Pelvic pain

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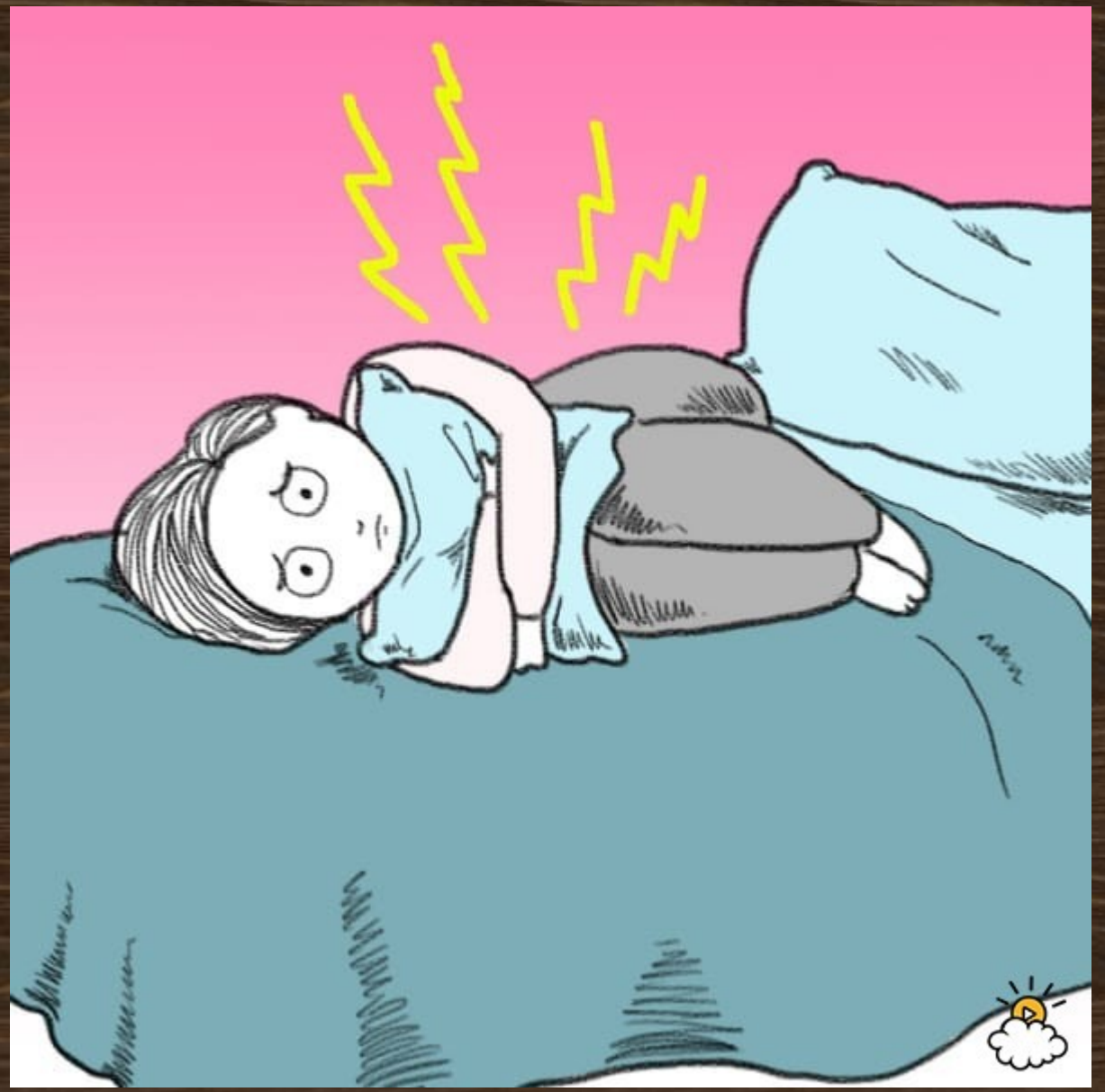
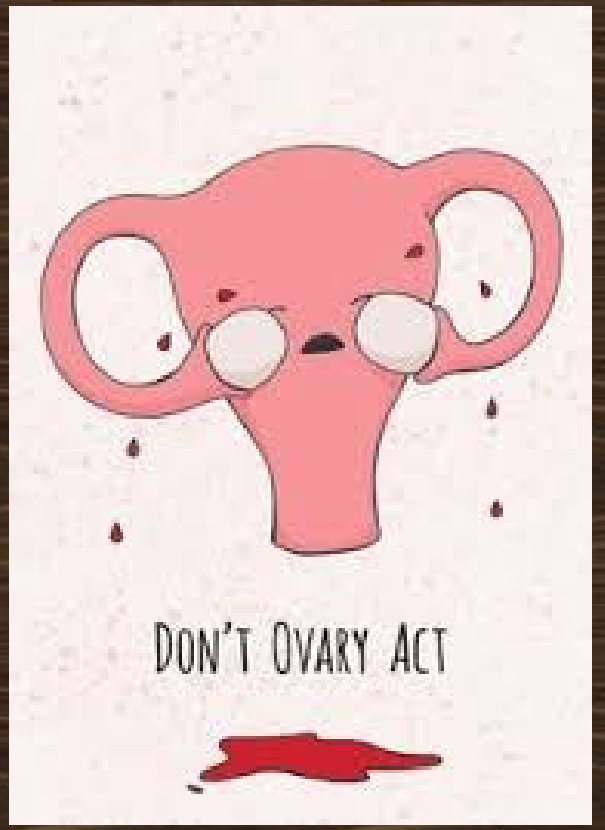
MD.DGO.FICOG


CLITORIS
OVARIES
CERVIX
UTERUS
VULVA
VAGINA
© 2015 i heart guts




DON'T OVARY ACT

Acute Pelvic pain

Ureteric calculi
Urinary tract infections
Urethral syndromes
Cystitis

Appendicitis
Irritable bowel syndrome
Diverticulitis
Neoplasms

Pelvic infection
Fibroid related pain
Endometriosis
Ovarian cyst or TO masses

Chronic Pelvic pain

Pelvic adhesions
Pelvic infection
Endometriosis

Pelvic causes

Irritable bowel syndrome

GI problems

Abdominal neural trigger points

Musculoskeletal problems

Urinary tract infections
Cystitis,Urethritis
Interstitial cystitis due to autoimmune disease

Urologic problems

How will you differentiate pelvic causes of abdominal pain from bowel causes like diverticulitis, irritable bowel etc. These are diseases the gynaecologist is not very familiar with.

Gastrointestinal cause:

Irritable bowel syndrome, infectious enterocolitis, intestinal obstruction, intestinal neoplasms, abdominal angina, abdominal endometriosis.

Cyclic, menstrual, premenstrual, or ovulatory pain is traditionally having pelvic Etiology.

However, IBS can also come premenstrually

IBS is worse after eating, relieved by defaecation, seen with stress.

Dyspareunia is traditionally assossiated with pelvic causes

Dyspareunia can also occur with IBS, but Tenderness over sigmoid colon is found only in IBS

If a patient with chronicpelvic pain complains of sudden Abdominal pain, think of appendicitis

Chronic proctalgia

Chronic or recurrent anorectal pain lasting for 20 minutes or longer, in the absence of other anorectal causes of pain such as hemorrhoids, fissures, and coccygodynia

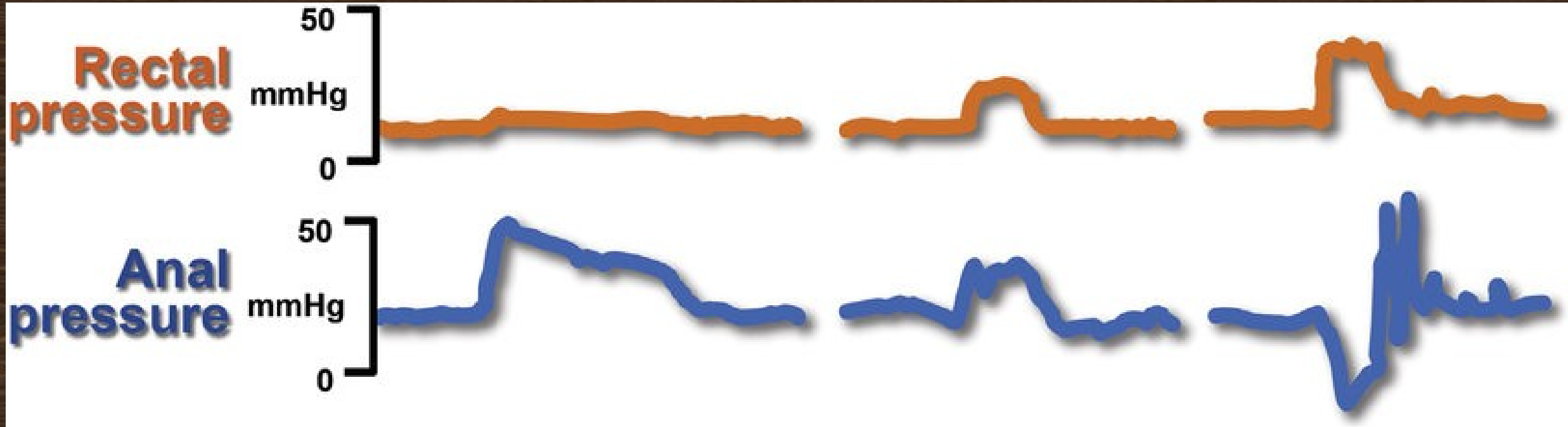
burning sensation, which may
worsen with defecation or sitting and improve when supine

Biofeedback with success rates as high as 65%.

For patients without defecatory symptoms, Botox may be used

Tricyclic antidepressants

Sacral nerve stimulation



A

Pretreatment:

- No change in intrarectal pressure
- Paradoxical anal contraction

B

- Improved pushing
- Paradoxical contraction remains

C

- Increased intrarectal pressure
- Coordinated relaxation in anal sphincter

Proctalgia fugax

Sudden nocturnal cramping that occurs and spontaneously resolves without objective findings

Episodes are localized to the anus or lower rectum and last for seconds to minutes. Complete cessation of pain occurs between episodes

Biofeedback to release high squeeze pressures

Entrapment of pudendal nerve at the alcock canal: (Unilateral pain)

Topical diltiazem or nitroglycerin,

injection of Botox, or strip myomectomy in severe cases in which internal anal sphincter is thickened.

