Acute pelvic pain

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Definition

- **Acute pain** is intense and characterized by the sudden onset, sharp rise, and short course.
- **Chronic pelvic pain**
  - Pain of greater than 6 mo in duration
  - Localized to the anatomical pelvis
  - Severe enough to cause functional disability or necessitating medical care

Acute pelvic pain

- **Acute pain is often associated with**
  - Autonomic reflex responses
    - nausea, emesis
    - diaphoresis, apprehension
  - Sign of inflammation or infection
    - fever
    - leukocytosis
  - If inadequately treated and repetitive of acute pain can contributes to chronic pelvic pain

Acute pelvic pain

- Assessing the **character of the pain** is helpful in differential diagnosis
  - **Rapid onset of pain**
    - Perforation of hollow viscus or ischemia
  - **Colic or severe cramping pain**
    - Muscular contraction or obstruction of hollow viscus
  - **Pain perceived over the entire abdomen**
    - Generalized reaction to irritating fluid in peritoneal cavity (blood, purulent fluid, content of ovarian cyst)

Evaluation

- Accurate history
- The date and character of LMP
- Abnormal bleeding or discharge
- History of menstrual, sexual, contraception
- History of STD and previous gynecologic disorder
- Pain history : how and when the pain started
- Gastrointestinal symptom
- Urinary symptom
- Sign of infection : fever, chills

Differential diagnosis of acute pelvic pain

Gynecologic disease or dysfunction : *Acute pain*

- **Complication of pregnancy**
  - Ectopic pregnancy
  - Abortion, threatened or incomplete
- **Acute infection**
  - Endometritis
  - PID or salpingo-oophoritis
  - Tubo-ovarian abscess
- **Adnexal disorders**
  - Hemorrhagic functional ovarian cyst
  - Torsion of adnexa
  - Rupture of functional, neoplastic, or inflammatory ovarian cyst

Differential diagnosis of acute pelvic pain

Gynecologic disease or dysfunction :

Recurrent pelvic pain

- Mittelschmerz (midcycle pain)
- Primary dysmenorrhea
- Secondary dysmenorrhea

Differential diagnosis of acute pelvic pain

- **Gastrointestinal**
  - Gastroenteritis
  - Appendicitis
  - Bowel obstruction
  - Diverticulitis
  - Inflammatory bowel disease
  - Irritable bowel syndrome
- **Genitourinary**
  - Cystitis
  - Pyelonephritis
  - Ureteral lithiasis

Differential diagnosis of acute pelvic pain

- **Musculoskeletal**
  - Abdominal wall hematoma
  - Hernia
- **Other**
  - Acute porphyria
  - Pelvic thrombophlebitis
  - Aortic aneurysm
  - Abdominal angina

Reproductive tract

- **Abnormal pregnancy**
  - **Ectopic pregnancy** : implantation of the fetus in a site other than uterine cavity
  - **Symptom**
    - Triad : a period of amenorrhea followed by bleeding and abdominal pain
  - **Sign**
    - Abdomen : tender with guarding in one/both LQ
    - Hemoperitoneum : generalized abdominal distension and rebound tenderness
    - PV : mild tender on cervix excitation, adnexal tenderness on the side of lesion

Reproductive tract

- **Leakage or Rupture ovarian cyst**
  - The pain associated with rupture of the ovarian follicle at the time of ovulation is called "Mittelschmerz"
  - Hemorrhagic corpus luteam cyst **(most common)**
  - Nonmalignant neoplasms : teratomas, cystadenomas, inflammatory ovarian masses (endometriomas)

Reproductive tract

- **Leakage or Rupture ovarian cyst**
  - **Symptom** : sudden onset abdominal pain, occasional dizziness or syncope if develops hemoperitoneum
  - **Sign**
    - abdominal tenderness, rebound tender from peritoneal irritation
    - PV : palpable mass
  - **Diagnosis** : pregnancy test, CBC, ultrasound or culdocentesis (Hct $\leq$16% → not a hemoperitoneum)

Reproductive tract

- **Leakage or Rupture ovarian cyst**
  - Management : culdocentesis
    - Fresh blood → corpus luteum
    - Chocolate "old" blood → endometrioma
    - Oily sebaceous fluid → benign teratoma
    - Purulent fluid → PID or TOA
  - Patient who do not have hemoperitoneum can be observe in the hospital, without surgical intervention

Reproductive tract

- **Torsion of adnexa**
  - Torsion of the vascular pedicle of an ovary, fallopian tube, paratubal cyst → ischemia and rapid onset of acute pelvic pain
  - Most common : benign cystic teratoma
  - **Symptom**
    - Severe and constant or intermittent pain
    - The onset often coincide with lifting, exercise or intercourse
  - **Sign**
    - Abdomen : tender, localized rebound tender, large pelvic mass
    - Acute pain with unilateral adnexal mass

Reproductive tract

- **Torsion of adnexa**
  - **Diagnosis**
    - PV : palpated mass
    - Visualized by ultrasound
  - **Management**
    - Adnexal torsion must be treated surgically
    - If not infarcted → untwisted and cystectomy
    - Necrosis → oophorectomy (previously)
      → sparing adnexa can preserve ovarian hormonal and reproductive function (now)

Reproductive tract

- **PID or Acute salpingo-oophoritis**
  - **Symptom**
    - Gonococcal PID : acute pelvic pain, fever, purulent vaginal discharge, sometimes N/V
    - Chlamydial salpingo-oophoritis : more insidious symptoms (can be confused with IBS)
  - **Sign**
    - **most important → cervical motion tenderness and bilateral adnexal tenderness**
    - Leukocytosis, elevated ESR
  - **Diagnosis**
    - Laparoscopy

Reproductive tract

- **Tubo-ovarian abscess**
  - A sequelae of salpingitis, usually bilateral
  - Sign and symptom are similar to salpingitis, but pain and fever often longer than 1 wk
  - **Sign**
    - PV → bilateral fixed and firm masses with tender
  - **Diagnosis**
    - Ultrasound
    - Laparoscopy or laparotomy
  - **Management**
    - Ruptured TOA → exploratory laparotomy with resection of infected tissue

Reproductive tract

- **Uterine leiomyomas**
  - Discomfort may be present with : **intramural/ fundal** myoma, adjacent bladder/rectum
  - The pain usually dysmenorrhea, dyspareunia or noncyclic pelvic pain
  - **Degeneration of myoma** : secondary to loss of blood supply, associated with rapid growth (pregnancy)
  - **Pedunculated subserosal myoma** → torsion
  - **Pedunculated submucous myoma** → uterus contracts or cramping pain (associated with hemorrhage)

Reproductive tract

- **Uterine leiomyomas**
  - **Sign**
    - Abdomen : irregular solid mass from uterus
    - Degeneration : inflammation → abdominal tender, fever, leukocytosis
  - **Diagnosis and management**
    - Ultrasound
    - Degenerated myoma → observation and pain control
    - Subserous myoma → excised laparoscopically
    - Submucous myoma → excised transcervically

Reproductive tract

- **Endometriosis**
  - **History**
    - dysmenorrhea, dyspareunia, dyschezia, luteal phase bleeding, infertility
    - Nonmenstrual acute pain → ruptured endometrioma should be considered
  - **Sign**
    - Tender at lower abdomen
    - PV : fixed retroverted uterus with tender nodules in uterosacral region or thickening of cul-de-sac
  - **Diagnosis**
    - Trial of ovarian hormonal suppression (pseudomenopause)

Gastrointestinal tract

- **Acute appendicitis**
  - The most common intestinal source of acute pelvic pain in women
  - **Symptom**
    - Diffuse abdominal pain, especially periumbilicus → the pain shifts to RLQ
    - Anorexia, N/V, obstipation, fever, chills
  - **Sign**
    - Abdomen : tender at McBurney point, guading, rebound tender, Right-sided mass, tender on PR, positive psoas sign and obturator sign
    - PV : no cervical motion tender or bilateral adnexal tender

Gastrointestinal tract

- Acute appendicitis
  - Diagnostic
    - Ultrasound : pelvic organs appeared normal
    - CT with contrast : normal filling of appendix → R/O appendicitis
    - Diagnostic laparoscopy : R/O pelvic pathology
  - Management
    - NPO, IV fluid
    - Preoperative antibiotics
    - Laparoscopy or laparotomy

Gastrointestinal tract

- **Acute diverticulitis**
  - The inflammation of diverticulum (usually sigmoid colon), typically in postmenopausal women
  - **Symptom**
    - Severe LLQ pain, Hx. of symptom of irritable bowel
    - Fever, chills, constipation
  - **Sign**
    - Abdomen : distension, tender at LLQ, rebound tender
  - **Diagnostic and Management**
    - CT
    - NPO, IV fluid, broad-spectrum IV ATB
    - Abscess, obstruction, or perforation require surgical intervention

Gastrointestinal tract

- **Intestinal obstruction**
  - Most common cause in women : **postsurgical adhesion**, hernia formation, inflammatory bowel disease and carcinoma of the bowel or ovary
  - **Symptom :** colicky abdominal pain, distension, N/V, constipation and obstipation
  - **Sign**
    - Abdomen : distension, hyper/hypoactive bowel sound
    - Fever, leukocytosis
  - **Diagnostic and Management**
    - Film acute abdomen series
    - Conservative or Surgical management

Urinary tract

- **Urinary tract infection**
  - Ureteral colic, cystitis, pyelonephritis can produced acute pelvic pain
  - **Symptom and Sign**
    - Stone : severe and crampy pain from CVA to groin
    - Cystits : dull suprapubic pain, abnormal urination
    - Pyelonephritis : flank/CVA pain, lateralizing lower abdominal pain
  - **Diagnostic** : UA, ultrasound or CT of KUB
  - **Management** : expectant (IV ATB) or surgery for renal lithiasis

Diagnostic tool for evaluation of acute pelvic pain

- **Investigation** for reproductive age with acute pelvic pain
  - **CBC, ESR, UA, UPT**
  - Other : pelvic ultrasound, culdocentesis with Hct of bloody fluid, G/S with C/S of purulent fluid, film abdomen series, CT
  - Diagnostic laparoscopy
    - for diagnosis acute abdomen with uncertain cause
    - Relatively contraindication in patient with peritonitis, severe ileus or bowel obstruction

ΑΠΟΣΤΟΛΟΣ ΚΑΠΩΝΗΣ
ΕΠ. ΚΑΘΗΓΗΤΗΣ ΜΑΙΕΥΤΙΚΗΣ & ΓΥΝΑΙΚΟΛΟΓΙΑΣ
ΙΑΤΡΙΚΗ ΣΧΟΛΗ ΠΑΝ/ΜΙΟΥ ΠΑΤΡΩΝ

Chronic Pelvic Pain

What is It?

What Causes It?

Symptoms?

How are You Diagnosed?

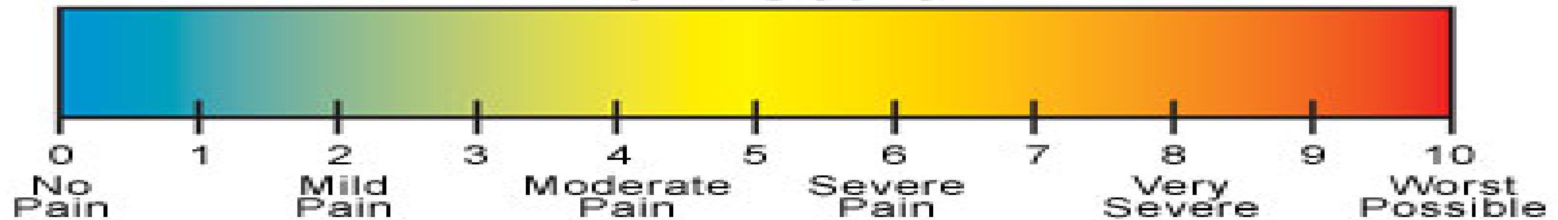
What are the Treatment Options?

ΟΡΙΣΜΟΣ

- Συνεχής ή διαλείπων πόνος, ο οποίος έχει διάρκεια >6 μήνες, μπορεί να είναι ανεξάρτητος της εμμήνου ρύσεως & της σεξουαλικής επαφής ή να σχετίζεται με αυτές και εντοπίζεται στην κάτω κοιλία.

- Είναι σύμπτωμα - όχι διάγνωση

PAIN



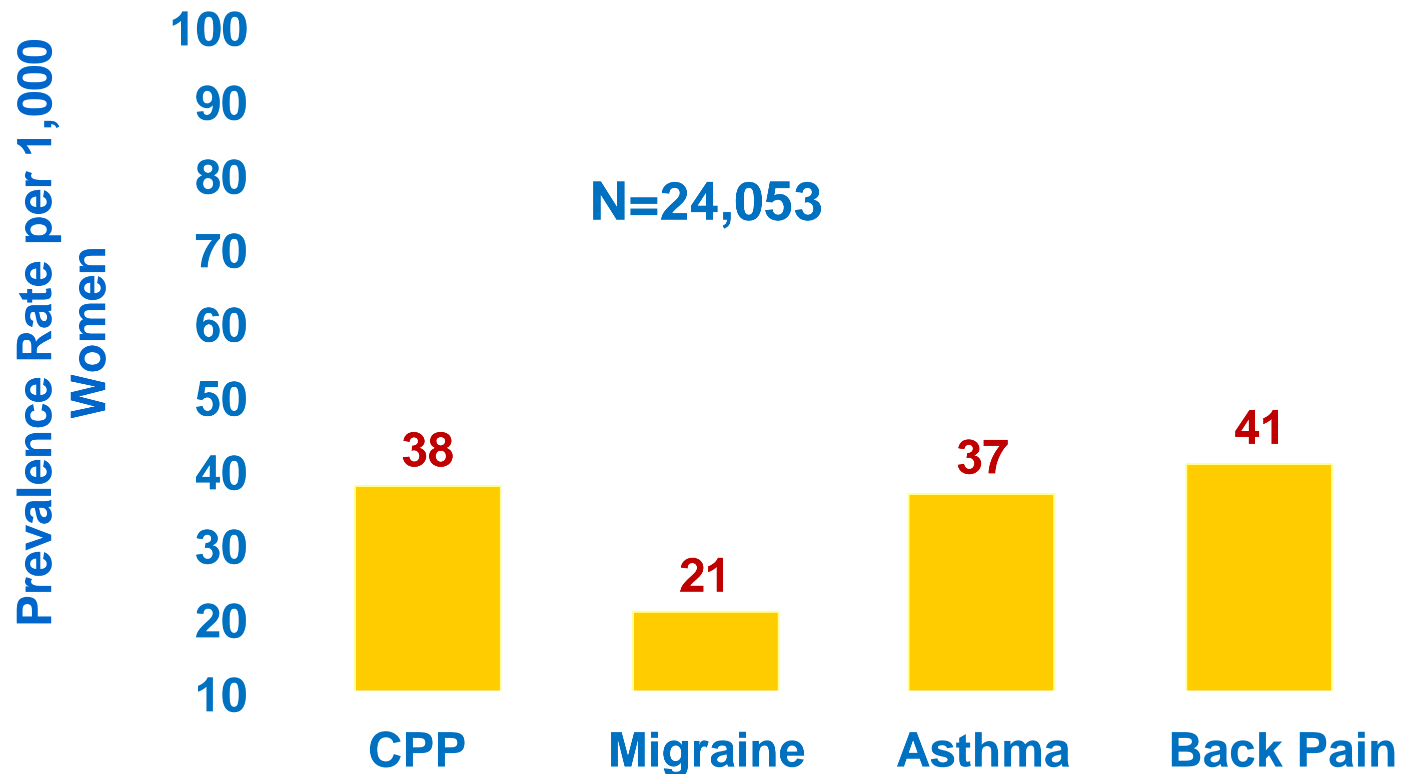
"AN UNPLEASANT SENSORY AND EMOTIONAL EXPERIENCE ASSOCIATED WITH ACTUAL OR POTENTIAL TISSUE DAMAGE"*

** INTERNATIONAL ASSOCIATION FOR THE STUDY OF PAIN*

ΕΠΙΔΗΜΙΟΛΟΓΙΑ

- Δυσχερής η διάγνωση, η αντιμετώπιση και η ίαση του CPP.
- Επίπτωση CPP: 3.8%, όταν το άσθμα έχει επίπτωση 3.7% και η οσφυαλγία 4.1%.
- 15-20% γυναικών 15-73 ετών έχουν συμπτωματολογία CPP> 1έτους

Prevalence of CPP is Comparable to Other Common Medical Problems



- Cross-sectional analysis by UK Mediplus Primary Care database.

Zondervan KT et al. *Br J Obstet Gynaecol*. 1999:106;1149-1155.

