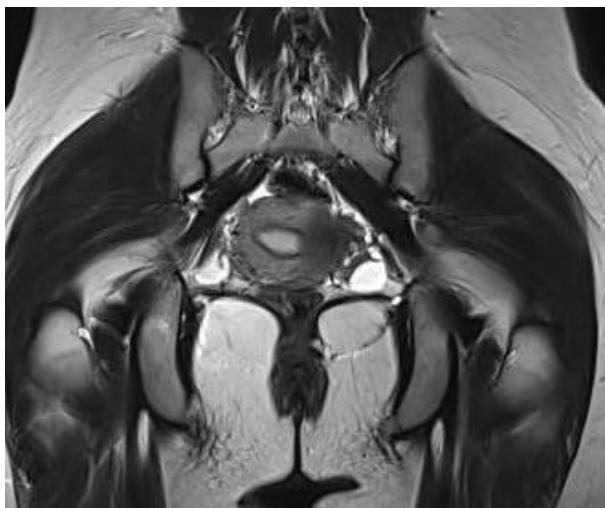
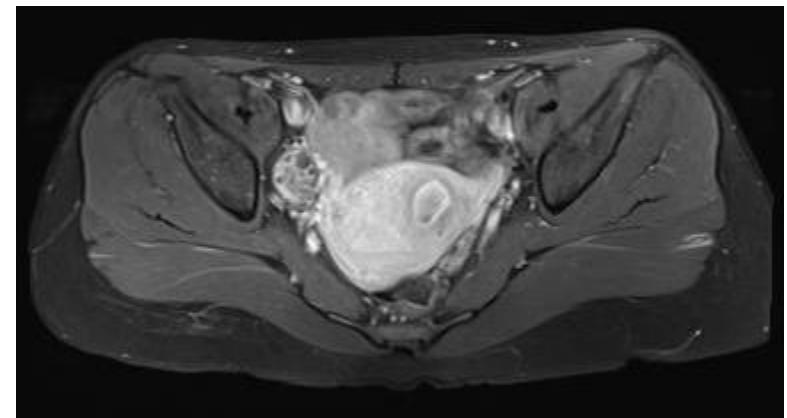
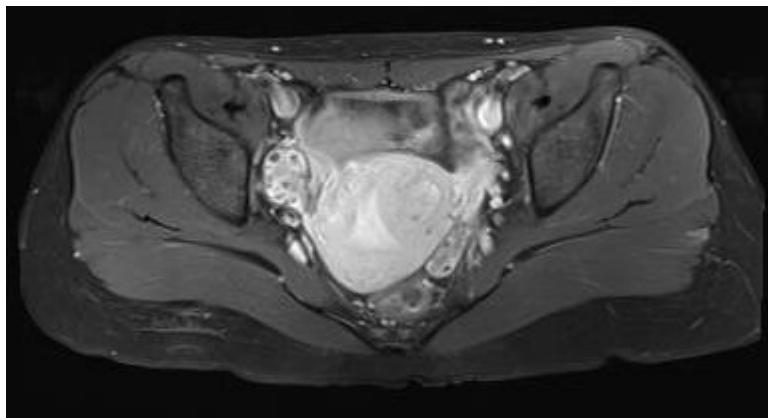
*: longer drug is administered, loss is greater  
: BMD loss may not be completely reversible  
after discontinuation of DMPA*

## Case 7 : Secondary dysmenorrhea – Mullerian anomaly

Date	History & management
16.10월	<ul style="list-style-type: none"><li>• 19세, 심한 월경통으로 내원</li><li>• intolerable pain with NSAIDs, narcotics</li><li>• US – myoma uteri, op. recommended by local clinic</li></ul>
16.10.26	<ul style="list-style-type: none"><li>• US – R/O myoma uteri, 3.03cm</li></ul> 