Injection of the pudendal nerve and sphincterotomy

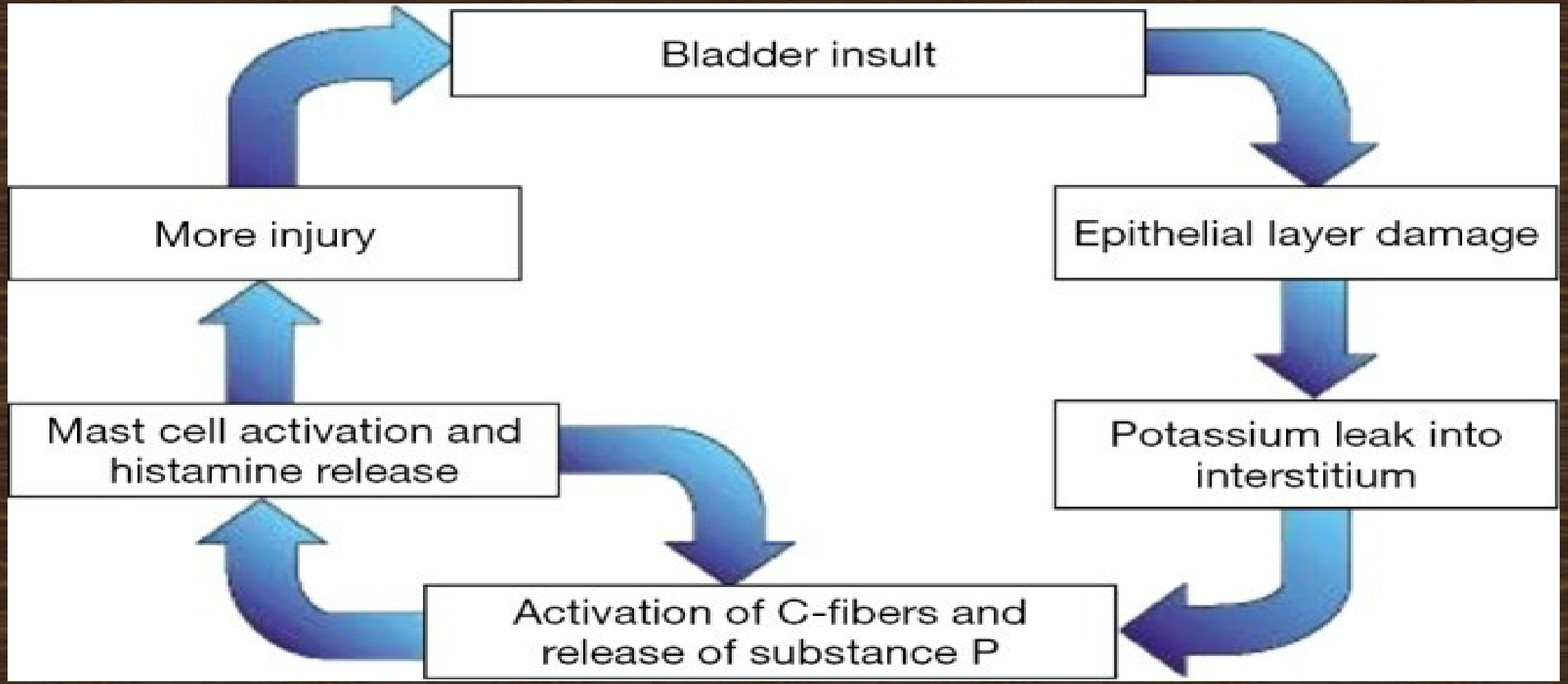
BTX-A is the product of the anaerobic bacterium *Clostridium botulinum*. with antigenic properties.

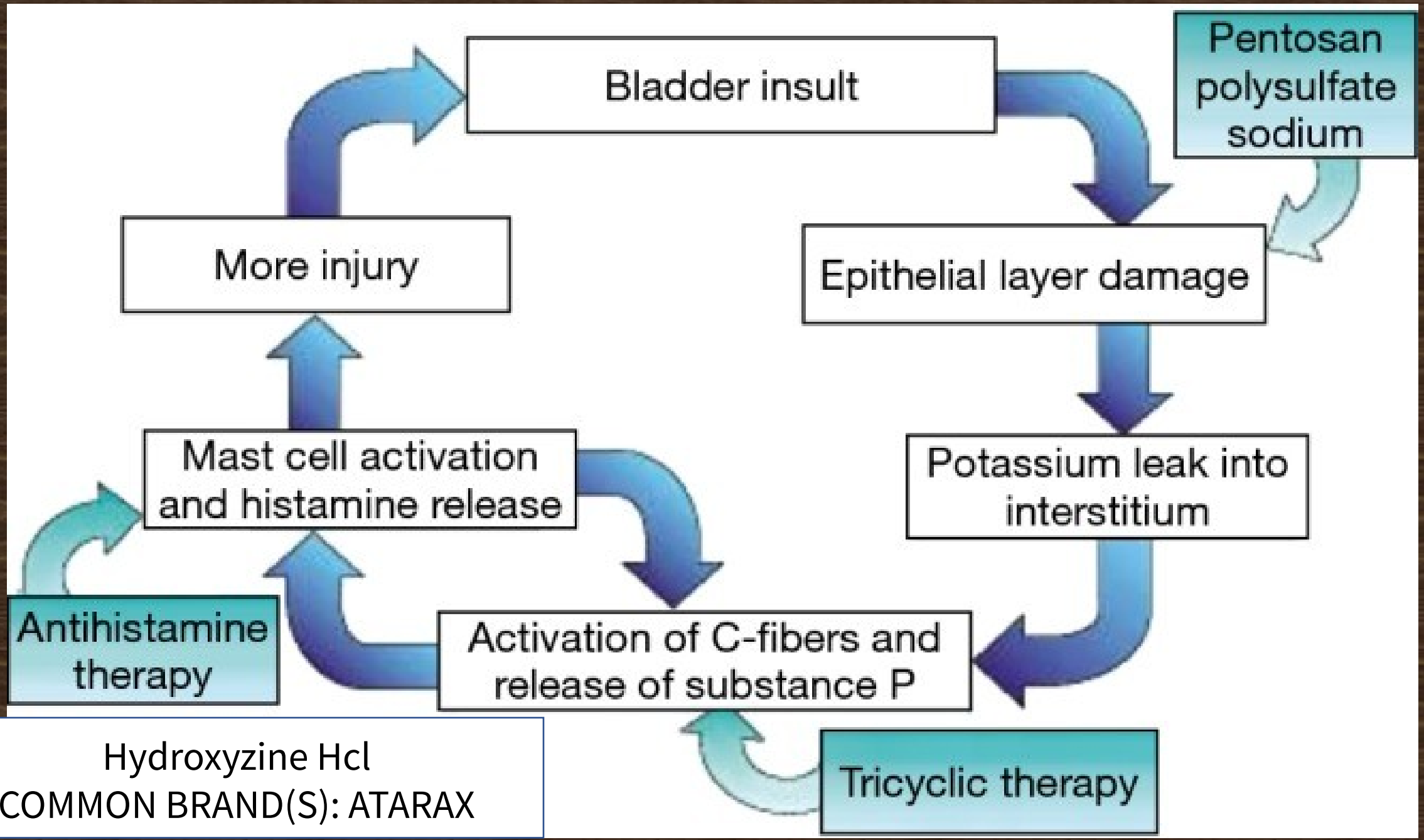
It binds to nerve endings, preventing the secretion of acetylcholine. This causes neuromuscular blockage and muscle paralysis.

BTX-A injected into the anal sphincter creates a temporary chemical denervation and injection into the levator, ani induces a similar effect of temporary relaxation

The effects of BTX-A last up to 16 weeks

Interstitial cystitis (IC)





Hydroxyzine Hcl
COMMON BRAND(S): ATARAX

Bladder pain, urinary frequency, urgency, or nocturia.
Suprapubic Pain
Pain in lower back or buttock.
Dyspareunia.
fibromyalgia, vulvodynia, anxiety, and depression

(NSAID)

Pentosan polysulfate sodium (PPS) PPS is hypothesized to mimic the normal glycosaminoglycan layer that protects the bladder urothelium that is dysfunctional in IC. Treatment is effective in 28% to 32% of patients but may require up to 6 months

Use of PPS in conjunction with tricyclic antidepressants may have better results.

Botox in combination with hydrodistention

Sacral nerve stimulation

Comfora

Elmiron

- Oral therapy
- PPS*
- Amitriptyline (antidepressant)*
- Hydroxyzine hydrochloride (antihistaminic)*
- Gabapantin*
- Steroids
- Cyclosporine A
- Intravesical agents
- Anesthetic cocktail*
- PPS
- DMSO*
- Hyaluronic acid
- Chondritin sulfate
- Surgical therapy
- Hydrodistension*
- Transurethral resection or fulguration or laser of Hunner's lesion*
- Intravesical botox injection
- Interstim
- Augmentation, substitution cystoplasty or urinary diversion

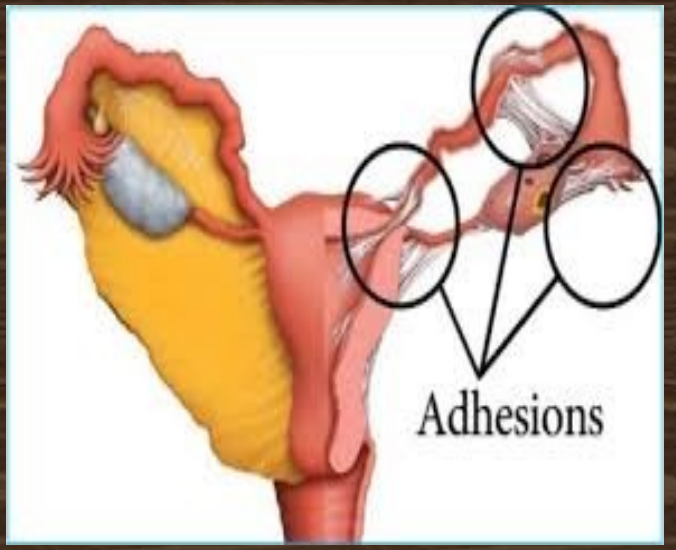
Chemically and structurally PPS is heparin-like macromolecular carbohydrate derivative resembling glycosaminoglycan (GAGs). It repairs endothelium lining of bladder.