Ενδείξεις ότι το CPP αποτελεί αιτία για

-10-20% των επισκέψεων στους γυναικολόγους

-20-30% διαγνωστικών λαπαροσκοπήσεων

-10-12% υστερεκτομών

→**Επιπροσθέτως** 1/3 των γυναικών με CPP δε λαμβάνουν ιατρική συμβουλή

BMJ 2006

ΣΥΝΕΠΕΙΕΣ CPP

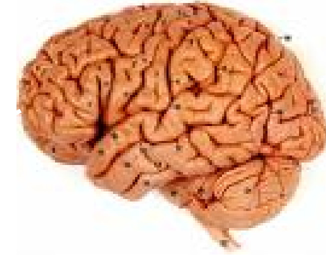
- Γυναίκες που πάσχουν από CPP λαμβάνουν 3πλάσια φαρμακευτική αγωγή, υποβάλλονται σε 4πλάσιο αριθμό γυναικολογικών επεμβάσεων και έχουν 5πλάσιο κίνδυνο για υστερεκτομή.
- Το 60% των εργαζομένων γυναικών αναφέρουν περιορισμένες δραστηριότητες.
- Στις ΗΠΑ: κόστος διαχείρισης εξωτερικών ασθενών~882 million $/year
- Συνολικό κόστος~2 billion $/year

ΔΗΜΟΓΡΑΦΙΚΑ -ΠΑΡΑΓΟΝΤΕΣ ΚΙΝΔΥΝΟΥ

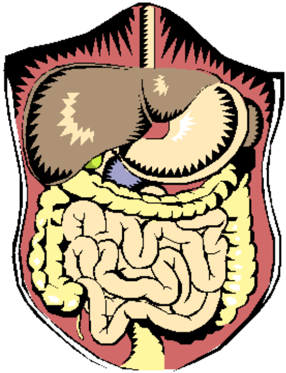
- Μεγαλύτερη επίπτωση σε γυναίκες αναπαραγωγικής ηλικίας, άγαμες ή διαζευγμένες, υψηλού κοινωνικοοικονομικού επιπέδου.
- BMI<20, πρώιμη εμμηναρχή(<12yr), μηνορραγίες, αποβολές, καισαρική τομή, σεξουαλική κακοποίηση, άγχος και κατάθλιψη σχετίζονται με αυξημένη πιθανότητα εμφάνισης CPP.

ETIOLOGY

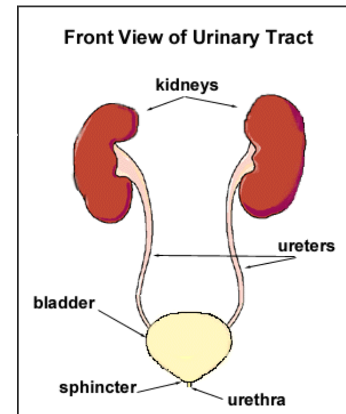
Psychological

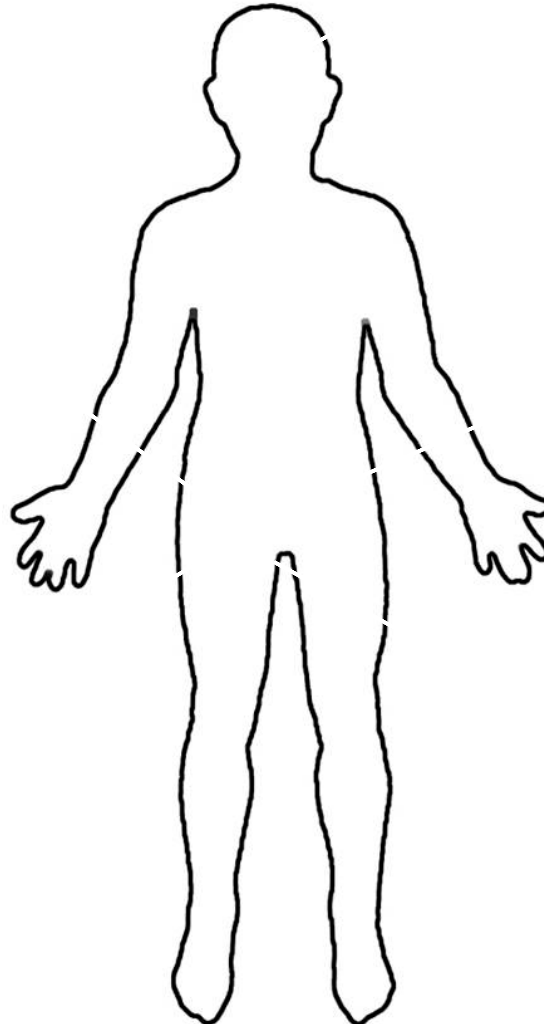


Gastrointestinal

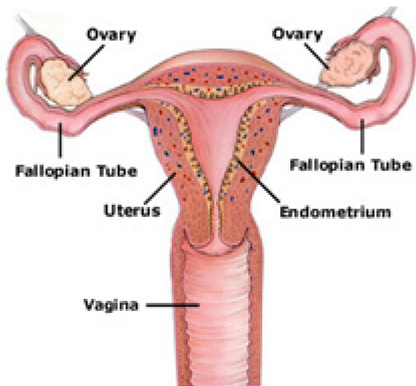


Urological

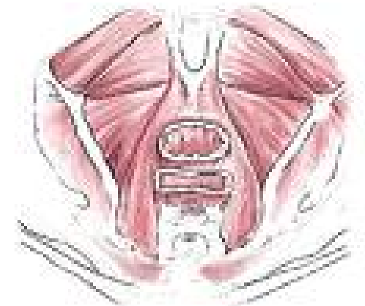




Gynecological



Musculoskeletal

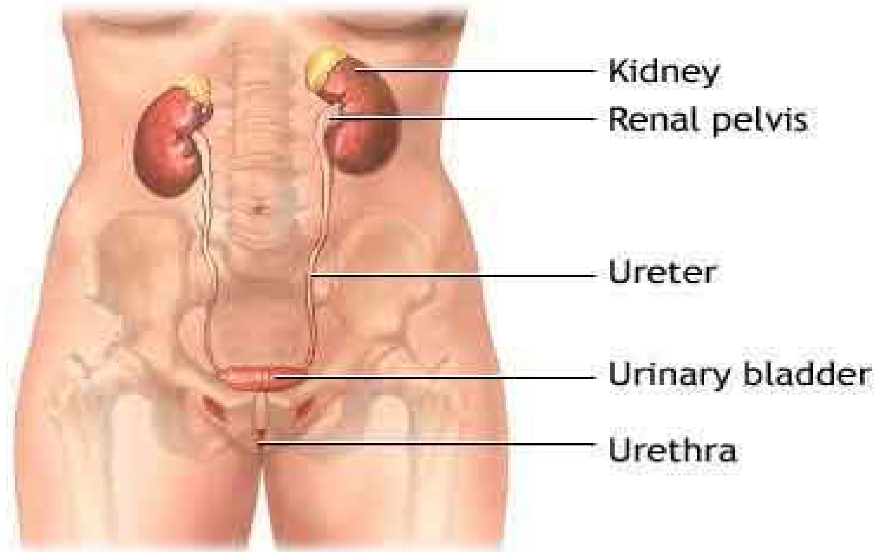


ΑΙΤΙΟΛΟΓΙΑ

- ΓΥΝΑΙΚΟΛΟΓΙΚΑ

-Ενδομητρίωση
-Ενδοκοιλιακές συμφύσεις
-Χρόνια πυελική φλεγμονή
-Αδενομύωση
-Σύνδρομο πυελικής συμφόρησης
-Σύνδρομο υπολειπόμενης ωοθήκης
-Όγκοι των ωοθηκών
-Ευμεγέθη ινομυώματα μήτρας
-Χρόνια ενδομητρίτιδα

ΑΙΤΙΟΛ



- ΟΥΡΟΛΟΓΙΚΑ

-Διάμεσος κυστίτιδα (IC η BPS η PBS)

-Λιθίαση

-Χρόνια βακτηριδιακή κυστίτιδα

-Εκκολπωμάτωση της ουρήθρας

-Ca ουροδόχου κύστης

ΑΙΤΙΟΛΟΓΙ

- ΓΑΣΤΡΕΝΤΕΡΟΛΟΓΙΚΑ

-Σύνδρομο ευερέθιστου εντέρου (IBS)

-Ιδιοπαθής Φλεγμονώδης Νόσος του Εντέρου (Ελκώδης κολίτιδα / Νόσος του Crohn)

-Εκκολπωμάτωση του εντέρου

-Ca παχέως εντέρου

ΑΙΤΙΟΛΟ

- ΜΥΟΣΚΕΛΕΤΙΚΑ

-Μυαλγία του πυελικού εδάφους

-Νευραλγία λαγονοϋπογαστρίου, λαγονοβουβωνικού και αιδοιομηρικού νεύρου

-Κήλη μεσοσπονδυλίου δίσκου

-Οσφυαλγία

-Κήλες (μηροκήλη, βουβωνοκήλη κ.α.)

-Εκφυλιστική αρθροπάθεια

ΑΙΤΙΟΛ

- ΨΥΧΟΛΟΓΙΚΑ

-Κατάθλιψη

-Ιστορικό σεξουαλικής κακοποίησης, βιασμού

-Άγχος

-Εξάρτηση από ναρκωτικές ουσίες

-↓ ουδός πόνου → οικογενειακές, επαγγελματικές, κοινωνικές επιπτώσεις

ΔΙΑΓΝΩΣΤΙΚΗ ΠΡΟΣΕ

- Ιστορικό
- Φυσική εξέταση
- Εργαστηριακός – απεικονιστικός έλεγχος
- Ειδικές εξετάσεις(ουρολογικές, γαστρεντερολογικές, ορθοπεδικές)
- **Διαγνωστική λαπαροσκόπηση**

	History	Relevance
1.	Age	Reproductive age group
2.	Parity	Infertility, Nulliparity – endometriosis, PID Multiparity – pelvic relaxation, osteopenia
3.	Occupation	Long standing, heavy weight lifting – pelvic congestion syndrome
4.	Pain History (pneumonic – ODD PAINS)	Onset: usually gradual or insiduous Duration: more than 3 to 6 months Distribution: pain mapping Precipitating event: surgery, accident, death of loved one Aggravating or relieving factors: defecation, coitus Intensity: visual analog scale Nature: sharp shooting, dull aching Symptoms associated: bowel-bladder symptoms
5.	Treatment History	medical, surgical, physiotherapy, psychiatric
6.	Personal History	addiction, drug abuse, bladder-bowel habits, sleep pattern, contraceptive use, sexual relations, social life, physical or sexual assault
7.	Menstrual History	dysmenorrhea, menorrhagia or other menstrual abnormalities, premenstrual symptoms
8.	Family History	endometriosis, cancers, depression or other psychiatric problems
9.	Obstetric History	number of pregnancies and their outcome; abortions (how, why, when); antenatal problems like excessive weight gain, proper calcium intake; mode of delivery (vaginal or cesarean), details of delivery (duration, instrumentation, episiotomy); postnatal period, breast feeding, interval between successive pregnancies

International Pelvic Pain Society Asssment Form

Pelvic Pain Assessment Form

Physician: ______________________

Initial History and Physical Exam

Date: ______________

Contact Information

Name: ______________________ Birth Date: __________ Chart Number: __________

Phone: Work: ______________________ Home: ______________________

Is there an alternate contact if we cannot reach you? ______________________

Alternate contact phone number: ______________________

Information About Your Pain

Please describe your pain problem: ______________________

What do you think is causing your pain? ______________________

What does your family think is causing your pain? ______________________

Do you think anyone is to blame for your pain? ❑ Yes ❑ No If so, who? ______________________

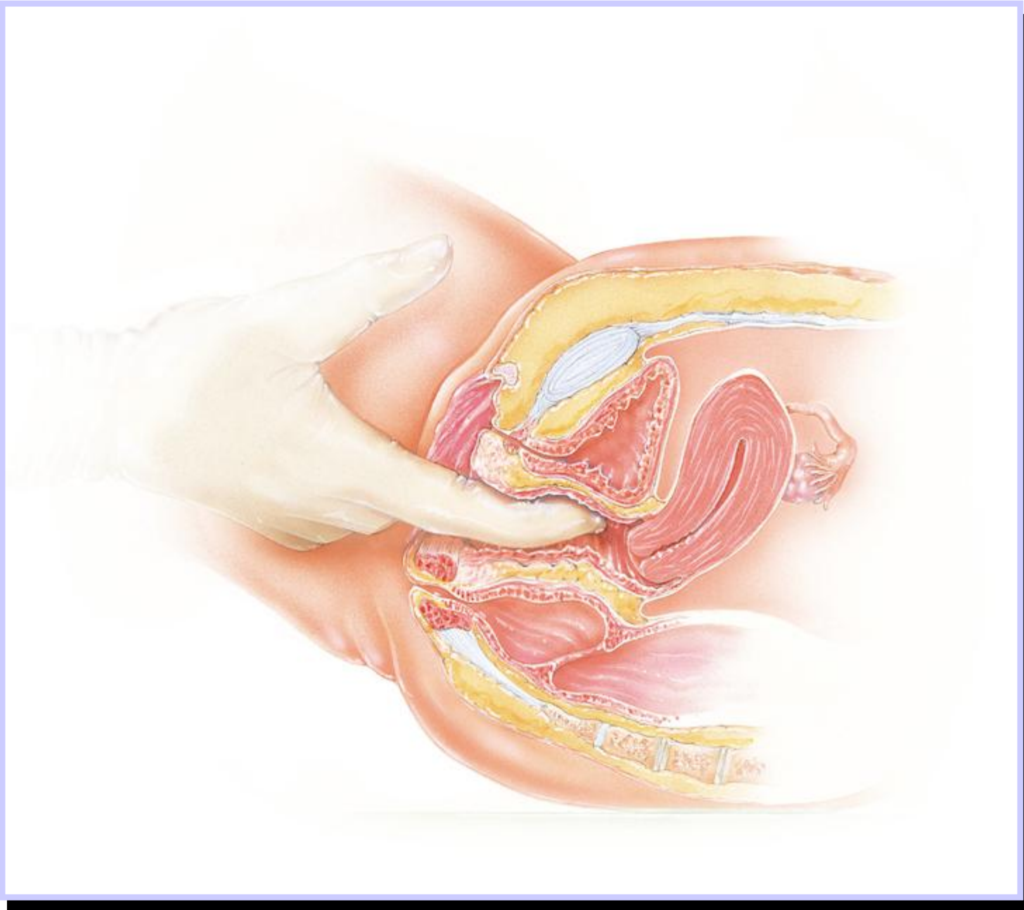
Do you think surgery will be necessary? ❑ Yes ❑ No

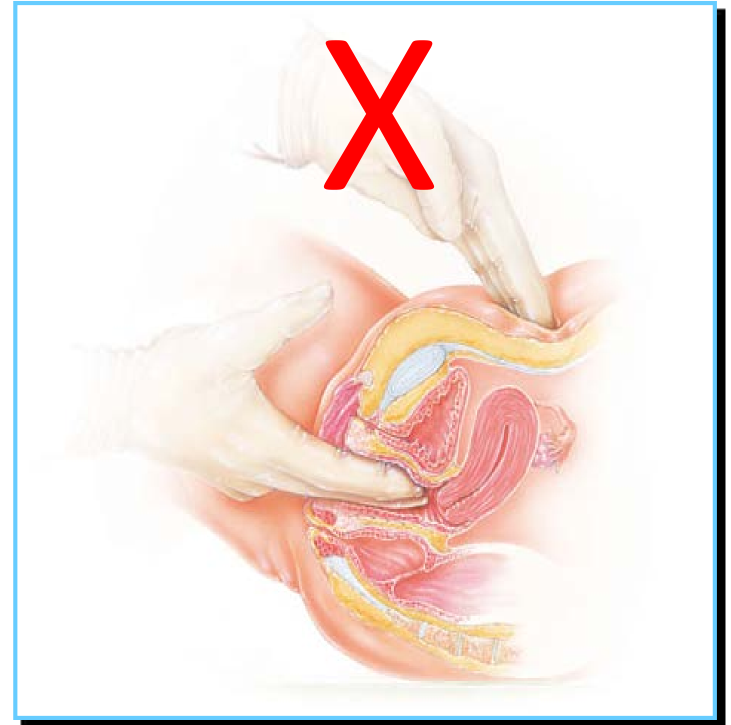
Is there an event that you associate with the onset of pain? ❑ Yes ❑ No If so, what? ______________________

How long have you had this pain? ❑ < 6 months ❑ 6 months – 1 year ❑ 1 – 2 years ❑ > 2 years