## **Case 7 : Secondary dysmenorrhea – Mullerian anomaly**

**MR  
pelvis**



**Rudimentary horn of unicornuate uterus with hematometra**

# **Case 7 : Secondary dysmenorrhea – Mullerian anomaly**

## **Op. finding**



**Adenomyosis in myometrium  
Proliferative phase in endometrium**

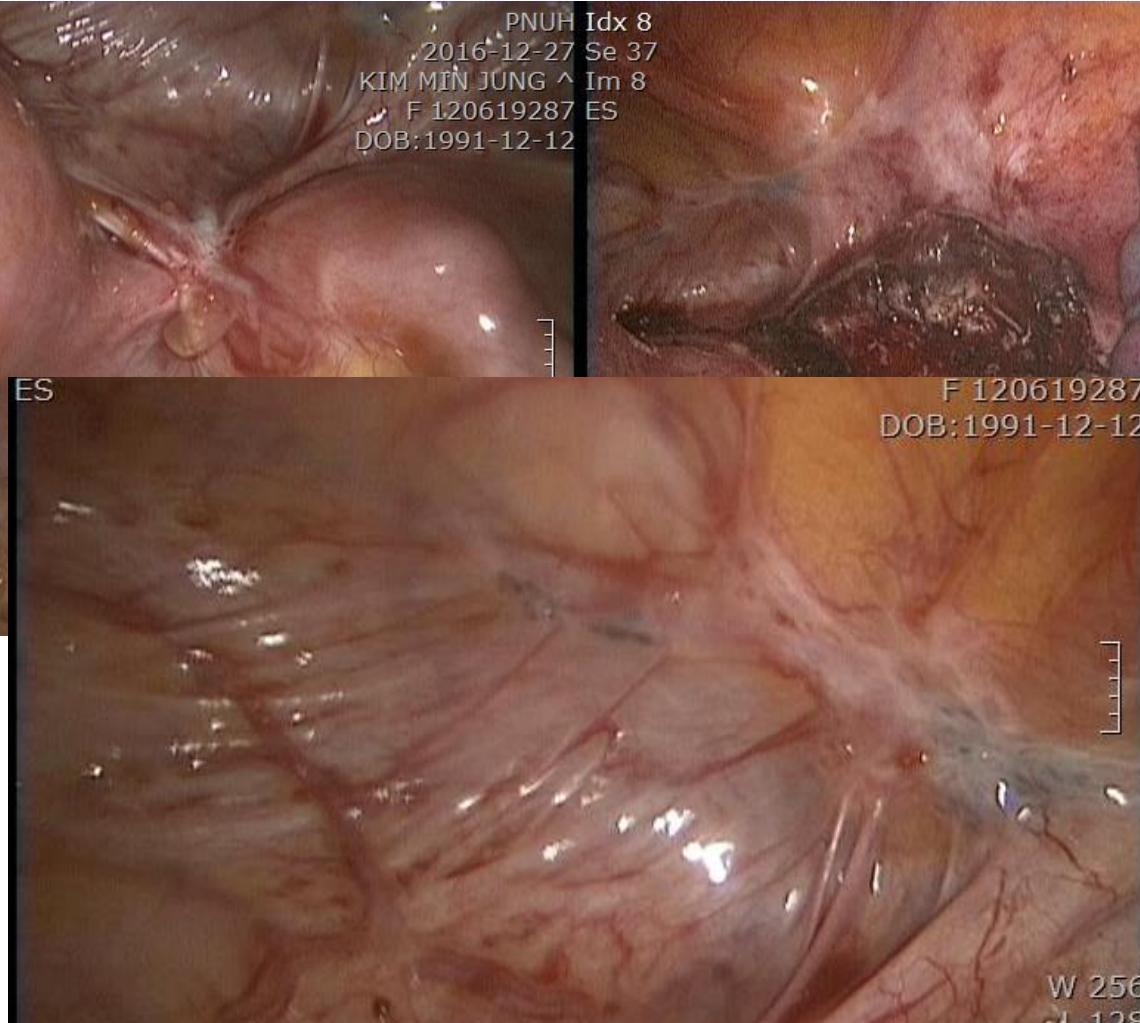
# Case 8 : Secondary dysmenorrhea – Mullerian anomaly

## Op. finding

Idx 2  
Se 37  
Im 2  
ES

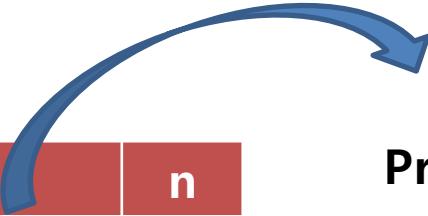
PNUH Idx 8  
2016-12-27 Se 37  
KIM MIN JUNG ^ Im 8  
F 120619287 ES  
DOB:1991-12-12

PNUH  
2016-12-27  
KIM MIN JUNG ^  
F 120619287  
DOB:1991-12-12



# Mullerian anomaly

- Didelphic uterus /c unilateral obstruction
- Imperforate hemivagina & vaginal septum
- Pitfalls in Dx. & Tx.