The recommended dose is 100 mg 3 times a day empty stomach.

It may take 3-6 weeks for the effect to be noticed.

Important side effects are headache, gastrointestinal upset, hair loss and rectal bleeding.

Pelvic infection



Direct extension from adjacent viscera

Uterine instrumentation

Cervical stenosis, polyps

Forgotten IUD

Degenerating myomas

Anaerobic vaginal flora in the postmenopausal woman.

If a patient is told she has infection by the side of her uterus, she is alarmed.

questions asked

How did I get it?

Is it a serious problem?

Will my uterus be removed?

Will I get infertile?

Microorganisms involved

Chlamydia trachomatis ,Neisseria gonorrhea
Bacteroides ,Gardneralla vaginalis,

Peptostreptococcus ,Streptococcus agalectiae ,Ureaplasma, Nongenital
Haemophilus influenzae,

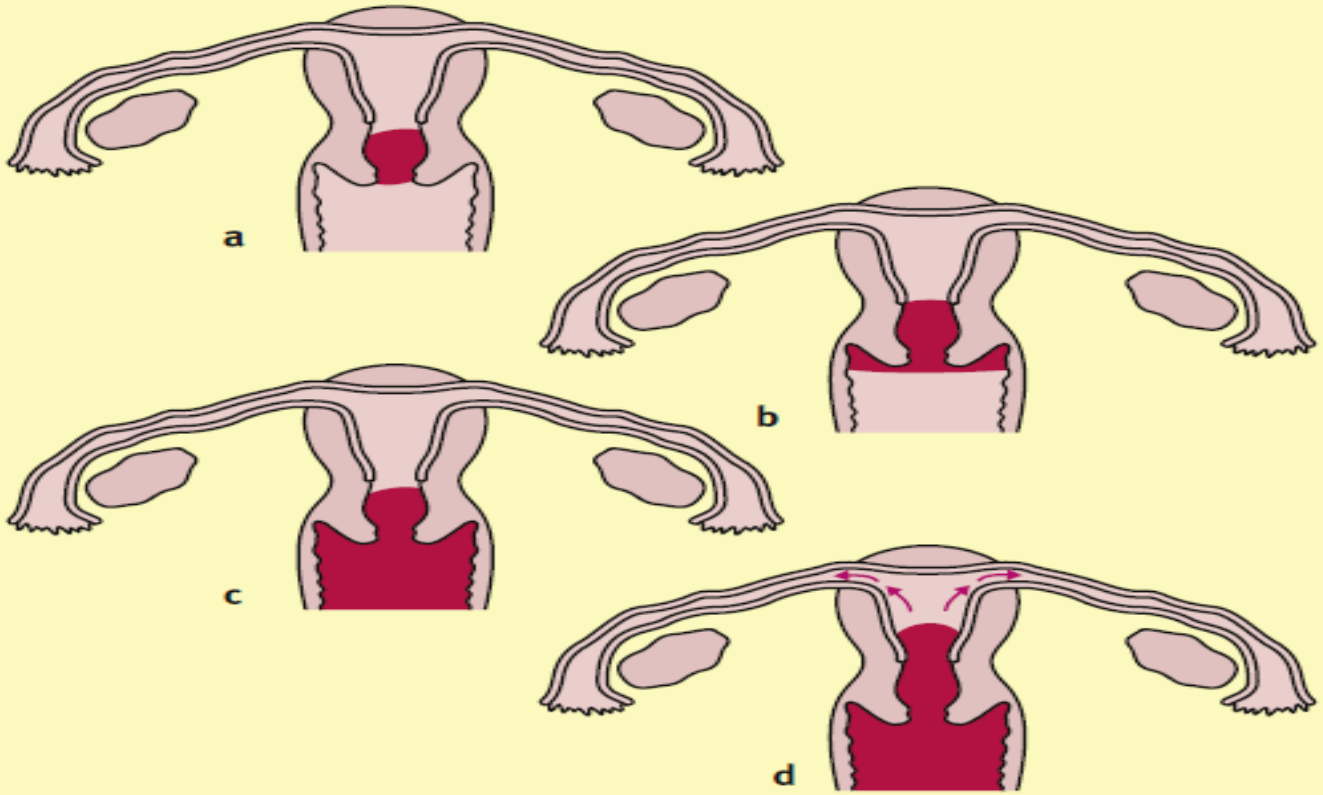
Haemophilus parainfluenzae

Chlamydia trachomatis and Neisseria Gonorrhoea are most important

Answer to patient's question. Why did I get it?

Pathogenesis of pelvic inflammatory disease

PID begins with cervicitis (**a**). This is followed by a change in the cervicovaginal micro-environment (**b**) that leads to bacterial vaginitis (**c**). Finally, the original cervical pathogens, the flora causing bacterial vaginitis or both ascend into the upper genital tract (**d**). The red areas indicate the affected portions of the genital tract.



McCormack W M. *N Engl J Med* 1994; **330:** 115–19.

Answer to patient's question. Why did I get it?

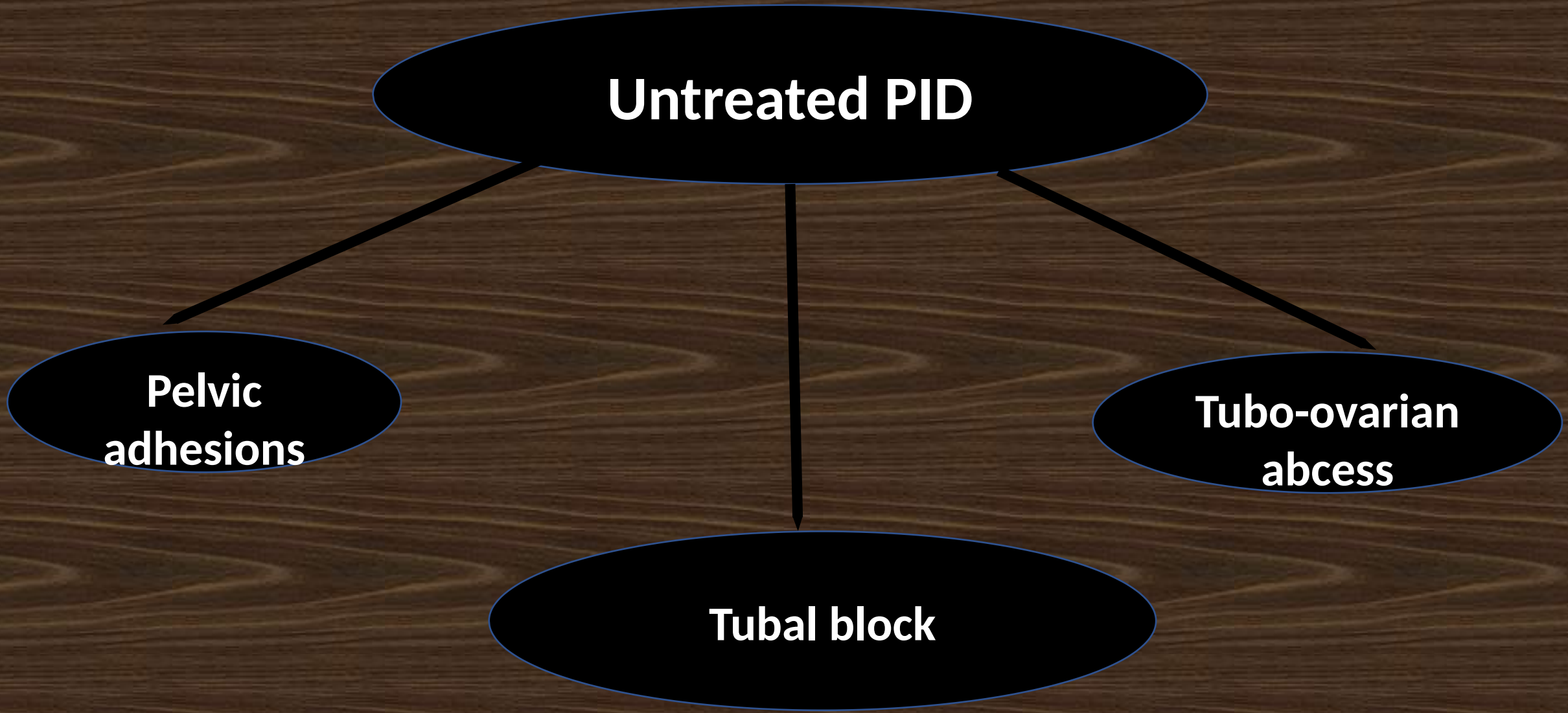
There may be a genetic predisposition to have less immunity in the presence of cervicitis.

Presence of Toll like receptor genes are responsible for this. So we may tell the patient, :

"Look, may be you are prone to it, but I will look after you"

Infect Dis Clin North Am. Author manuscript; available in PMC 2014 December 01.NIH-PA

Answer to question: Is it serious?