Physical Examination: Pelvic

Patient Evaluation for Bladder Tenderness





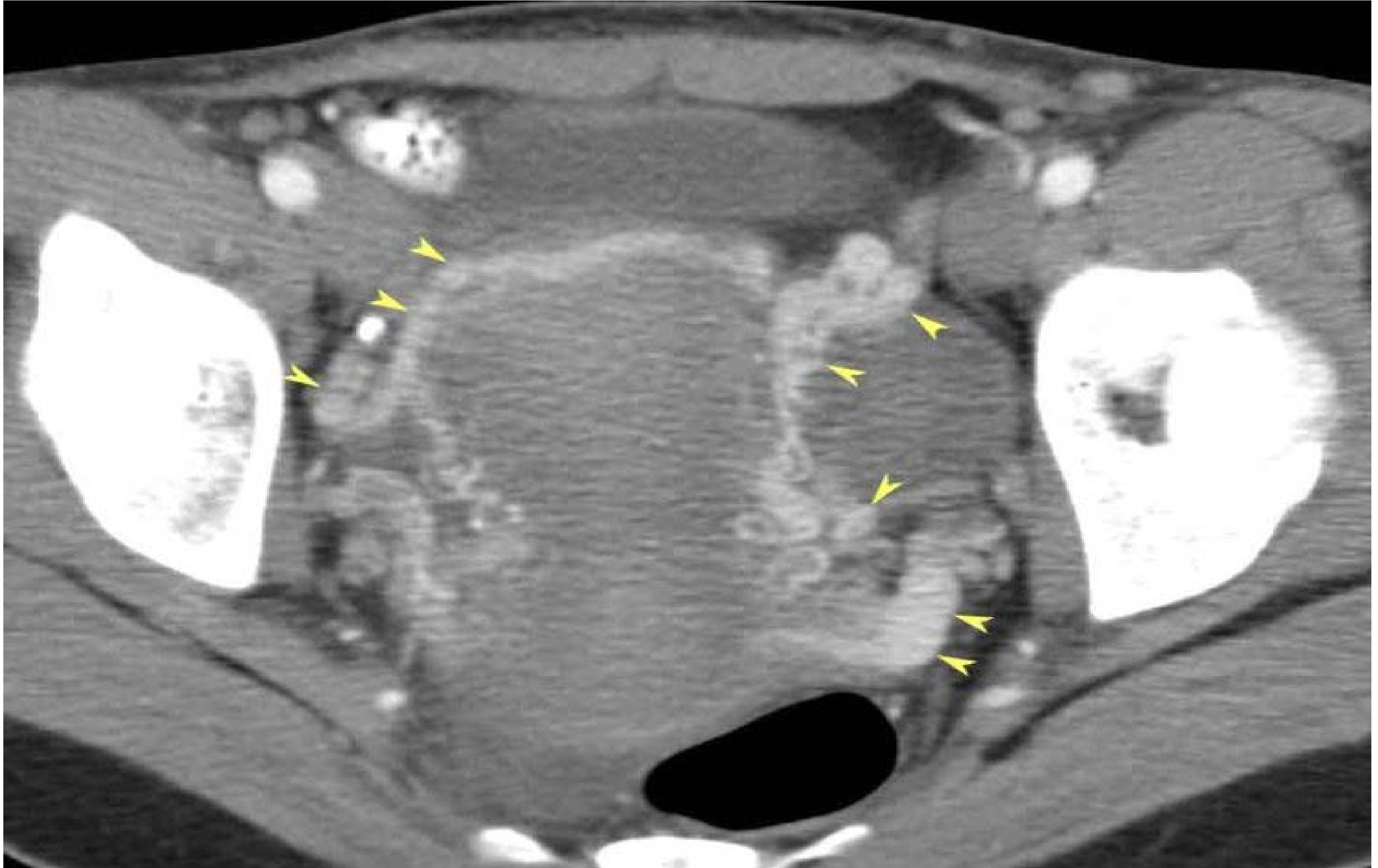
Diagnosis: Objective Evaluative Tools

Basic Testing

- Pap Smear
- Gonorrhea and Chlamydia
- Wet Mount
- Urinalysis
- Urine Culture
- Pregnancy Test
- CBC, ESR, CRP
- Pelvic US

Specialized Testing

- MRI or CT Scan
- Endometrial Biopsy
- Laparoscopy
- Cystoscopy
- Urodynamic Testing
- Urine Cytology
- Colonoscopy
- Electrophysiologic study
- Referral to Specialists



ΑΙΤΙΟΛΟΓΙΑ

- Πληθυσμιακές μελέτες: GI (37%), Urin
  Gynae (20%).

- Laparoscopic findings: No pathology (35%), Endometriosis (33%), Adhesions (24%).

- 2 πολύ συχνές αιτίες CPP: η **Ενδομητρίωση** και η **Διάμεση Κυστίτις (IC/BPS/PBS)**

ΕΝΔΟΜΗΤΡΙΩΣΗ

- Η παρουσία και η ανάπτυξη ιστολογικών στοιχείων παρόμοιων με ενδομητρικούς αδένες και στρώμα σε ανατομικά όργανα και ιστούς εκτός της μήτρας που καταλήγει σε μια χρόνια φλεγμονώδη αντίδραση ονομάζεται ενδομητρίωση.

- Αινιγματική νόσος άγνωστης αιτιολογίας.

ΥΠΟΤΥΠΟΙ ΕΝΔΟΜΗΤΡΙΩΣΗΣ

- Επιπολής ενδομητριωσικές εμφυτεύσεις(η νόσος κυρίως εντοπίζεται στο περιτόναιο)
- Ενδομητριώματα(κύστεις ωοθήκης)
- Βαθιά διεισδυτική ενδομητρίωση(εντόπιση οζιδίων ενδομητρίωσης κυρίως ορθοκολπικά)

Nisolle M. et al
Fertil Steril 1997

ΔΗΜΟΓΡΑΦΙΚΑ

- 6-10% γυναικών αναπαραγωγικής ηλικίας
- Εντοπίζεται σε γυναίκες ηλικίας 12-80 ετών
- Στα 28 έτη κατά μέσο όρο η διάγνωση
- Γυναίκες με ενδομητρίωση προσέρχονται στον γυναικολόγο με
  → CPP(71-87%)
  → CPP ανθεκτικό σε διάφορες θεραπείες(69%)
  → Υπογονιμότητα(21-47%)

T. Falcone et al
Obstet Gynecol 2011

ΠΑΡΑΓΟΝΤΕΣ ΚΙΝΔΥΝΟΥ

- Πρώιμη εμμηναρχή(πριν τα 12 έτη)
- Μικρής διάρκειας εμμηνορυσιακοί κύκλοι(διάρκεια<28 ημερών)
- Ατοκία
- Οικογενειακό ιστορικό(α' βαθμού συγγενείς → x 7-10 risk)
- Μηνορραγίες, διάρκεια εμμήνου ρύσεως> 7 ημέρες
- Χαμηλό βάρος γέννησης
- Γυναίκες με πράσινα ή μπλε μάτια ή με μεγάλο αριθμό φακίδων

ΑΙΤΙΟΛΟΓΙΑ - ΠΑΘΟΓΕΝΕΣΗ

- Άγνωστη η αιτιολογία, έχουν αναπτυχθεί 4 θεωρίες:

→ παλινδρόμηση ενδομητρικών αδενίων και στρώματος κατά την εμμηνορυσία

→ αιματογενής ή λεμφογενής επέκταση

→ μεταπλασία περιτοναϊκού μεσοθηλίου

→ μεταφορά stem cells

ΑΙΤΙΟΛΟΓΙΑ – ΠΑΘΟΓΕΝΕΣΗ

- ↑ δραστηριότητα COX-2→↑PGs και
  ↑ δραστηριότητα αρωματάσης →
  ↑ οιστρογόνων
- Χρόνια φλεγμονώδη αντίδραση με παρουσία ενεργοποιημένων μακροφάγων και προφλεγμονωδών κυτταροκινών(TNF-a, IL-1, IL-6, IL-8)
- ↑ έκφραση Nerve Growth Factor

ΚΛΙΝΙΚΕΣ ΕΚΔΗΛΩΣΕΙΣ ΕΝΔΟΜΗΤΡΙΩΣΗΣ

Dysmenorrhea: esp. secondary, worsening, extending to premenstrual and/or postmenstrual phases of the cycle

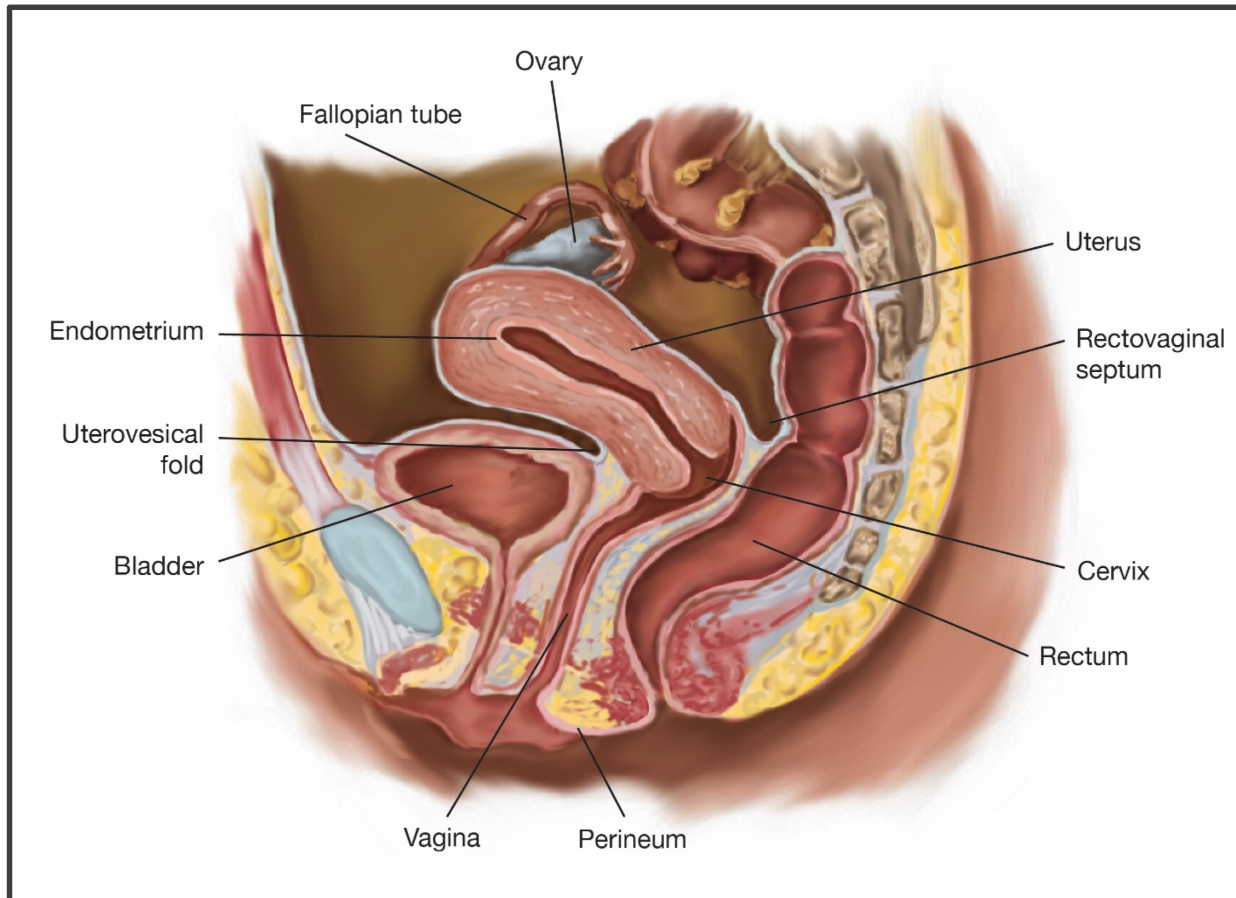
Pelvic pain outside menses, pain often dull, aching, radiating to back and/or thighs

Dyspareunia: especially on deep penetration, positional, cyclic aggravation

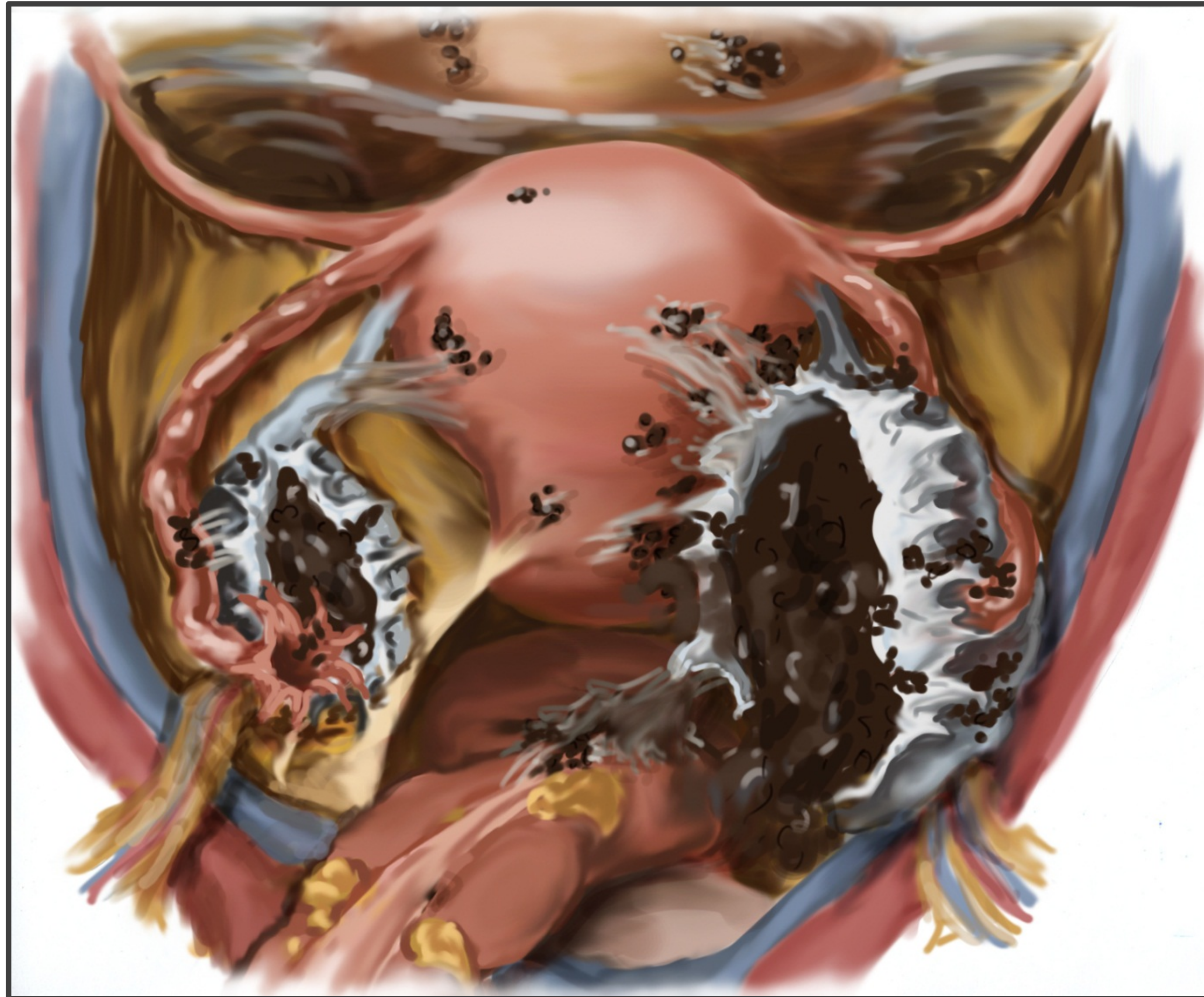
Cyclic symptoms including dyschesia, hematochesia, hematuria, hemoptysis

Infertility

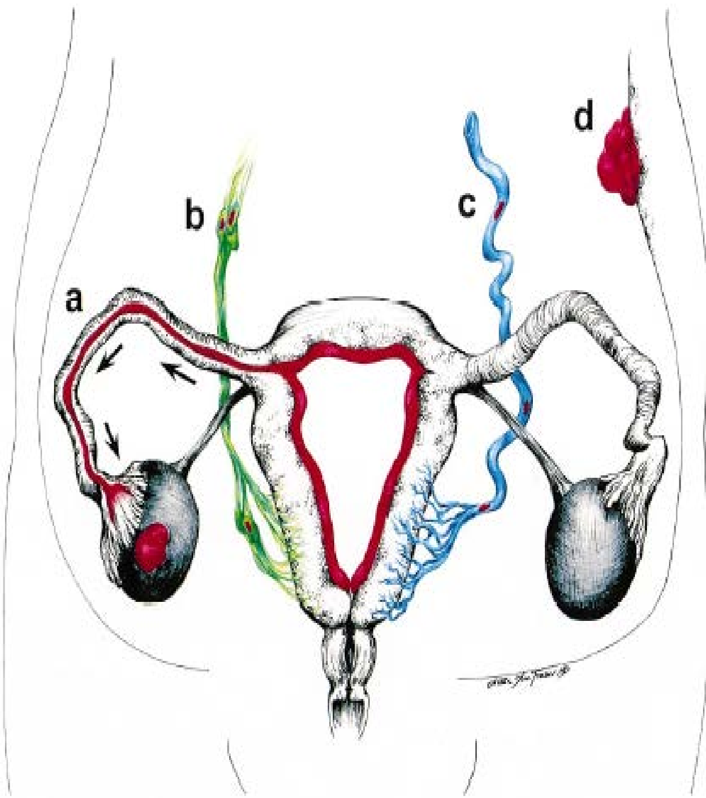
ΕΝΤΟΠΙΣΗ ΕΝΔΟΜΗΤΡΙΩΣΗΣ



ΕΝΤΟΠΙΣΗ ΕΝΔΟΜΗΤΡΙΩΣΗΣ

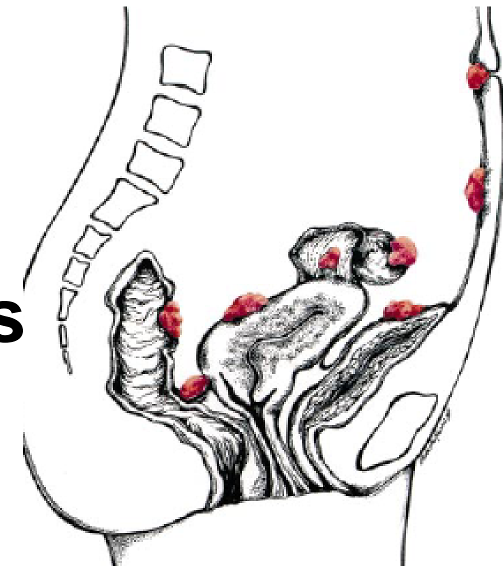


Endometriosis



IMPLANTS:

76% ovaries
69% posterios and anterior cul de sac
47% posterior broad ligament
36% uterosacral ligaments
11% uterus
6% fallopian tubes
4% sigmoid colon



ΔΙΑΓΝΩΣΗ ΕΝΔΟΜΗΤΡΙΩΣΗΣ

- 7-8 έτη μεσολαβούν κατά μέσο όρο από την έναρξη της συμπτωματολογίας και της οριστικής διάγνωσης της ενδομητρίωσης.
- Δεν υπάρχει ένα μη επεμβατικό διαγνωστικό test για την ενδομητρίωση.
- US vag: 84-100% ευαισθησία & 90-100% ειδικότητα στην αναγνώριση ενδομητριωμάτων των ωοθηκών.