Major clinical sign	n
Acute pain, surgical abdomen	11
Cyclic, chronic pains	7
Two-step menses	5
Vaginal suppuration	1

**Preop. false Dx. : 9/11**

: appendicitis - 4

: ovarian torsion - 4

: tumor - 1

**Emergency procedure**

: incomplete septum resection - 3

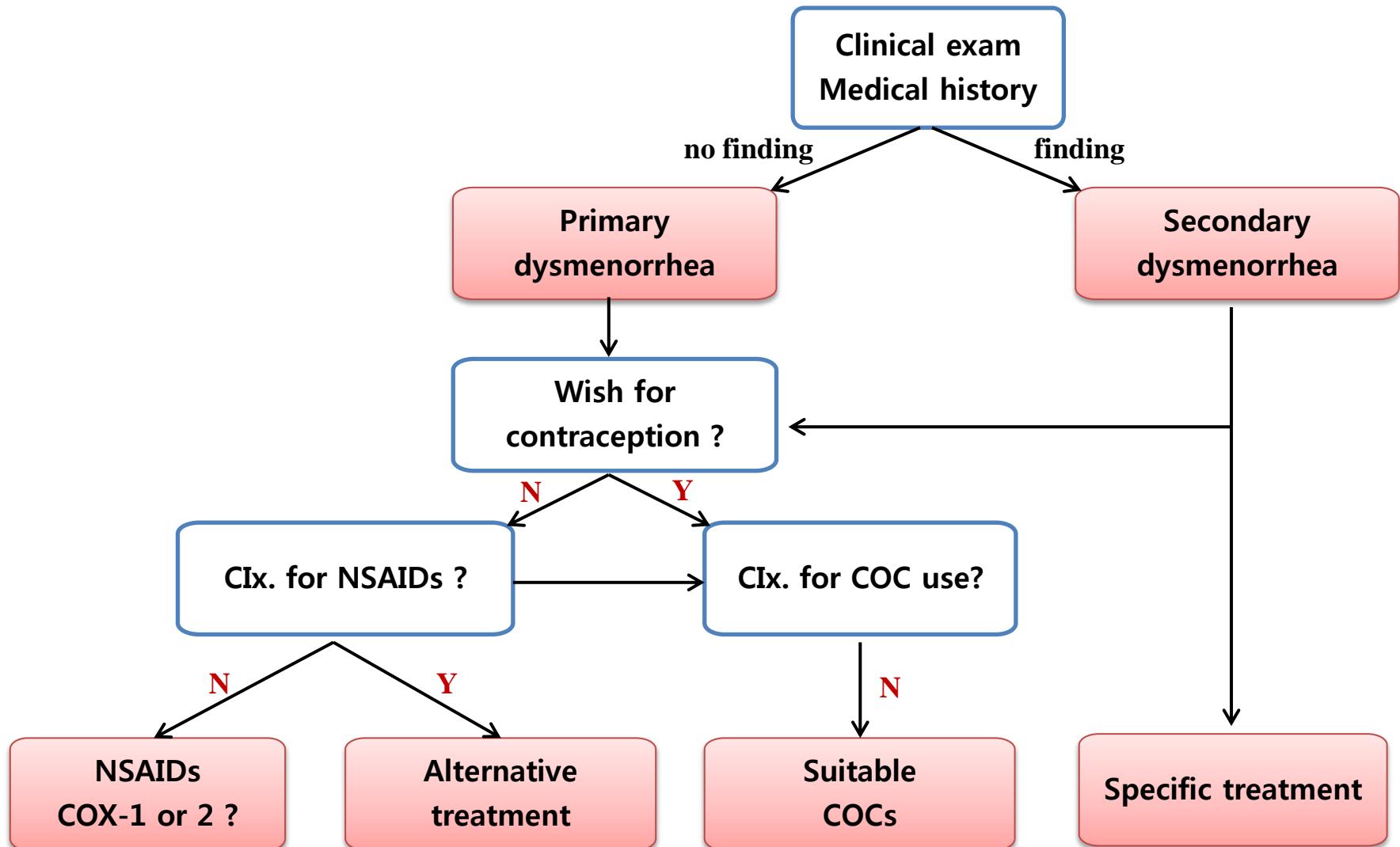
: contralat. hysterectomy - 1

: appendectomy - 1

# Mullerian anomaly : diagnostic W/U for adolescents

- Gynaecological examination with careful evaluation & recording of the external genitalia
- Abdominal &/or transrectal 2D/3D US
  - presence, shape, dimensions of uterus
  - deviations from normal cervical & uterine anatomy
- **MRI as a first-line diagnostic procedure**
- **Hysteroscopy and laparoscopy** should be offered
- Investigation of urinary tract, as mandatory

# Summary (I)



# Summary (II)

Pain on NSAIDs, HT (2-3 cycles) & adversely affecting QOL

1. Surgical & medical Tx can be used
2. Awareness of ES in teenagers

1. Should be aware
2. Radiologic & renal evaluation
3. Laparoscopic & vaginal approach

Secondary dysmenorrhea

Endometriosis

Reproductive Tract Anomalies

Specific treatment

경청해 주셔서  
감사합니다.