When to initiate empirical treatment for PID

Pelvic or lower Abdominal pain + One of the following on examination

- Cervical motion tenderness
- Uterine tenderness
- Adnexal tenderness

Patient's question: How do you know I have infection? Urine is NAD.USG is NAD

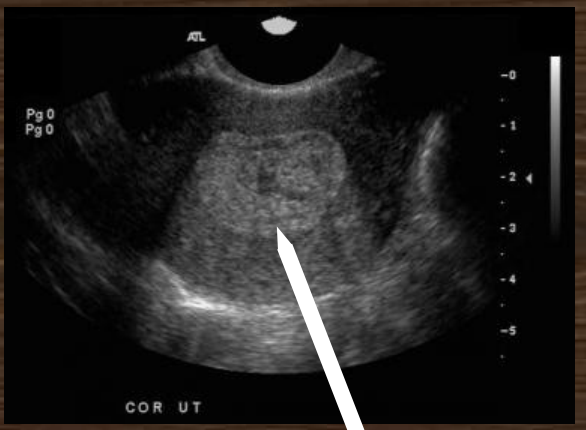
Diagnosis is essentially empirical

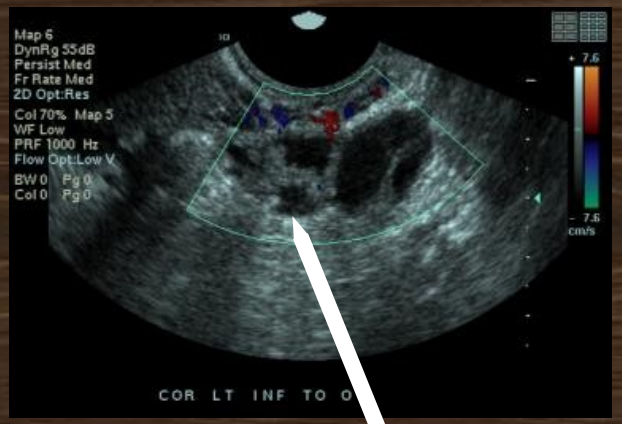
Oral temperature > 38deg.C
Many WBC's on vaginal fluid
Raised ESR/CRP
Lab. Documentation of N Gonorrhoeae or C.Trachomatis

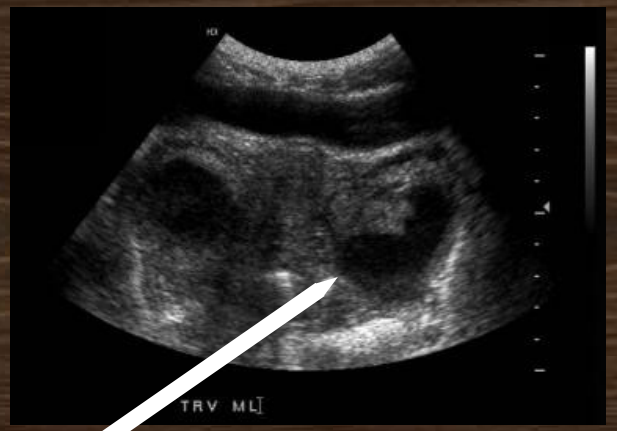
The following test results are the most specific criteria for diagnosing PID:

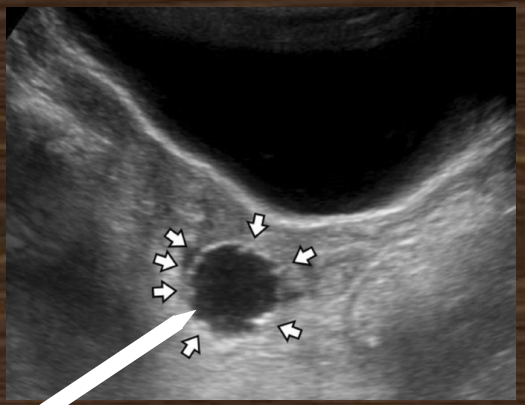
- Endometrial biopsy with histopathologic evidence of endometritis
- Transvaginal sonography or magnetic resonance imaging techniques showing thickened, fluid-filled tubes with or without free pelvic fluid or tubo-ovarian complex, or Doppler studies suggesting pelvic infection (e.g., tubal hyperemia)
- Laparoscopic abnormalities consistent with PID

USG findings









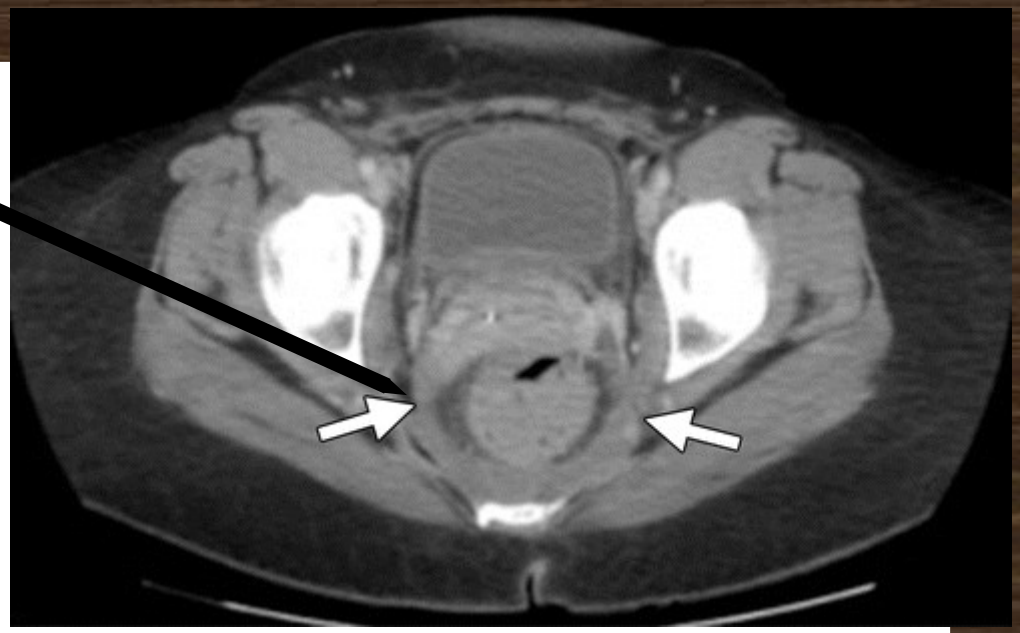
Tubal wall thickness greater than 5 mm,
Incomplete septae within the tube,
Fluid in the cul-de-sac,
Cogwheel sign (a cogwheel appearance on the cross-section tubal view)

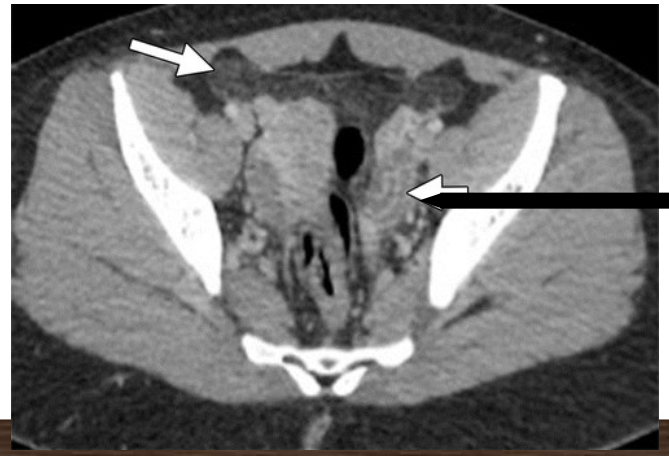
CT Scan

Thickened uterosacral ligaments,

Inflammatory changes of the tubes or ovaries,

Abnormal fluid collection.





Thickening of tube

MR Scan

Presence of a tubo-ovarian abscess, a pyosalpinx,

Fluid-filled fallopian tube,

Polycystic-like ovaries with free pelvic fluid

Antibiotic sensitivity of organisms

Gonococcus	Ceftriaxone
Mycoplasma, Ureoplasma	Doxycyclin , Azithromycin, Quinolones
Anaerobes, Gardenella	Metronidazole

In practice, tenderness in pelvis makes us treat a patient for pelvic infection

Average prescriptions in India for PID

7 day prescription of Doxycyclin

7 day prescription of Cefixime

Prescription of azithromycin, ornidazole, fluconazole

CDC and Government of India Guidelines:Ceftriaxone 250 mg IM/IV single dose plus +/- Metronidazole 500 mg BD x 14 days Plus Doxycycline 100 mg BD x 14 Days

No body gives this single shot of Ceftriaxone to cover gonococcus

Not many prescribe metronidazole for 14 days

The 2015 US CDC PID guideline2 advises that metronidazole be considered to provide additional anaerobic cover but does not mandate its use.

The 2017 European IUSTI PID guideline11 and the 2018 BASHH PID guideline64 recommend the use of metronidazole but advise that it can be discontinued in those with mild to moderate symptoms if they develop drug-related side effects.

Cochrane 2019 analysis does not support the routine use of metronidazole in the treatment of women with mild to moderate PID and can be used to inform future guideline revisions.

Cochrane systematic review and meta-analysis of randomised controlled trials;Ricardo F Savaris,1 Daniele G Fuhrich,1 Rui V Duarte,2 Sebastian Franik,3 Jonathan D C Ross4: Savaris RF, et al. Sex Transm Infect 2019;**95**:21–27. doi:10.1136/sextrans-2018-053693

Should we push our doctors to follow old guidelines?

Should we have a study from our own practicing doctors and revise the Indian guidelines according to prescription practices and collect evidence?

A look into some regimens which do not require injectables in Outpatient treatment.

Cefixime 400 mg orally in a single dose
Plus
Azithromycin 1 g orally in a single dose
Plus
Metronidazole 500 mg orally twice daily for 7 days

Expert Rev. Anti Infect. Ther. 9(1), 61–70 (2011)

Levofloxacin 500 mg orally once daily or **ofloxacin** 400 mg twice daily for 14 days

WITH or WITHOUT **metronidazole** 500 mg orally twice daily for 14 days

R. Duarte et al. / International Journal of Antimicrobial Agents (2015)

Moxifloxacin
400mg once daily-14 days ‘four large randomised controlled trials have demonstrated effectiveness

The main limitation in the use of moxifloxacin is its limited cover for gonococcal PID.

Empiric treatment for gonorrhea and chlamydia is recommended for all male sexual partners within the past 60 days, or the most recent sexual partner if >60 days ago, regardless of symptoms or the result of gonorrhea and chlamydia testing in the female patient with PID.