ΔΙΑΓΝΩΣΗ ΕΝΔΟΜΗΤΡΙΩΣΗΣ

- MRI: χρήσιμη στην ενδομητρίωση που εντοπίζεται στον κόλπο, στην ουροδόχο κύστη και στην βαθιά διεισδυτική ενδομητρίωση που εντοπίζεται στους ιερομητρικούς συνδέσμους και στο ορθό.
- CA 125: έχει χαμηλή διαγνωστική ακρίβεια στην διερεύνηση ασθενών με CPP ή ενδομητρίωση.
- **Λαπαροσκόπηση: ‹‹gold›› standard για τη διάγνωση της ενδομητρίωσης.**

ΔΙΑΓΝΩΣΤΙΚΗ ΛΑΠΑΡΟΣΚΟΠΗΣΗ - ΠΛΕΟΝΕΚΤΗΜΑΤΑ

- Επιτρέπει την άμεση οπτική αναγνώριση των χαρακτηριστικών ενδομητριωσικών αλλοιώσεων.
- Έχει και θεραπευτικό ρόλο.
- Σταδιοποίηση της νόσου.
- Πολύ μικρός κίνδυνος μειζόνων επιπλοκών(0.6/1000 έως 1.8/1000)
- Λιγότερο επεμβατική από την λαπαροτομία.

ΔΙΑΓΝΩΣΤΙΚΗ ΛΑΠΑΡΟΣΚΟΠΗΣΗ - ΜΕΙΟΝΕΚΤΗΜΑΤΑ

- Επεμβατική μέθοδος.
- Αυξημένο ποσοστό ψευδώς θετικών αποτελεσμάτων.
- Αυξημένος αριθμός λαπαροσκοπήσεων που δεν έχουν ένδειξη.
- 3% ελάσσονες επιπλοκές(άλγος ωμοπλάτης, ναυτία).
- Πιθανότητα να υποεκτιμηθεί η νόσος.

Diagnosis – laparoscopy

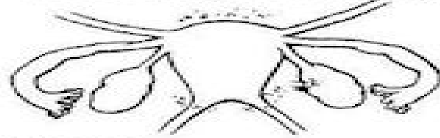
- **Laparoscopy is generally used to confirm diagnosis – hallmarks of the disease are peritoneal or retroperitoneal implants, adhesions and endometriomas**
- **Lesions may be:**

  – typical: pigmented, dark, powder-burn nodules

  – atypical: non-pigmented, clear, white, red flame-like, yellow-brown nodules

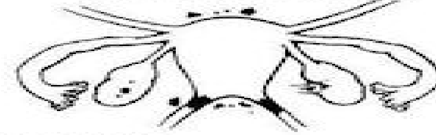
Figure 2

STAGE I (MINIMAL)



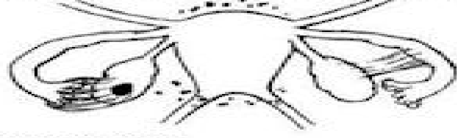
PERITONEUM
Superficial Endo 1-3cm 2
Right OVARY
Superficial Endo <1cm 1
Filmy Adhesions 1/3 1
TOTAL POINTS 4

STAGE II (MILD)



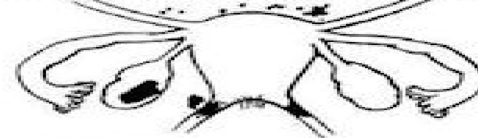
PERITONEUM
Deep Endo >3cm 6
Right OVARY
Superficial Endo <1cm 1
Filmy Adhesions <1/3 1
Left OVARY
Superficial Endo <1cm 1
TOTAL POINTS 9

STAGE III (MODERATE)



PERITONEUM
Deep Endo >3cm 6
CULDESAC
Partial Obliteration 4
Left OVARY
Deep Endo - 1-3cm 16
TOTAL POINTS 26
1-3cm 16

STAGE III (MODERATE)



PERITONEUM
Superficial Endo >3cm 4
Right TUBE
Filmy Adhesions <1/3 1
Right OVARY
Filmy Adhesions <1/3 1
Left TUBE
Dense Adhesions <1/3 16*
Left OVARY
Deep Endo 1-3cm 4
Dense Adhesions - <1/3 4
TOTAL POINTS 30

STAGE IV (SEVERE)

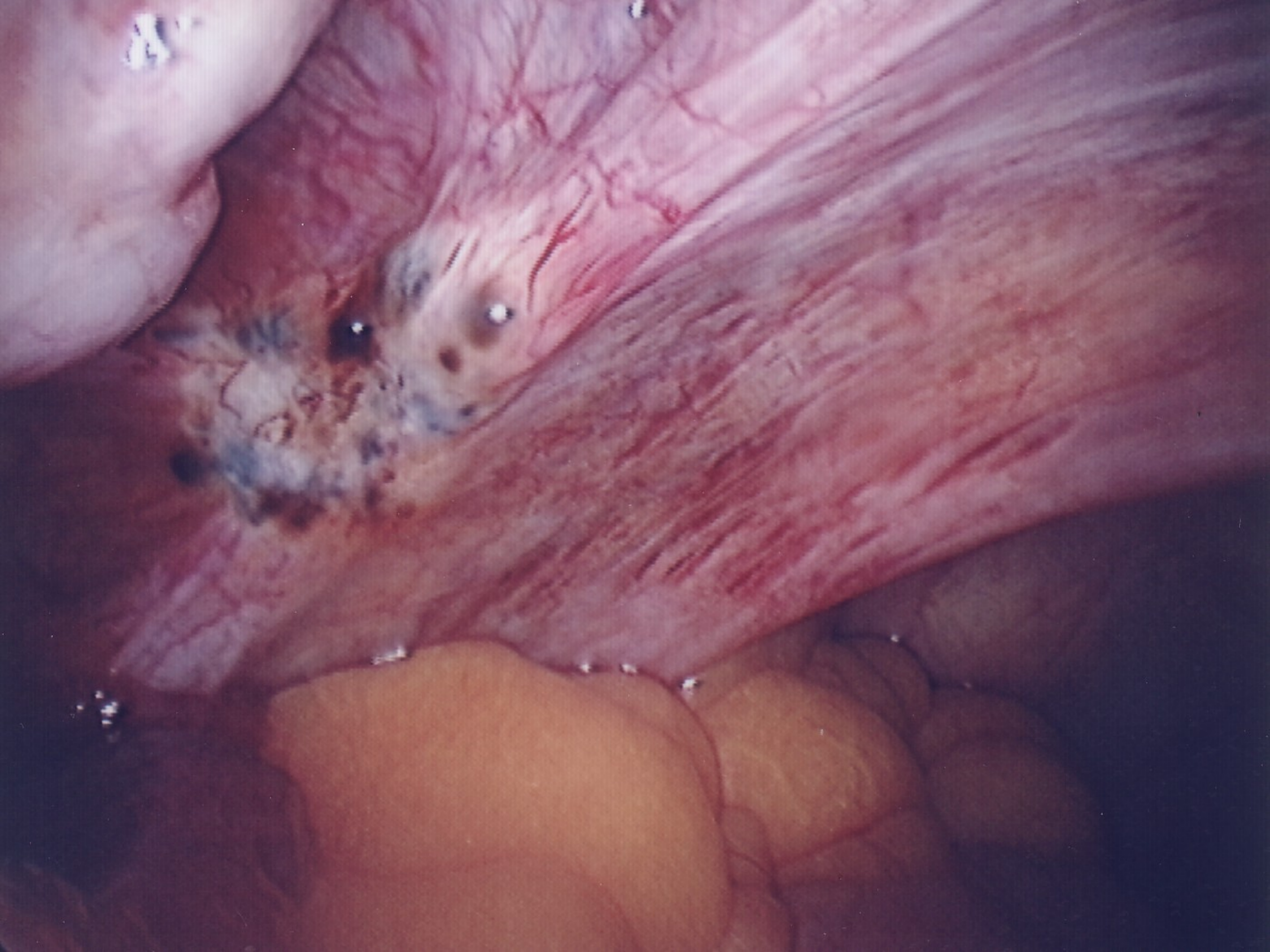
PERITONEUM
Deep Endo >3cm 6
CULDESAC
Complete Obliteration 40
Right OVARY
Deep Endo 1-3cm 16
Dense Adhesions <1/3 4
Left TUBE
Dense Adhesions >2/3 16
Left OVARY
Deep Endo 1-3cm 16
Dense Adhesions >2/3 16
TOTAL POINTS 114

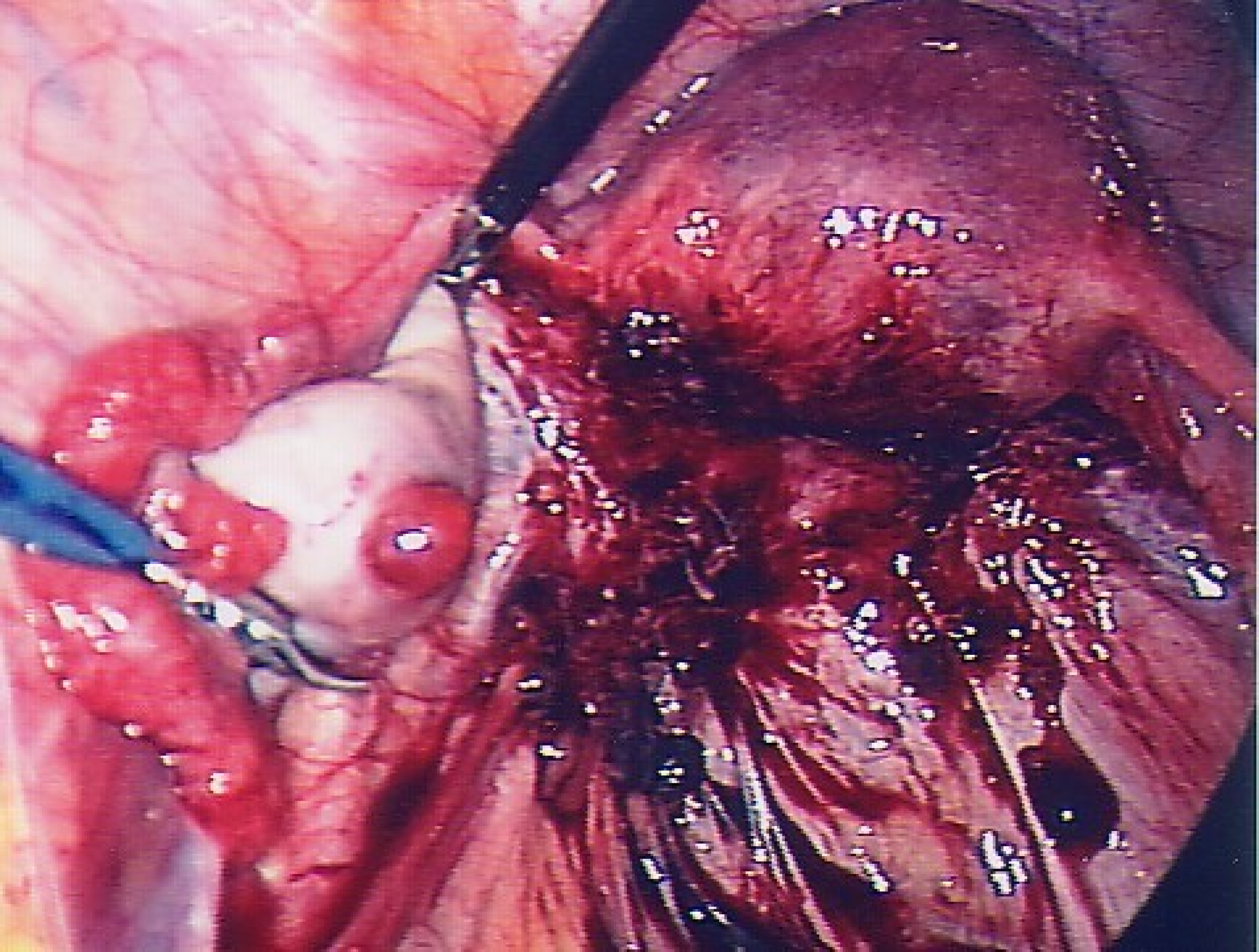
STAGE IV (SEVERE)

PERITONEUM
Superficial Endo >3cm 4
Left OVARY
Deep Endo - <1cm 32**
Dense Adhesions - <1/3 8**
Left TUBE
Dense Adhsions - <1/3 8**
TOTAL POINTS 52

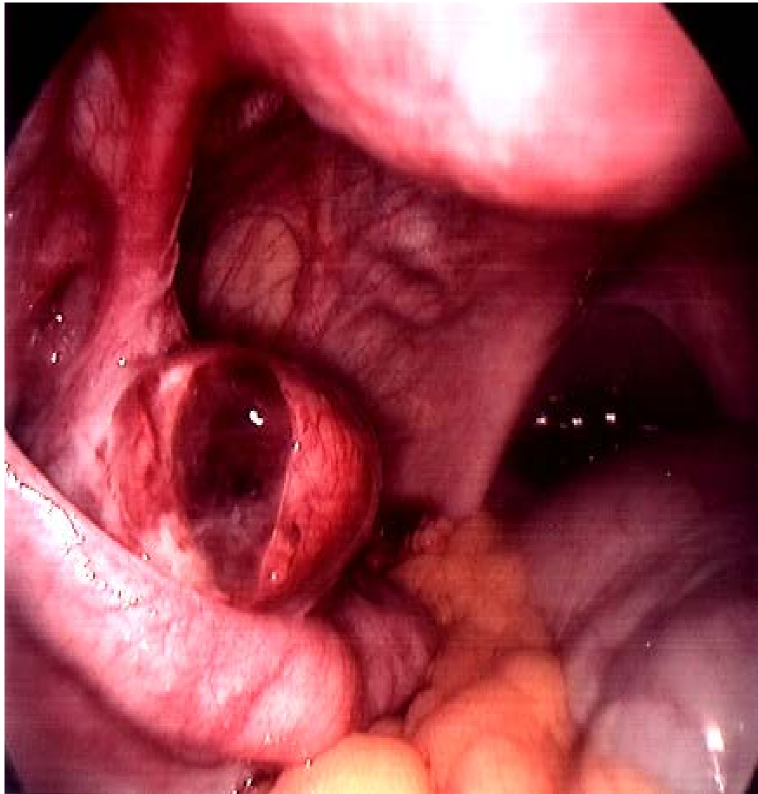
***Point assignment changed to 16**

**** Point assignment doubled**

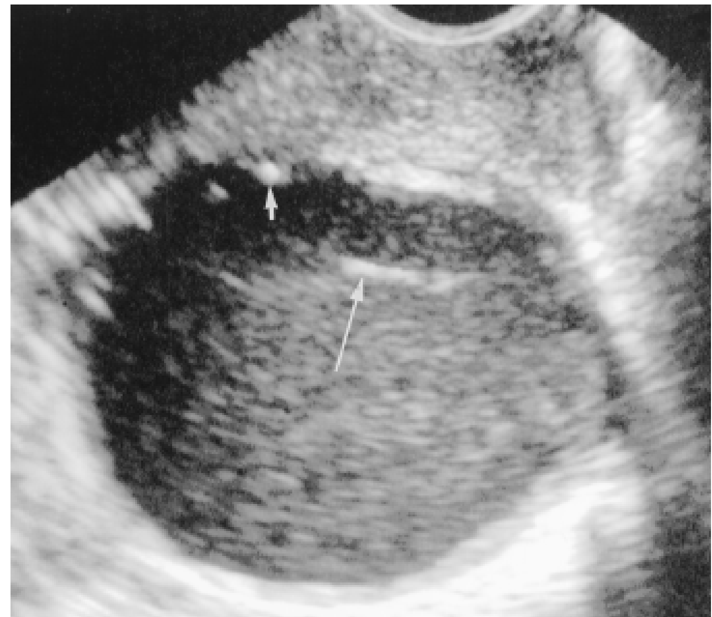




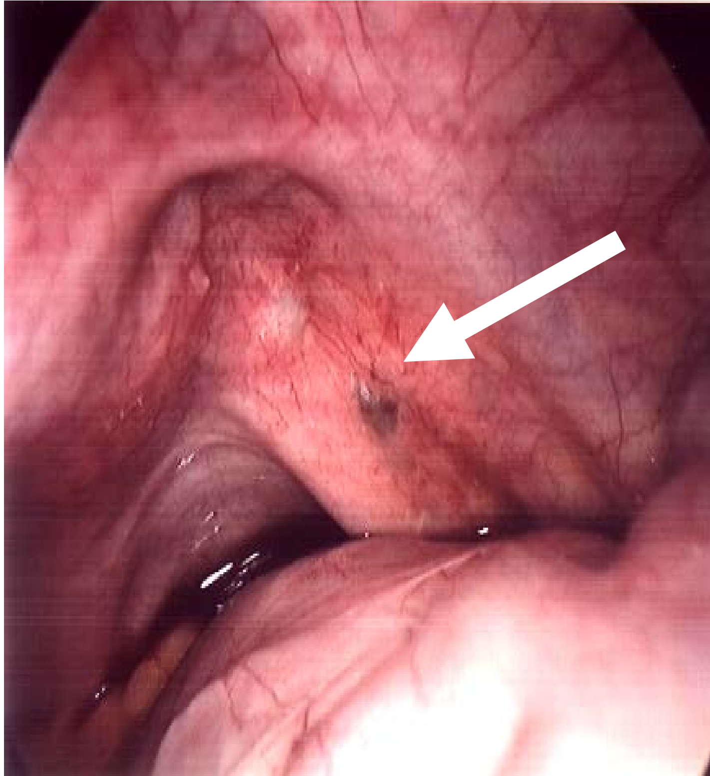
Diagnosis – laparoscopy



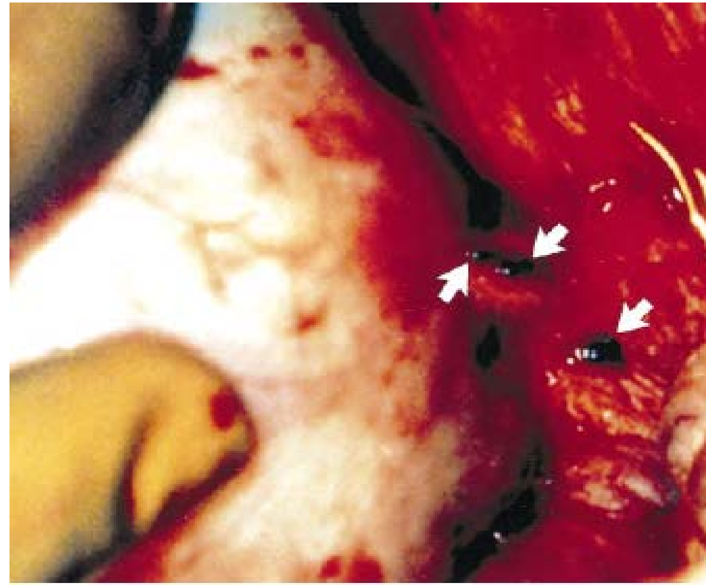
Endometrioma



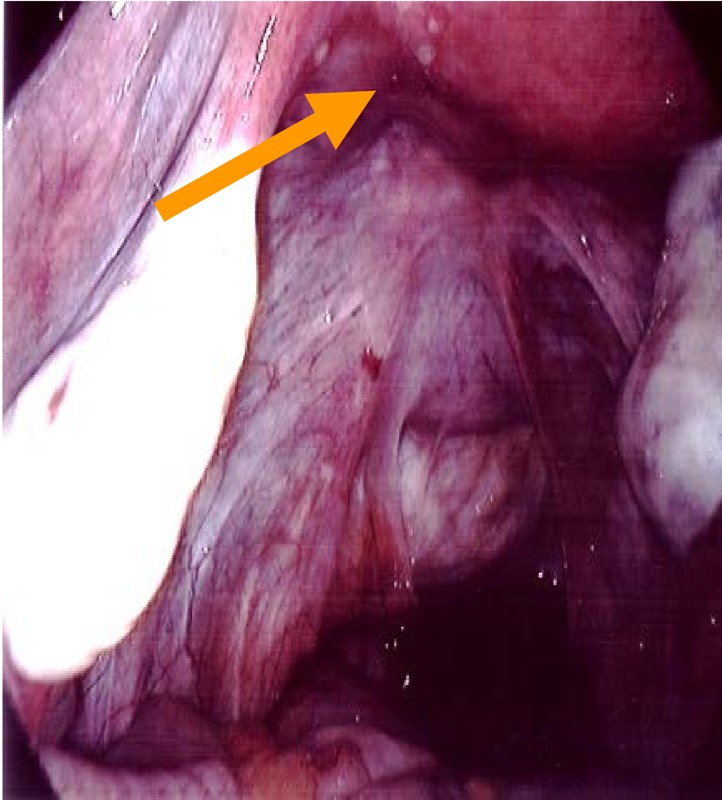
Diagnosis – laparoscopy



Characteristic powder-burn lesion viewed on the surface of the uterus

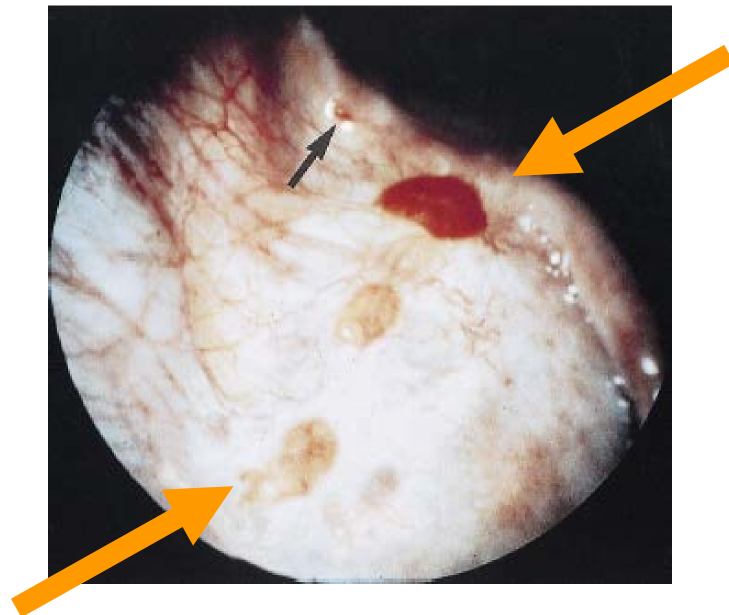


Diagnosis – laparoscopy



Flame-like lesions

Pale lesions



Treatment of CPP associated with Endometriosis

- Medical Treatment

- Surgical Treatment
  - Conservative
    - ***Coagulation/ablation***
  - Radical
    - *Excision*

ΕΠΙΛΟΓΗ ΚΑΤΑΛΛΗΛΗΣ ΘΕΡΑΠΕΥΤΙΚΗΣ ΑΓΩΓΗΣ

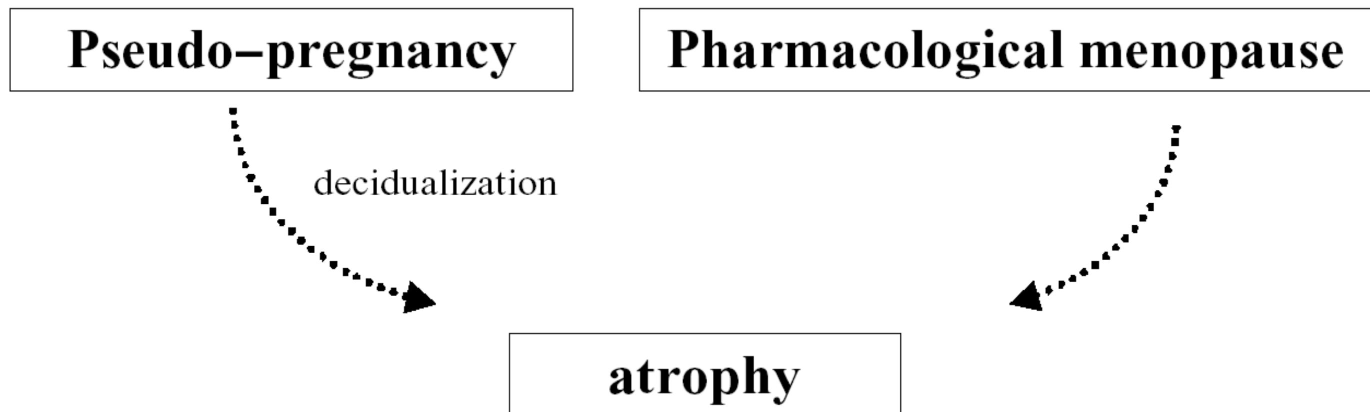
- Best evidence suggests that symptomatic relief can be achieved with either medical or surgical therapy for mild to moderate disease.
- For severe or nodular disease or for patients with endometriomas, surgical alternatives are most effective.

ACOG technical bulletin
Endometriosis & the endometrium Diamond & Osteen

End–point of medical treatment

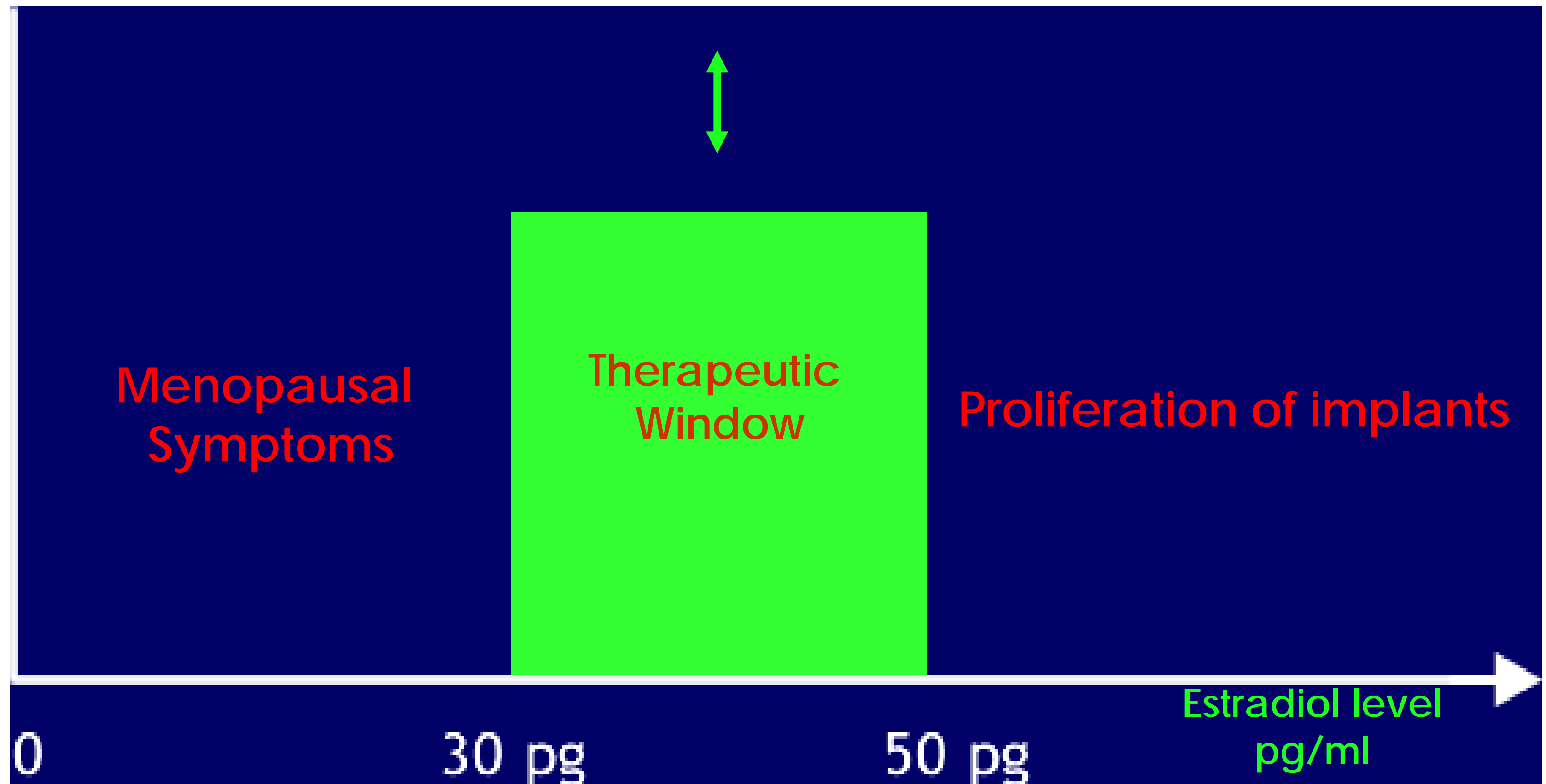
- Pain Control
- Restoration of Fertility
- Prevention of Recurrence

Blockade of hormonal pathways involved in ectopic endometrium growth and proliferation

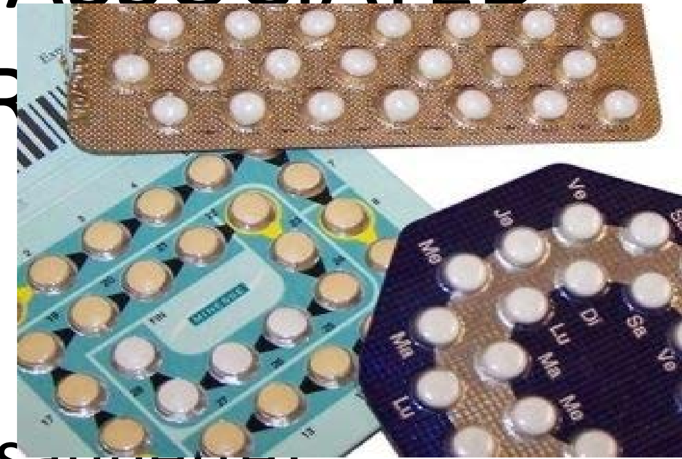


The optimal medical treatment

No menopausal symptoms
No proliferation

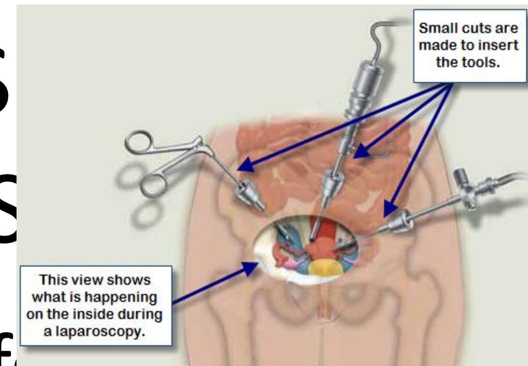


MANAGEMENT OF CPP ASSOCIATED WITH ENDOMETR



- Αναλγητικά(ΜΣΑΦ)
- Αντισυλληπτικά
- Προγεσταγόνα { διενογέστη (visannette), medroxyprogesterone acetate (provera), levonorgestrel-releasing IUS (mirena) }
- GnRH ανάλογα
- GnRH ανταγωνιστές
- Ανδρογόνα (Danazol)
- Αναστολείς αρωματάσης(Anastrozole, Letrozole)

MANAGEMENT OF CPP ASS WITH ENDOMETRIOS



- Laparoscopy(excision or ablation for early stage superficial endometriosis, excision for deeply infiltrating disease or endometriomas)
- Laparoscopy and after surgery suppressive therapy (such as progestins or oral contraceptives etc).
- Hysterectomy with or without oophorectomy

Suggested approach to endometriosis-associated pain

- 1st line: continuous low-dose monophasic oral contraceptive with NSAIDs as needed
- 2nd line: progestins (start with oral dosing, consider switching to levonorgestrel intrauterine device or depo if well tolerated)
- **AROMATASE INHIBITORS with OC or a Progestin**
- 3 rd (4th) line : GnRH agonist with immediate add-back therapy
- **AROMATASE INHIBITORS with a GnRH analogue**
- 4th (6th) line: surgery, followed by 1, 2, or 3 , **or AIs with OC, progestin and GnRH analogue**

What do you consider as Endometriosis Treatment failure?