Infect Dis Clin North Am. Author manuscript; available in PMC 2014 December 01.

Review at **72 hours** is recommended for moderate or severe symptoms or signs (Grade2D).

Failure to improve needs further investigation, parenteral therapy and/or surgical intervention.

Further review, , 2-4 weeks after therapy is recommended (Grade 1D) to ensure:

- adequate clinical response to treatment
- compliance with oral antibiotics
- screening and treatment of sexual contacts
- awareness of the significance of PID and its sequelae
- repeat pregnancy test, if clinically indicated

Criteria for hospitalization in women with pelvic inflammatory disease.

- Patient does not respond clinically to oral antibiotic therapy
- Patient is unable to follow or tolerate an outpatient oral regimen
- Patient has severe illness, nausea and vomiting or high fever
- Patient has a tubo–ovarian abscess

Surgical Management

- Uncertain diagnosis
- Failed medical management.
- Severe diseases
- TO Abscess, Pelvic Abscess

Post menopausal lady with ovarian cyst 4cm diagnosed for 3 months.
Occasional fever
Tender pelvis seen on examination. complex 4 cm ovarian cyst.
She had constant dragging pain for 4 months.

D/D from endometrioma or haemorrhagic cyst .
Corelate with clinical findings.

PV: cervical movements & Fornix tender.; High count of polymorphs, fever.
Easy to misdiagnose it as a functional cyst leading to procrastination, missing florid pelvic infection which worsens in the waiting period

Tubo ovarian abscess

Admit patient for 24 hours if patient is haemodynamically stable

Antibiotic therapy may be sufficient in many women

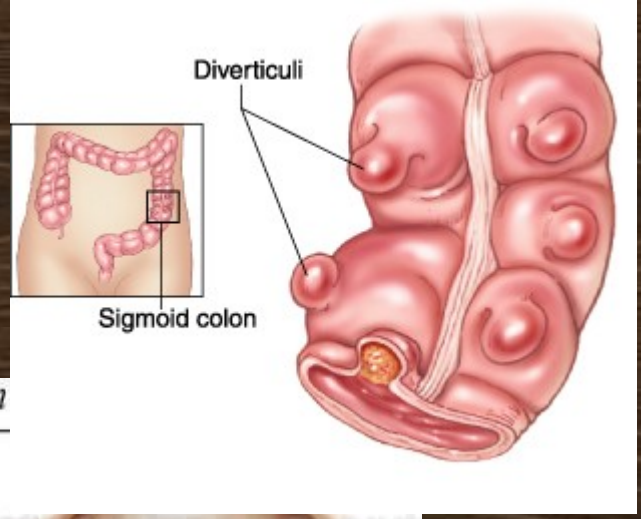
When no clinical improvement is noted within 72 hours of antibiotic initiation, minimally-invasive drainage of the abscess or surgical management

In acute abdomen or if haemodynamically unstable, surgical procedure is warranted.

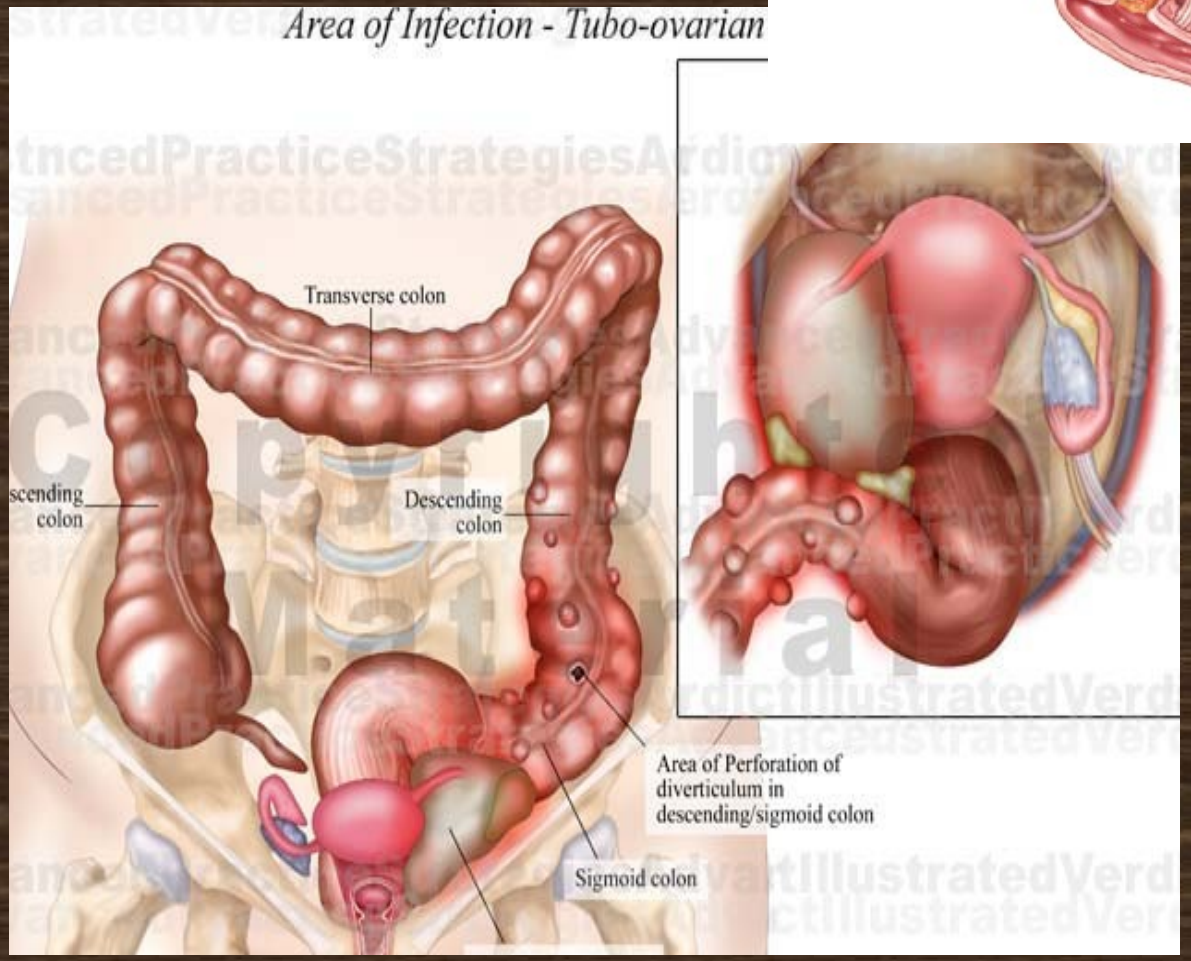
In older women, if you diagnose an ovarian abscess on the left side as the patient came with an ovarian mass

Should you also look for something in her intestines?

Look for diverticulosis



- Diverticulosis is a pocket of mucosa which herniates through the muscularis propria
-
- Occasionally it will involve the left ovary
-
- In such cases, usual diverticulitis symptoms like localized lower abdominal pain, constipation or diarrhea and increased flatulence, may be minimal or absent.