IC Can Appear Concurrently With Endometriosis. *THE EVIL TWINS!*

Two Studies Confirm the Overlap Between IC and Endometriosis[1,2]

Diagnosis	Study 1: Chung et al[1] (n=60)	Study 2: Chung et al[2] (n=178)
IC/PBS	90%	89%
Endometriosis	80%	75%
Both	**70%**	**65%**

1. Chung MK et al. *J Soc Laparoendosc Surg*. 2002;6:311-314.
2. Chung MK et al. *J Soc Laparoendosc Surg*. 2005;9:25-29

Consider the Bladder in Women With Unresolved CPP

61% have no obvious etiology for CPP[1]

80% of women with CPP receive an initial diagnosis of endometriosis[2]

Up to 54% of women treated medically for endometriosis continue to experience CPP[3]

- 5% to 26% have reported continued CPP ≥1 year after hysterectomy[4-9]

The bladder is believed to be the source of CPP in over 30% of female patients[10]

1. Mathias SD et al. *Obstet Gynecol*. 1996;87:321-327. 2. Carter JE. *J Am Assoc Gynecol Laparos*. 1994;2:43-47. 3. Dlugi AM et al. *Fertil Steril*. 1990;54:419-427. 4. Carlson KJ et al. *Obstet Gynecol*. 1994;83:556-565. 5. Kjerulff KH et al. *Obstet Gynecol*. 2000;95:319-326. 6. Kjerulff KH et al. *Am J Obstet Gynecol*. 2000;183:1440-1447. 7. Stovall TG et al. *Obstet Gynecol*. 1990;75:676-679. 8. Hillis SD et al. *Obstet Gynecol*. 1995;86:941-945. 9. Hartmann KE, et al. *Obstet Gynecol*. 2004;104:701-709. 10. Zondervan KT et al. *Br J Obstet Gynaecol*. 1999;106:1156-1161.

Painful Bladder Syndrome

- *Painful bladder syndrome/interstitial cystitis* (PBS/IC) is a condition diagnosed on a **clinical** basis and requiring a high index of suspicion by the clinician.
- Simply put, it should be considered in the differential diagnosis of the patient who presents with chronic pelvic pain that is often exacerbated by bladder filling and associated with urinary frequency.
- **The term *Interstitial cystitis***, was not at all descriptive of the clinical syndrome or the pathologic findings in many cases leading to the current effort to reconsider the name of the disorder and even the way it is positioned in the medical spectrum

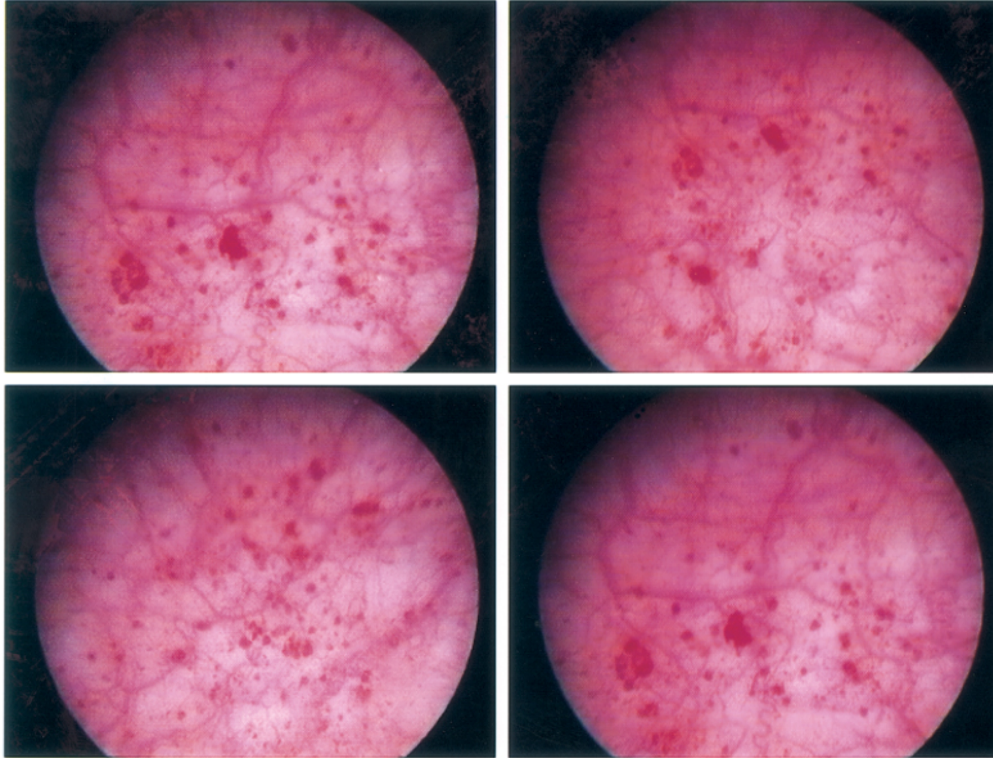
DEFINITION

- **Interstitial cystitis (IC)** - clinical diagnosis primarily based on symptoms of urgency/frequency and pain in the bladder and/or pelvis.

- The International Continence Society (ICS) prefers the term ***painful bladder syndrome*** **(PBS),** defined as "the complaint of suprapubic pain related to bladder filling, accompanied by other symptoms such as increased daytime and night-time frequency, in the absence of proven urinary infection or other obvious pathology"

- The ICS reserves the diagnosis of IC for patients with "typical cystoscopic and histological features," without further specifying these. In the absence of clear criteria for "IC," this chapter will refer to PBS/IC and IC interchangeably

Cystoscopy



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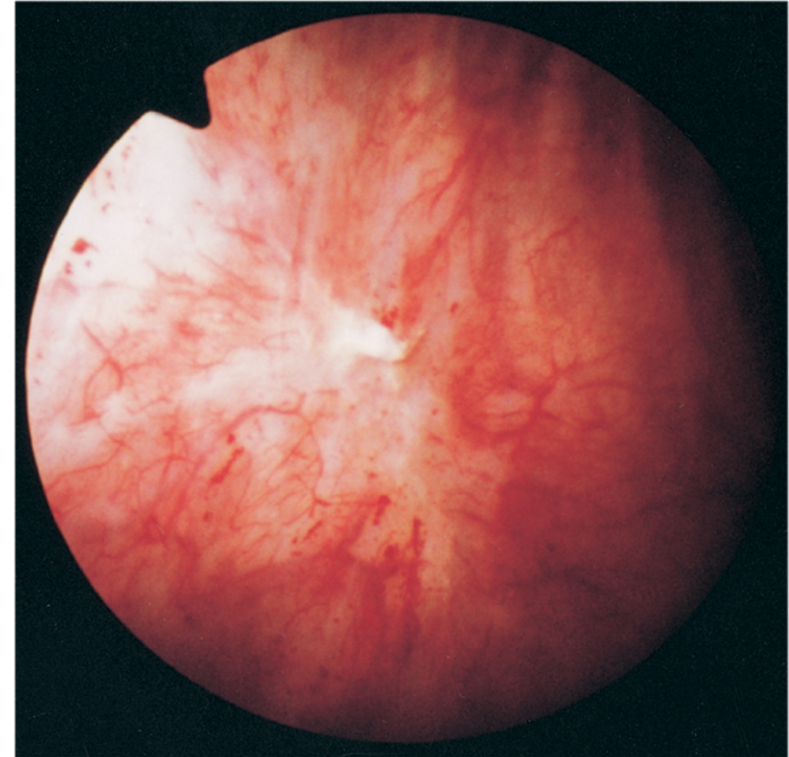

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Typical appearance of glomerulations after bladder distention in a patient with nonulcerative interstitial cystitis.

Typical appearance of Hunner's ulcer in a patient with interstitial cystitis before bladder distention.

ΣΥΣΤΗΜΑΤΙΚΗ ΑΝΑΣΚΟΠΗΣΗ ΤΗΣ ΕΠΙΠΤΩΣΗΣ ΤΟΥ BPS ΚΑΙ ΤΗΣ ΕΝΔΟΜΗΤΡΙΩΣΗΣ ΣΕ ♀ ΜΕ CPP

- 9 μελέτες που περιλάμβαναν 1016 γυναίκες με CPP.
- Μέση επίπτωση BPS:61%, μέση επίπτωση ενδομητρίωσης:70% & συνύπαρξη των 2 →**48%.**

S.A. Tirlapur et al

International Journal of Surgery (2013)

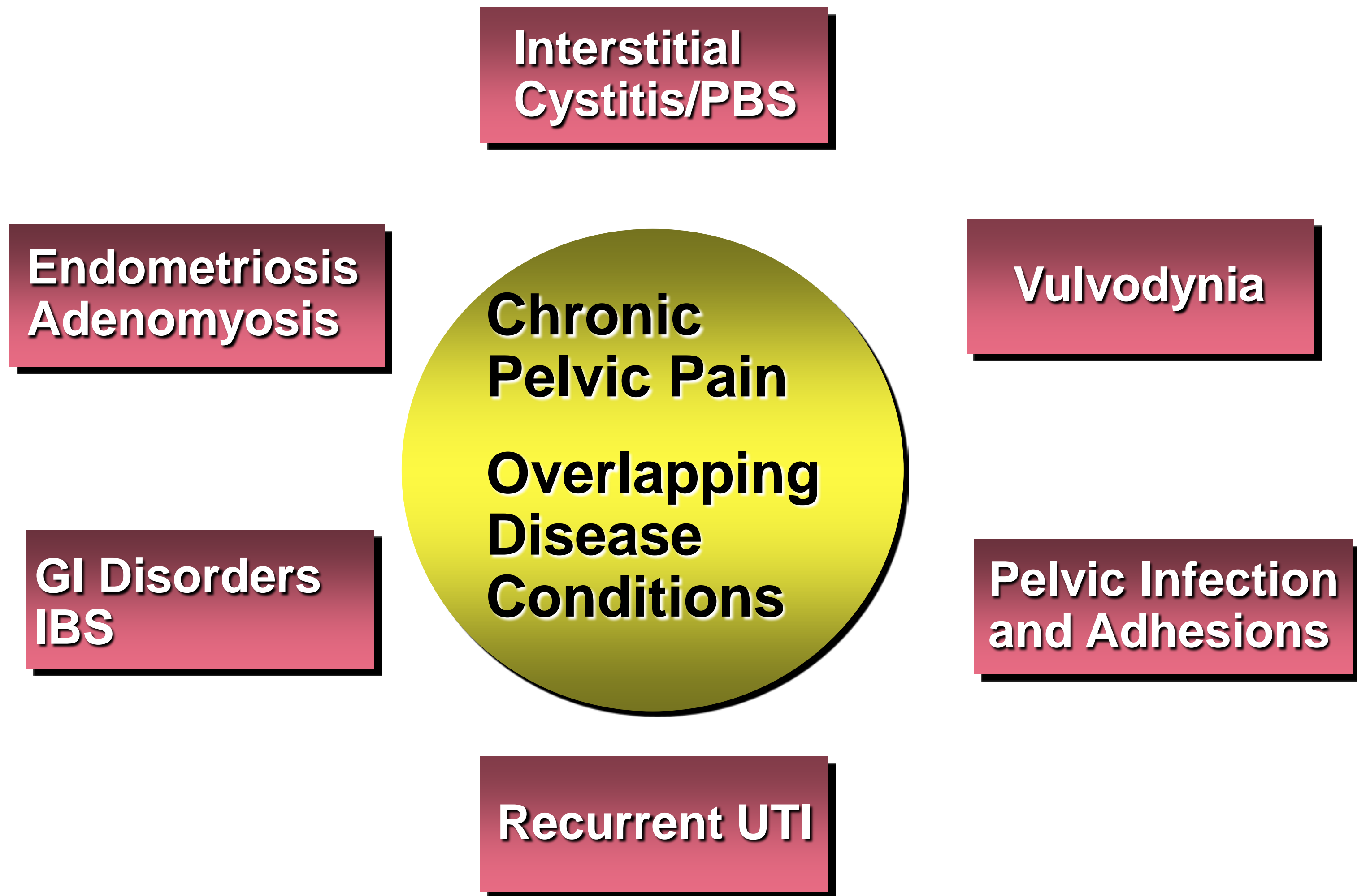
ΣΥΜΠΕΡΑΣΜΑΤΑ

- Περίπου 2/3 ♀ με CPP έχουν BPS

- Σε όλες τις μελέτες η διάγνωση έγινε με την παρουσία συμπτωματολογίας από το ουροποιητικό και (+) κυστεοσκοπικά ευρήματα.

- Οι ιατροί πρέπει να είναι σε εγρήγορση για τυχόν συνύπαρξη ενδομητρίωσης και BPS.

Chronic Pelvic Pain Is Characterized by Overlapping Disease Conditions



ΣΥΜΠΕΡΑΣΜΑΤΑ

- Ο CPP είναι σύμπτωμα – όχι διάγνωση.
- Η επιτυχής διάγνωση της πιθανής αιτίας του CPP απαιτεί τη συνεργασία πολλών ιατρικών ειδικοτήτων και είναι εκείνη που θα καθορίσει την θεραπευτική προσέγγιση.
- Η λαπαροσκόπηση έχει σημαντικό ρόλο τόσο στην διάγνωση όσο και στην αντιμετώπιση του CPP.

ΣΥΜΠΕΡΑΣΜΑΤΑ

- Αρκετές είναι οι περιπτώσεις υποτροπής του CPP παρά την ενδεδειγμένη αντιμετώπιση.
- Απαιτείται παρακολούθηση επί αρκετό χρονικό διάστημα των ασθενών.
- Μελλοντικές μελέτες πρέπει να γίνουν για να αποσαφηνιστούν οι μηχανισμοί παθογένεσης του CPP και να ακολουθήσουν αποτελεσματικότερες και πιο στοχευμένες θεραπείες της νόσου.

ΤΕΛΟΣ

CHRONIC PELVIC PAIN

Apostolos Kaponis

Dept of Gynecology and Obstetrics
Medical School of Patras, Greece

Chronic Pelvic Pain (CPP)

- **pain > 6 months**
- **not solely associated with menstruation**
- **10% all outpatient gynecologic consultations**
- **20% laparoscopies**
- **12% hysterectomies**

Incidence

- 14 – 24% of women b/w 18 and 50 years.
- 1/3 do not consult doctor.
- 60% who consult are not referred to tertiary centre.
- Population studies: GI (37%), Urinary (31%), Gynae (20%).
- Laparoscopic findings: No pathology (35%), Endometriosis (33%), Adhesions (24%).