Pelvic abscess

- Resuscitation
- Management of septic shock
- Drainage

1. Percutaneous guided

   USG guided- Less invasive

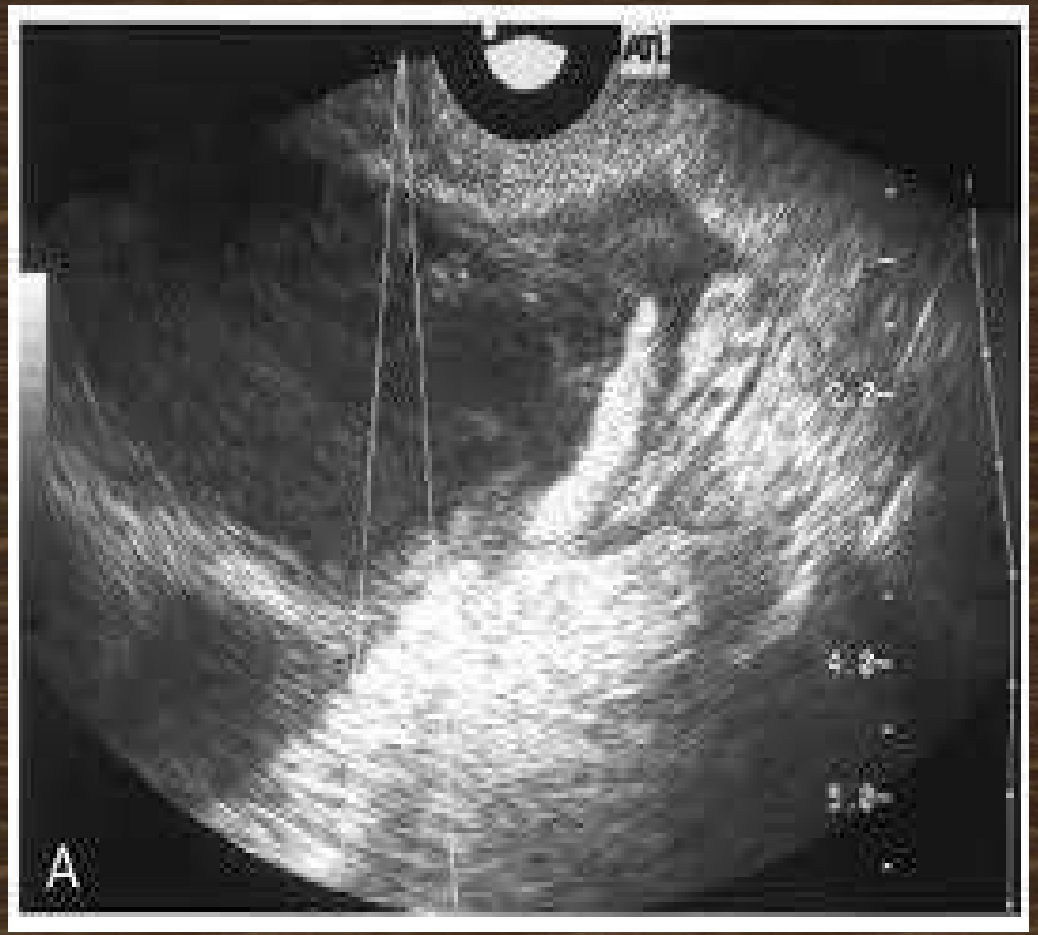
   If fails → CT guided

   Drain may is

   placed

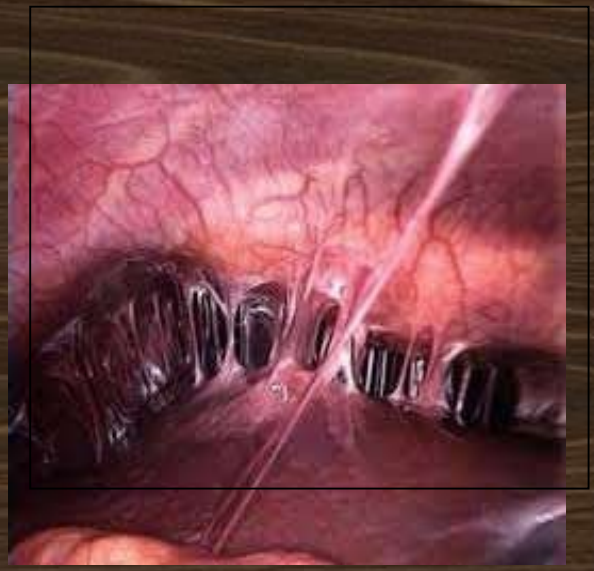
2. Laparoscopy
3. Colpotomy
4. Laparotomy

   Peritoneal wash
   Vault left open for drainage
   Penrose drain is kept



Laparoscopy

1. Explore all the organs
2. Aspiration
3. Drainage of abscess
4. Peritoneal fluid send for culture and sensitivity
5. Adhesiolysis- pelvic and perihepatic adhesions
6. Irrigation



Inpatient regimens for severe PID

Cefotetan 2 g IV every 12 h + doxycycline 100 mg PO or IV every 12 h

Cefoxitin 2 g IV every 6 h + doxycycline 100 mg PO or IV every 12 h

Clindamycin 900 mg IV every 8 h + gentamicin (3–5 mg/kg) IV daily

Continue treatment for 24-48 hours after clinical remission

Later convert into Outpatient treatment to complete 14 day treatment

G.W. Ford, C.F. Decker / Disease-a-Month] (2016

35 year old woman with intermittent
Bouts of abdominal pain

No relation to periods

Uterus is tender fornices are tender

H/O previous LSCS.

Ultrasound- small 3-4 cm ovarian cyst

Release of adhesions of intestine to anterior wall of abdomen and ovary to back of uterus relieved the pain.

Pelvic venous congestion is a less diagnosed entity for pelvic pain.

How do you diagnose it? Is it empirical diagnosis?

What is the treatment?

Symptoms and signs:

Pain during and after intercourse (lasting up to 24 hrs)

- Tender ovaries
- Backache
- Pain during periods
- Varicose veins –
- Irritable bladder
- Abnormal menstrual bleeding
- Vaginal discharge

Pelvic examination

May be unremarkable

Or there could be tender fornix without evidence of infection

Diagnosis

Laparoscopy

Venography

Treatment of Pelvic venous congestion

Daflon 500mg 1-1 for 4 months

Taskin O; Uryan I; Buhur A;et al
J Am Assoc Gynecol Laparosc 1996 Aug;3(4, Supplement):S49

- Medroxy progesterone 30mg /day for 3 months . Pain recurs on stopping treatment.
-
- Goserlin 3.6mg monthly for 3 months
-
- NSAIDs for temporary pain relief
-
- Ovarian artery embolisation but long term results are awaited.

65 year old lady comes with abdominal pain
Treated elsewhere with antacids and cyclominol

Wants reference to gastroenterologist

On questioning she had pulled on a cow 2 weeks back.

NSAID's cured her!!!

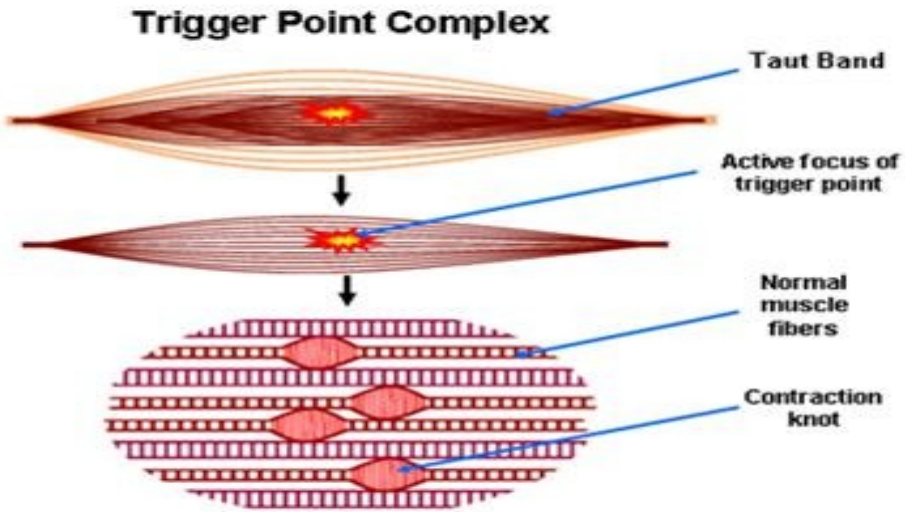
Musculoskeletal problems

Myofascial trigger points

Trigger Points (Simons, Travell, and Simons, 1999)

Definition

- Active Trigger Points
  - hyperirritable spots
  - taut band of skeletal muscle/fascia
  - painful upon compression
  - produce characteristic pain, referred tenderness, motor dysfunction and/or autonomic phenomena

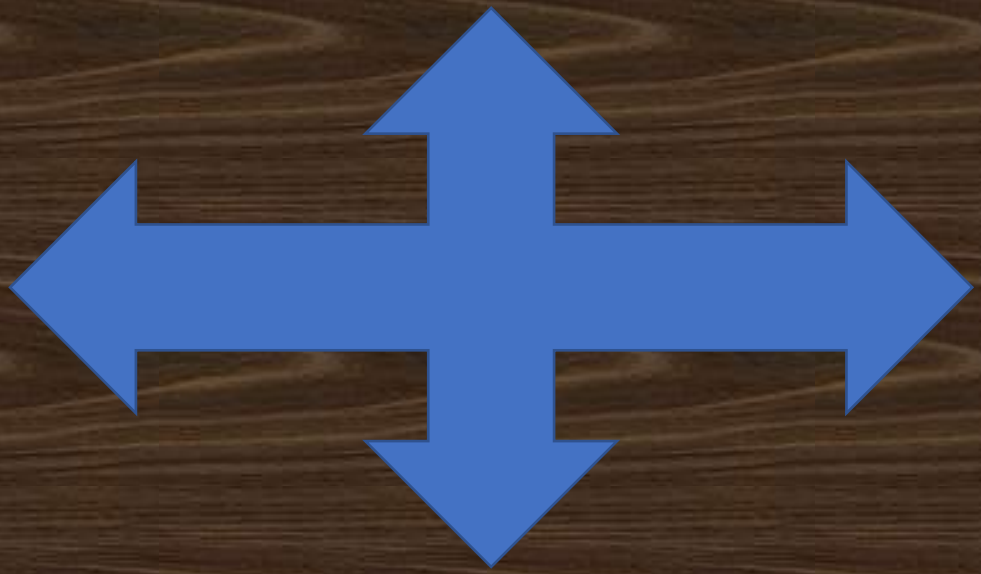


Active MTrPs produce local or referred pain or sensory disturbances

Latent MTrPs will not trigger symptoms unless activated by an exacerbating physical, emotional, or other associated stressor

Poor posture

Direct trauma



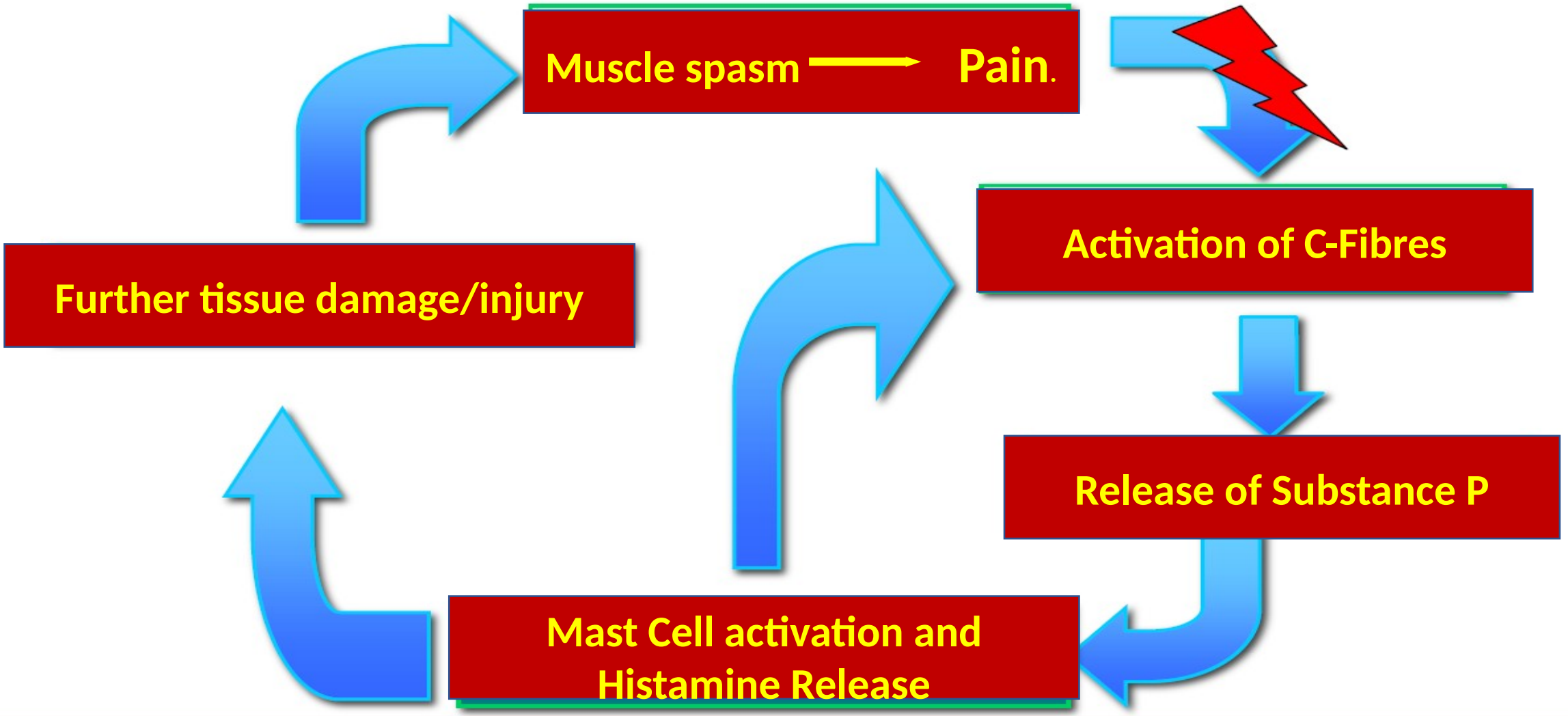
Joint hypermobility

Previous surgeries

Static exertion of muscle during prolonged tasks leading to myofascial trigger points