Visceral/splachnic Pain

IN RESPONSE TO:

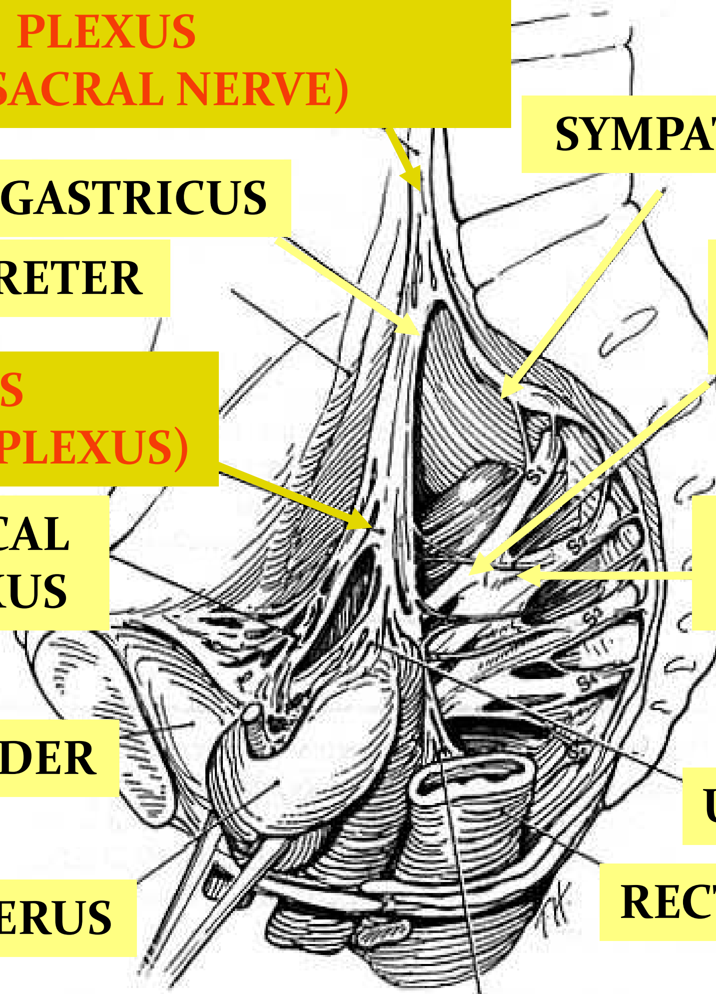
distention, stretching, chemical irritation, hypoxia, inflammation

- **no specialized pain receptors**
- **no high threshold nerve endings**
- **small diameter A δ and C primary afferent nerves**
- **only 1-2% afferent nerves are visceral**

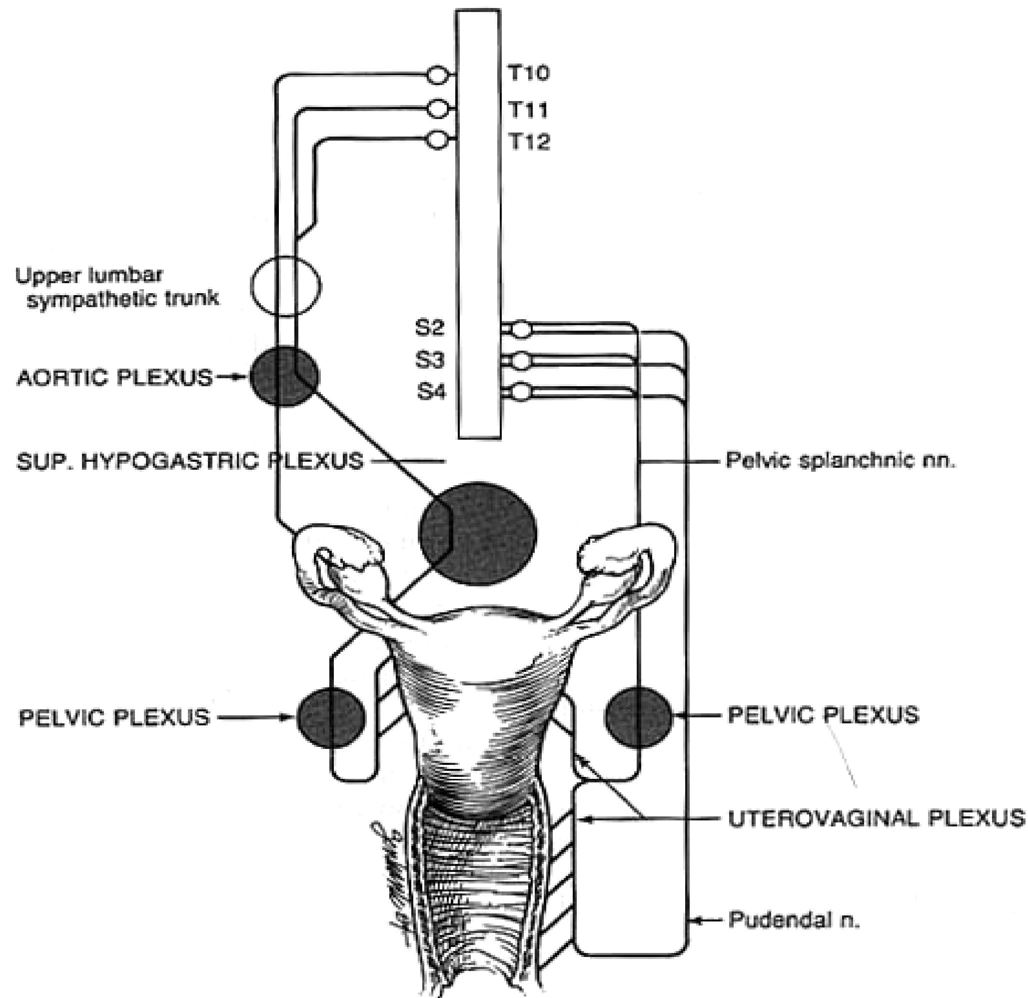
Pain Pathways

- **upper Mulerian structures (uterus, medial fallopian tubes, broad ligaments) :** predominantly sympathetic
- **lower Mullerian structures (upper vagina, cervix, lower uterine segment) :** sympathetic + parasympathetic nervi erigentes
- **ovary, distal fallopian tube :** directly -> sympathetic nerve trunk T9-T10

Presacral nerves



Afferent innervation of female genital tract



Refferred Pain

ovary	T10	umbilical area
uterus	T12	lower abdominal wall
vagina	L1	skin over groin

Pain Cycle

- **perception : mood and attention**
- **psychosocial stress -> vicious pain cycle**

Differential Diagnosis for Chronic Pelvic Pain

<u>Gynecologic</u>

Endometriosis syndrome

Adhesions (chronic pelvic inflammatory disease)

Leiomyomata

Adenomyosis

Pelvic congestion syndrome

<u>Gastrointestinal</u>

Irritable bowel

Chronic Appendicitis

Inflammatory bowel disease

Diverticulosis

Diverticulitis

Meckel's diverticulum

Differential Diagnosis

Urologic	Psychological
Abnormal bladder function (detrusor instability)	**Depression**
Urethral syndrome (chronic urethritis)	**Somatization**
Interstitial cystitis	
Psychosexual dysfunction/ disorder abuse	**Personality**

Differential Diagnosis

Musculoskeletal	Surgical
Nerve entrapment (neuritis)	**Chronic appendicitis**
Fasciitis	**Hernia**
Scoliosis	**Bowel disease**
Disc disease	**Adhesive disease**
Spondylolisthesis	
Osteitis pubis	

Causes of CPP

Episodic - cycle related

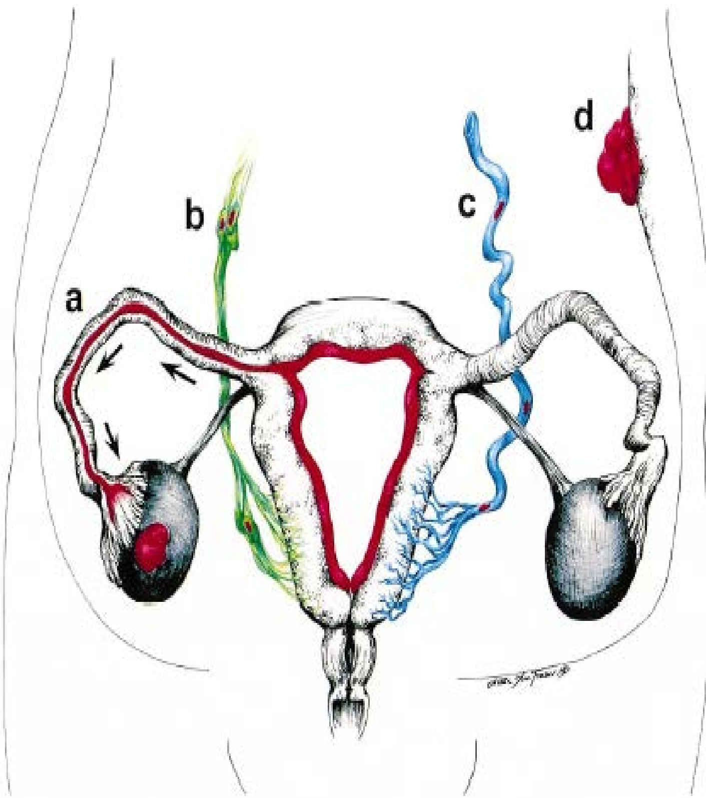
- **periovulatory pain (unilateral, sudden, episodic)**
- **primary dysmenorrhoea**
- **secondary dysmenorrhoea (endometriosis, adenomyosis)**
- **dyspareunia (superficial, vaginal, deep)**

Causes of CPP

Continous - non-cycle related

- **chronic PID**
- **endometriosis, adenomyosis**
- **adhesive disease**
- **pelvic congestion symdrome**
- **degenerating fibroids**

Endometriosis



IMPLANTS:

76% ovaries

69% posterios and anterior cul de sac

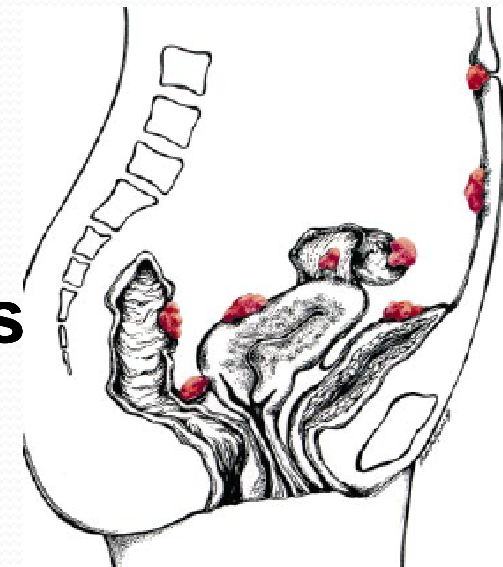
47% posterior broad ligament

36% uterosacral ligaments

11% uterus

6% fallopian tubes

4% sigmoid colon



Endometriosis- symptoms

- **Dysmenorrhea:** esp. secondary, worsening, extending to premenstrual and/or postmenstrual phases of the cycle
- **Pelvic pain** outside menses, pain often dull, aching, radiating to back and/or thighs
- **Dyspareunia:** especially on deep penetration, positional, cyclic aggravation
- **Cyclic symptoms** including dyschesia, hematochesia, hematuria, hemoptysis
- **Infertility**

Endometriosis physical exam

Abdomen: Diffuse or focal tenderness, rarely tender masses (e.g. in post CS scar)

Uterus: Retroverted, fixed/with decreased mobility, tender

Adnexae: Enlarged, fixed/with decreased mobility, tender

Other findings: Nodularity or focal tenderness in the cul-de-sac, recto-vaginal septum, or over utero-sacral ligaments

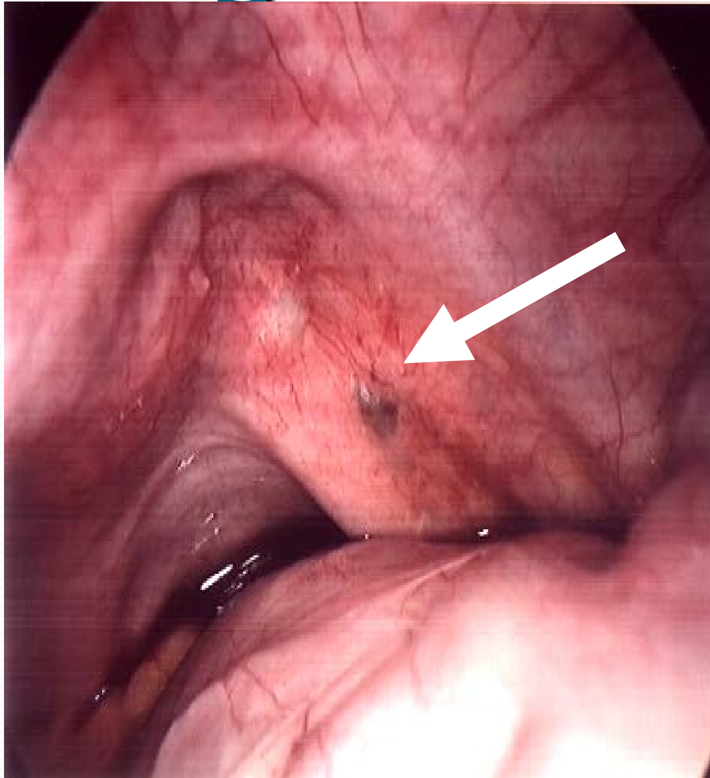
Diagnosis – laparoscopy

- **Laparoscopy is generally used to confirm diagnosis – hallmarks of the disease are peritoneal or retroperitoneal implants, adhesions and endometriomas**
- **Lesions may be:**

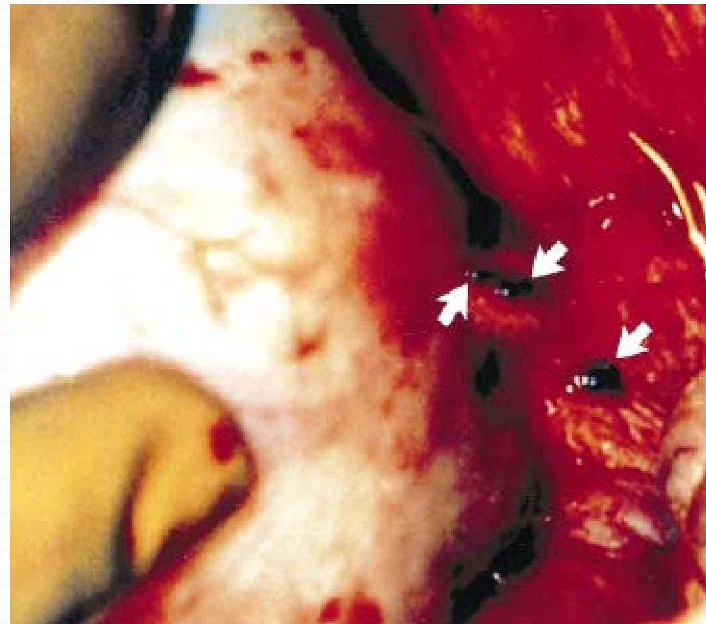
  – typical: pigmented, dark, powder-burn nodules

  – atypical: non-pigmented, clear, white, red flame-like, yellow-brown nodules

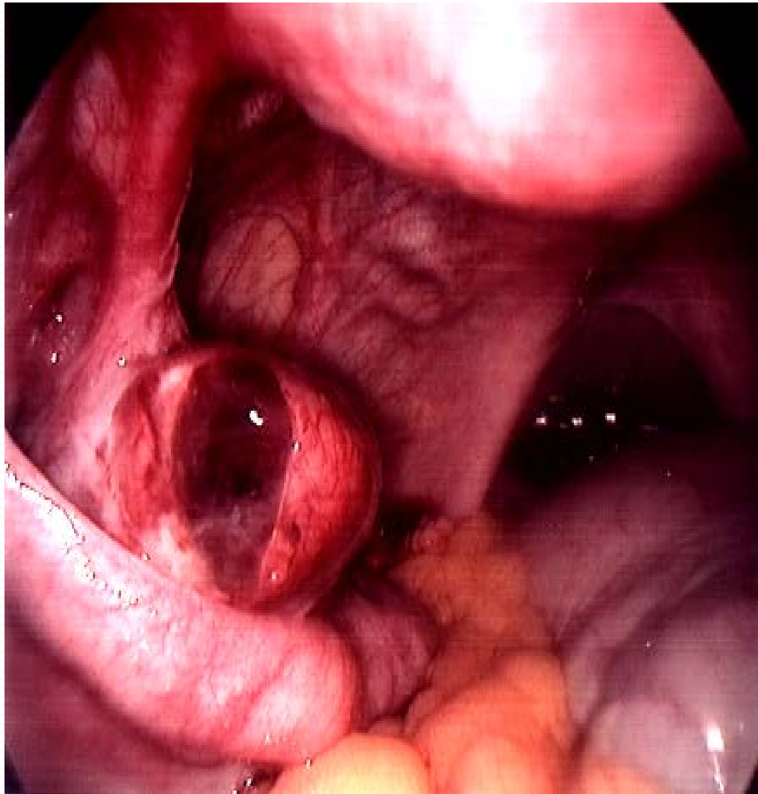
Diagnosis – laparoscopy



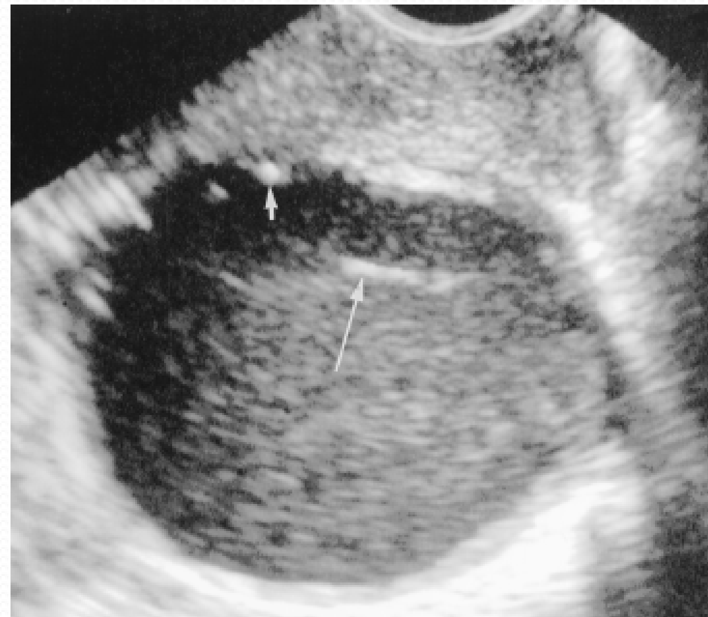
Characteristic powder-burn lesion viewed on the surface of the uterus