Deficiencies of vitamins B1, B6, and B12, folic acid, vitamin C and D, iron, magnesium and zinc

Vicious Cycle / Cascade of Trigger Point Activation in PFD



Trigger point injections

Mix:

2ml Xylocaine

1 Ampuoule 100mg Hydrocortisone

Distilled water to make 20 ml

Load in a 20 ml syringe

Inject 2ml into painful areas in vagina.

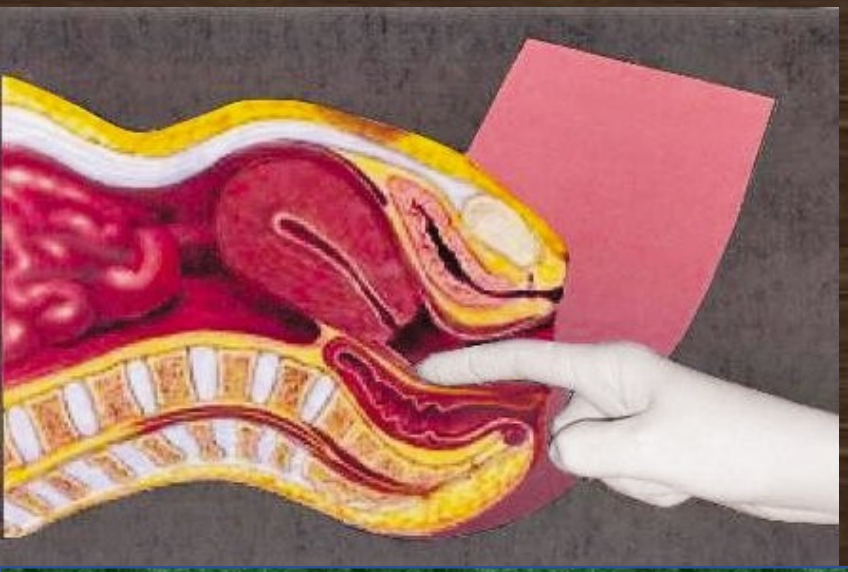
Potential Adverse Events

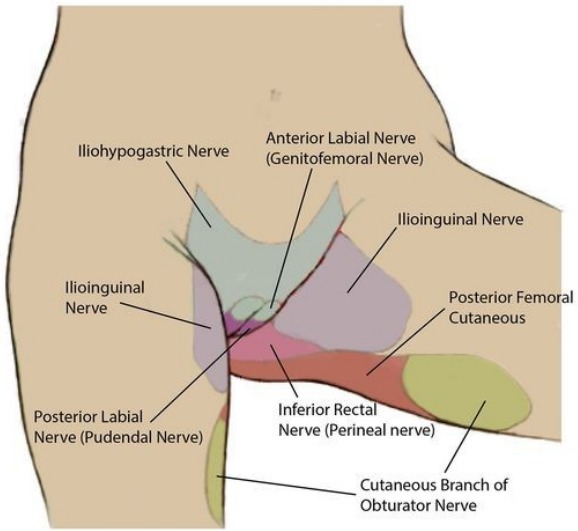
Transient exacerbation of pain

Vasovagal syncope

Vaginal hematoma

• Pelvic Floor Muscle	• **Referral Pattern**	• **Possible Patient Complaint**
•	**Superficial Muscle Layer**	
• Bulbocavernous	• Perineal pain, urogenital structures	• Dyspareunia, pain with orgasm, clitoral pain
• Ischiocavernosus	• Perineal pain, urogenital structures	• -DO-
• Transverses perineum • (Superficial transverse perineal)	• None documented	• Dyspareunia
• Anal sphincter	• Posterior pelvic floor, anus/rectum,pubic pain	• Burning or tingling in anus/rectum, pain before/during/ after defecation.
	• **Deep Muscle Layer**	
• Levator ani anterior: • (Pubococcygeus/ puborectalis)	• Suprapubic region, urethra, bladder, perineum, pain/symptoms	• urinary urgency &frequency painful urination after intercourse,dyspareunia
• Levator ani posterior: Iliococcygeus	• Sacrococcygeal, deep vaginal, rectal, perineal, anal pain	• Pain before/during/after defecation, dyspareunia, thrusting pain
	• **Other deep pelvic Floor Muscles**	
• Coccygeous	• Sacrococcygeal, buttock pain	• Pain with sitting, during





Palpate the pelvic floor muscles externally over the perineum around the imaginary numbers of a clock, known as the "around-the-clock" technique

Examine for taut bands, possible trigger points, local or referred pain or other familiar symptoms. Palpate the mobility of the perineal body in all directions. If the woman describes rectal pain, palpating around the circular external anal sphincter muscle is indicated, being careful to avoid vaginal contamination after such palpation

Pelvic floor muscle spasm with point tenderness on physical examination

Pelvic floor physical therapy

No relief

Add medications

No relief

Pelvic floor trigger points

Physical therapy

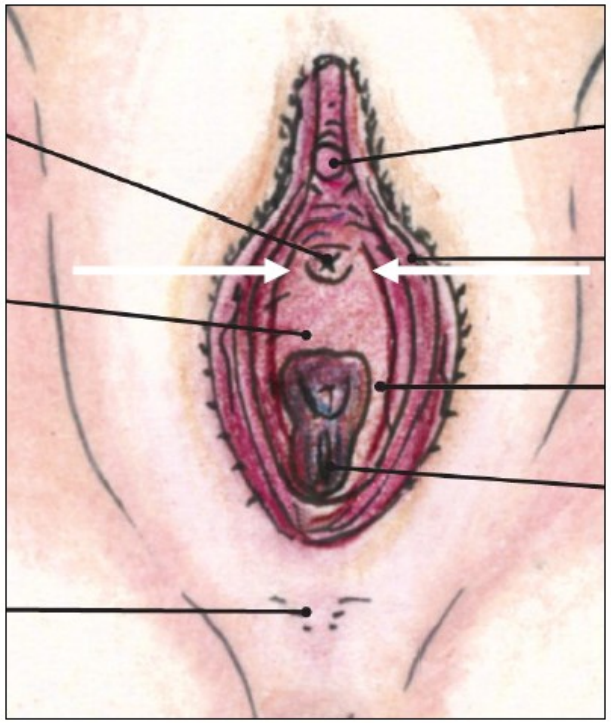
muscle ::::
contract/relax technique followed by a prolonged stretch.

Fascia:::::
myofascial release technique using gentle, slow, sustained pressures and a flat palpation is often used.

Foam rollers and physioballs are useful for self-stretching and self-myofascial release.

Periurethral Block

- Focal, urethral pain
  - Dysuria and dyspareunia
- RULE OUT INFECTION (Ureaplasma, Mycoplasma) AND URETHRAL DIVERTICULUM (MRI)
- 4-5 cc bupivicaine / triamcinolone bilateral with one finger in vaginal canal for guidance



Acute Cystitis and Pyelonephritis

In one study 3 day treatment with ofloxacin once a day was better than 7 day treatment with cephalexin 500mg 1-1-1-1

Alarming increase in multidrug-resistant uropathogens;

Prevention

Use of probiotics to restore normal flora.

Cranberry juice containg proanthocyanidin prevents vaginal colonisatioation of e coli

Post hysterectomy patient with

excruciating pain in abdomen

with 7cm ovarian cyst

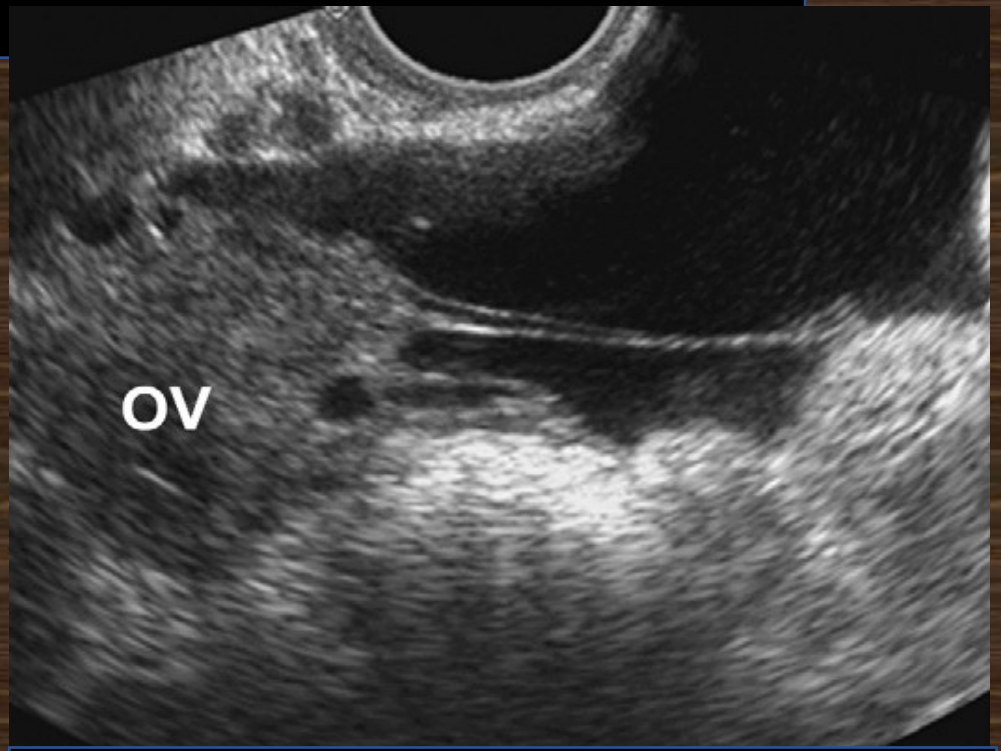
Properitoneal cyst masquerading as ovarian cyst in a post-hysterectomy patient. Patient had come with excruciating pain and USG showing 7 cm ovarian cyst. The grasper in the picture is touching the only area of the cyst like structure where there was no intestine. On making a hole in that area, it was found that there was no ovarian cyst. The mass of intestines stuck together, with fluid inside, was giving appearance of an ovarian cyst.