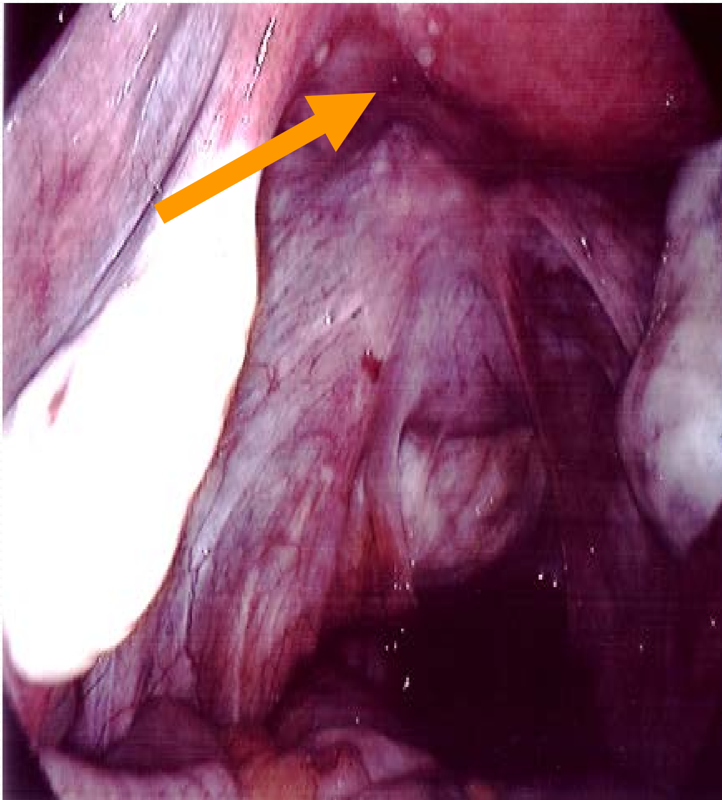
Diagnosis – laparoscopy



Endometrioma

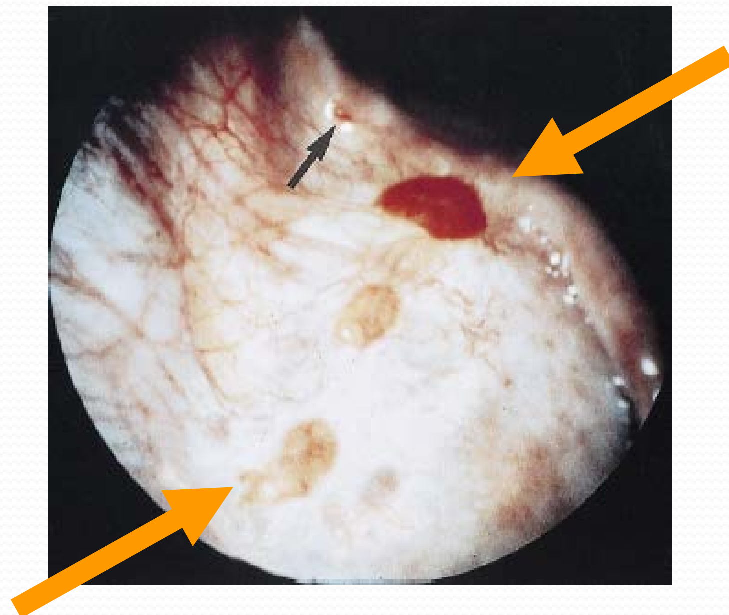


Diagnosis – laparoscopy



Flame-like lesions

Pale lesions



Causes of CPP

Non-gynecologic

- **urinary tract (infection, calculi, tumors)**
- **GI tract (inflammation, mechanical)**
- **orthopedic conditions**

Psychosomatic pelvic pain (MMPI)

Mechanisms of Pelvic Pain

Dysmenorrhoea:

- **PGs, LTs, vasopressin:**
  - **vasoconstriction, smooth muscle contraction**
  - **⇑ uterine tone -> hypoxia**
- **mechanical obstruction: stenosis, fibroids**

Endometriosis:

- **inflammatory reaction, secretion of PGs and LTs**
- **adhesions**
- **endometrioma: stretch of ovarian capsule**

Mechanisms of Pelvic Pain

Adhesions:

- **distortion of normal of nerve/blood supply**
- **decreased mobility of organs/hypoxia**

Pelvic inflammatory disease (PID):

- **inflammatory reaction**
- **secretion of PGs**
- **adhesions**

Therapeutic options - CPP Pharmacological

- **primary dysmenorrhoea : OC, NSAIDs (mefenamic acid, ibuprofen, diclofenac , ketoprofen) - in 90% significant relief**
- **endometriosis: GnRH analogs, GnRH antagonists, danazol, DMPA, OC, miscellanous - opioids**

Oral contraceptives

OC (continuous use):

- **mimicking pregnancy may cause endometrial regression and subjective improvement**
- **side-effects include nausea, vomiting, breakthrough bleeding, weight gain, water retention, breast tenderness, acne**

NSAIDs

NSAIDs:

- **reduce prostaglandin levels providing an analgesic/anti-inflammatory effect**
- **side-effects may include nausea and dizziness**
- **commence treatment the day before period is due**

Progestogenic and androgenic drugs

Progestogens:

- **oral and depot formulations provide effective pain relief for mild to moderate disease**
- **side-effects include: breast tenderness, breakthrough bleeding, mood changes and depression**

Androgenic drugs:

- **derivatives of testosterone inhibit production of oestrogen and progestogen**
- **effective relief for mild/moderate disease**
- **side-effects include: acne, oily skin, cramps, breast reduction, weight gain, hot flushes, libido changes**

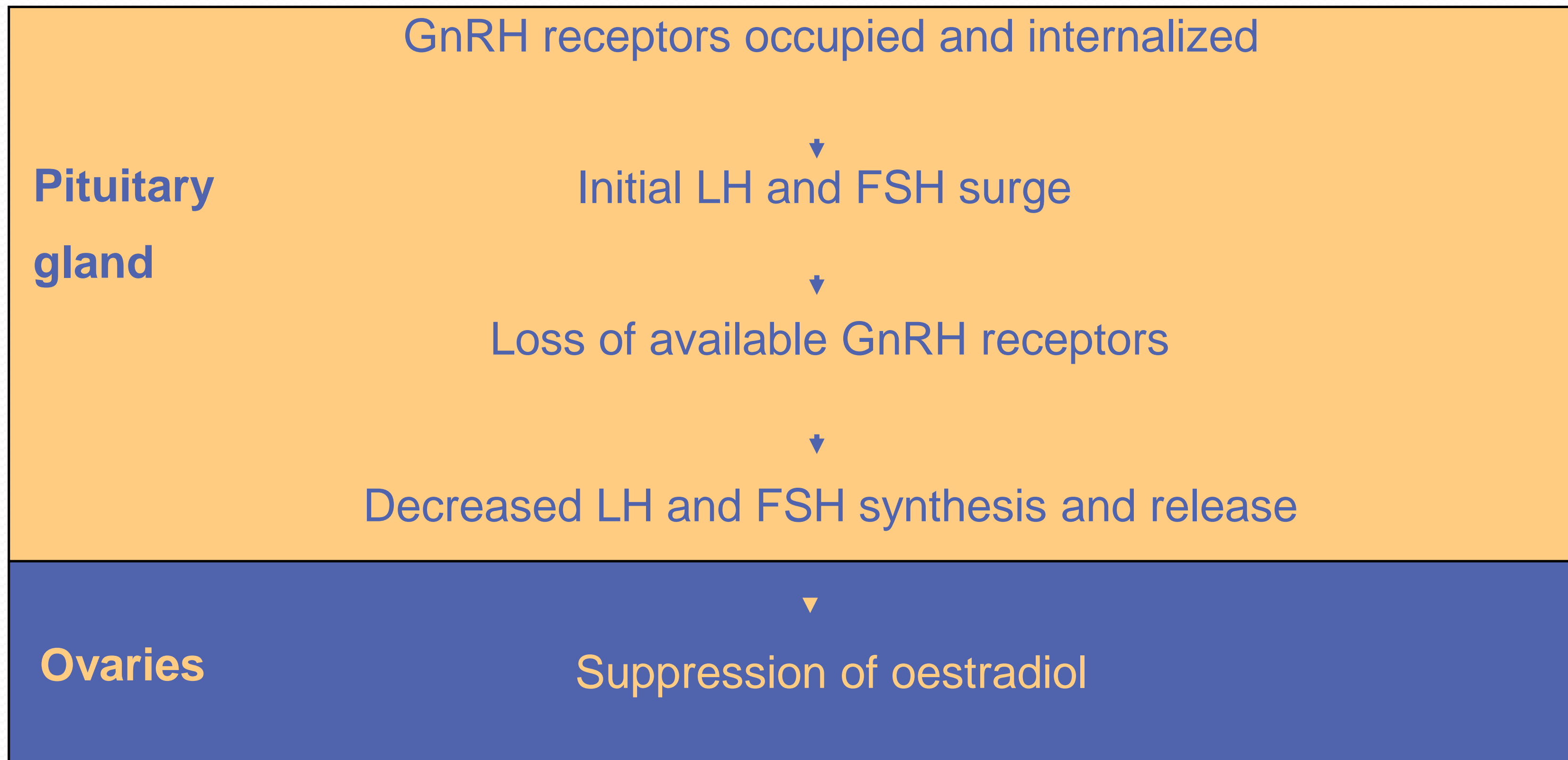
GnRHa therapy

Effective treatment for endometriosis:

- 75–92% of patients see improvement in their symptoms
- depending on disease extent, growth of the disease may be arrested, diminished or eliminated completely
- symptomatic relief for < 12 months after treatment cessation
- rates of improvement are equal to androgenic therapies

Damewood, 1993

GnRHa therapy – mode of action

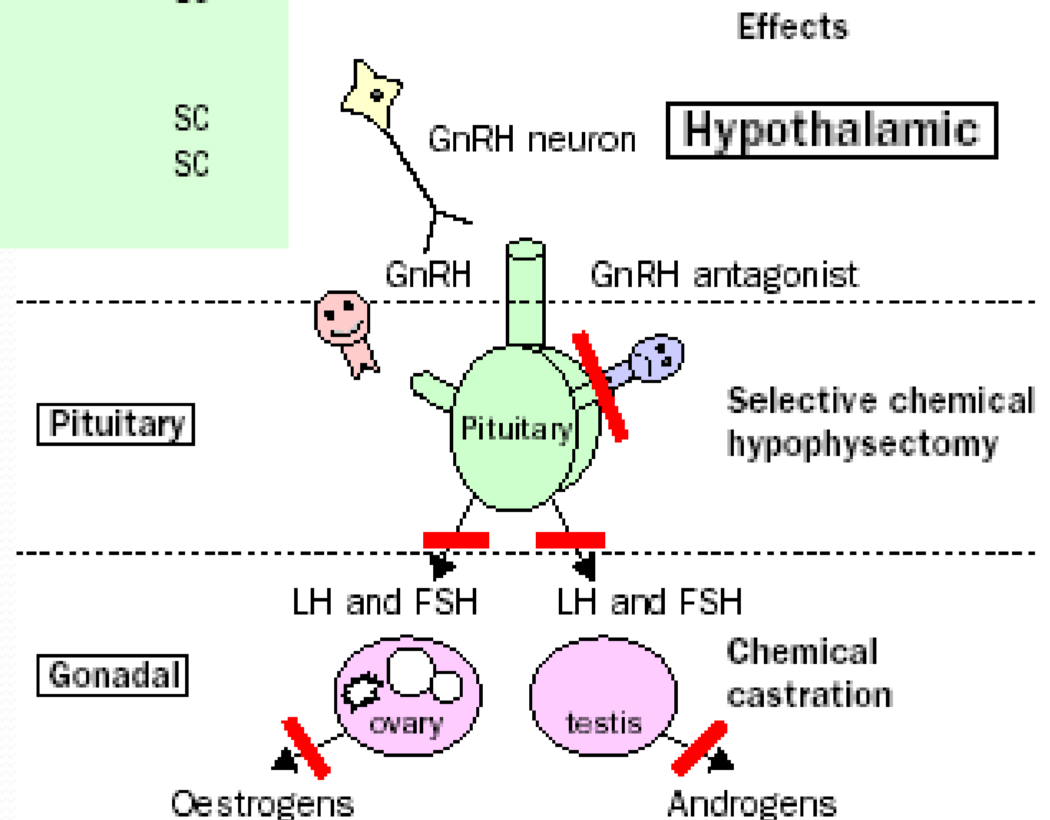


GnRH antagonits

Panel 2: **GnRH antagonists launched or under investigation**

Name	Manufacturer	Route
Abarelix	Praecis (Amgen) Sanofi-Synthelabo	IM
Antarelix	Asta Medica	SC
Cetrorelix (Cetrotide)	Asta Medica/Serono	SC
Ganirelix acetate (Orgalutran, Antagon)	Organon	SC
Iturelix (Antide)	Serono	SC

SC=subcutaneous, IM=intramuscular.



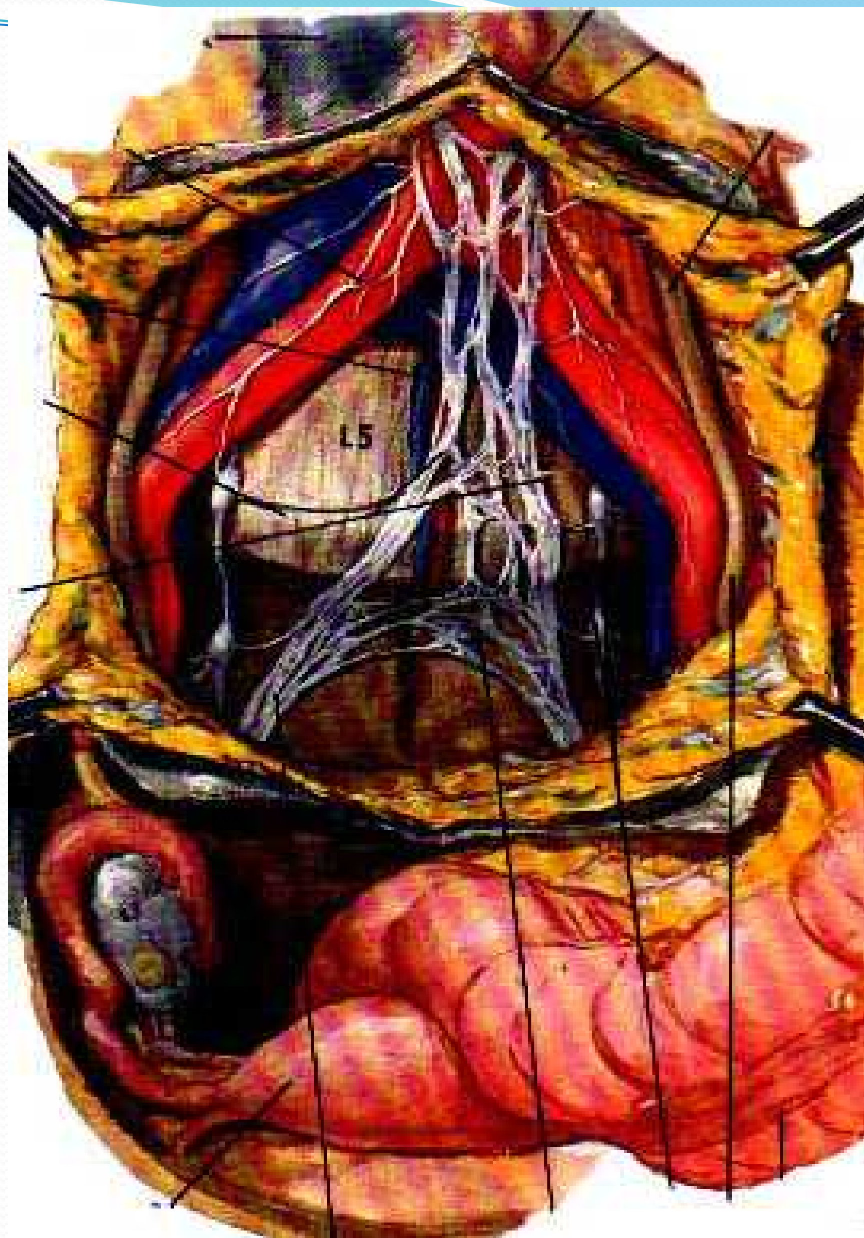
Surgical treatment - CPP

- **resection/ablation of lesions**
- **lysis of adhesions**
- **interruption of neural pathways:**
  - **ablation of uterosacral ligament (LUNA - laparoscopic uterine nerve ablation)**
  - **presacral neurectomy : resection of superior hypogastric plexus**

Other treatment - CPP

- **Trigger-point therapy**
- **Transcutaneous Electrical Nerve Stimulation (TENS)**

Presacral nerve



Presacral nerve