Peritoneal adhesions surround the ovary and fluid accumulates. Adhesions extend to the surface of the ovary and fluid accumulates, forming complex cystic masses. This appearance is called a peritoneal inclusion cyst.

They are usually found in women with previous abdominal surgery, PID or endometriosis

The entrapped ovary appears like a spider in a web and may be mistaken for a solid nodular portion of the tumor with surrounding septations

USG diagnosis depends on seeing a normal ovary on the same side with surrounding loculated fluid conforming to the peritoneal space



Peritoneal inclusion cyst. Transvaginal grayscale image of the right adnexa demonstrates a spider-web pattern with presence of loculated fluid and an eccentric right ovary (OV).

Woman with H/o hysterectomy
By vertical scar.

5 cm simple ovarian cyst

Abdominal distension

Abdominal pain

What will you do?

Symptomatic treatment may be best . Pain could be due to intestinal adhesions

Abdomen was divided into two compartments, with dense intestinal adhesions in the centre. This was causing the pain, not the ovarian cyst.

Post hysterectomy patients can be very tricky and dense adhesions have to be anticipated. Decision for surgery should be deferred, unless absolutely necessary.

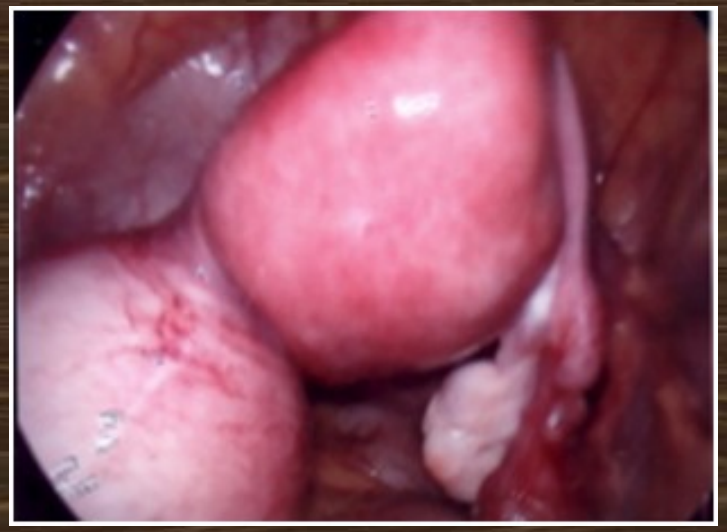
Rudimentary horn pregnancy could present a clinical course like ectopic pregnancy.

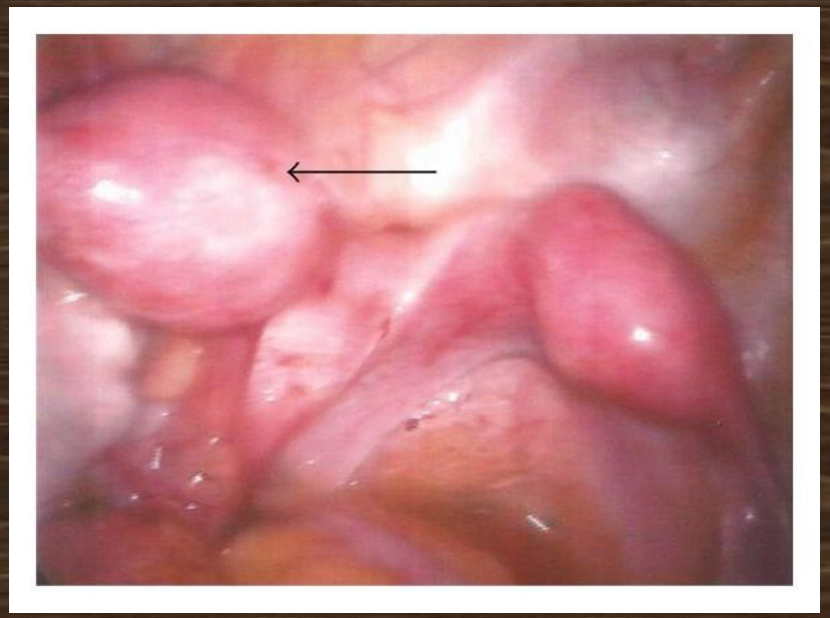
USG may show a mass or just as bulky uterus

Laparoscopy is usually done with a diagnosis of ectopic, or chocolate cyst or adenomyosis or just for diagnosis and only on table diagnosis is made. Rudimentary horn should be excised.

Characteristics of secondary dysmenorrhea include beginning of pain 7-14 days before menstruation, continuation of pain after menstruation, resistance to non-steroidal anti-inflammatory drugs and contraceptive pills. In case of secondary dysmenorrhea, uterine and vaginal anomalies, menstrual outflow obstruction, endometriosis, adenomyosis and uterine myoma are considered in the differential diagnosis

How will you differentiate rudimentary horn as a cause of dysmenorrhoea?

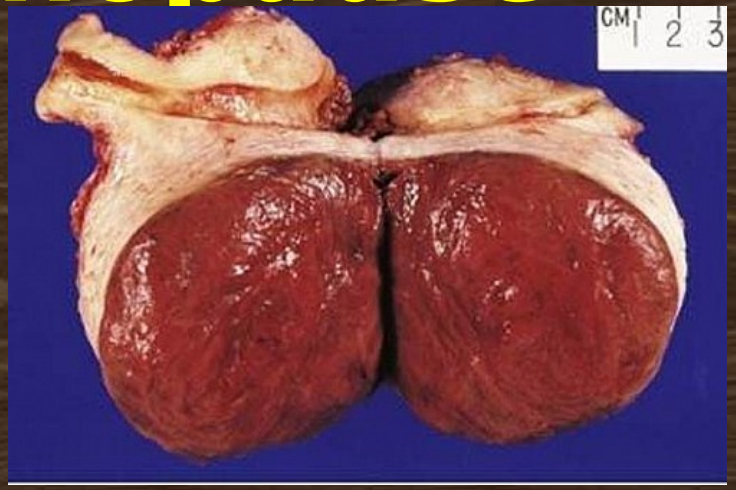


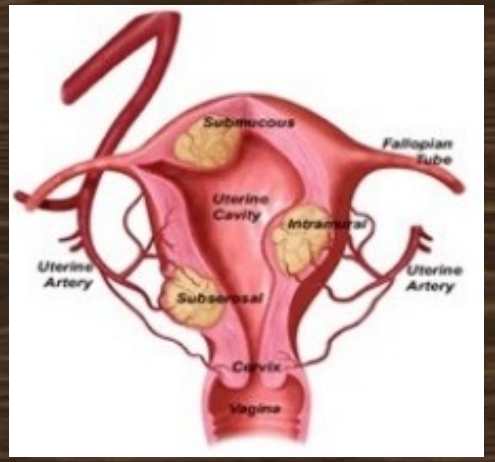


27 years old lady, para 2 reported with pain abdomen of many months duration. Pain was intermittent initially but had become almost continuous and was dull aching in character. She had two normal vaginal deliveries. Her general and systemic examination was normal. Gynecological examination revealed a normal size uterus with adnexal mass of 10 to 12 cm, globular mass which had restricted mobility. Ultrasound suggested large endometriotic cyst. She was posted for diagnostic laparoscopy which showed an enlarged and distended rudimentary horn on right side

Fibroid degeneration after menopause

Rare, but reported.

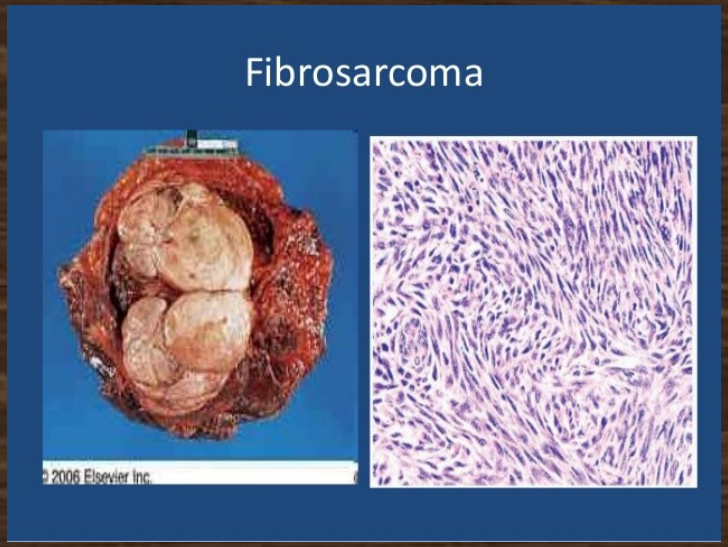


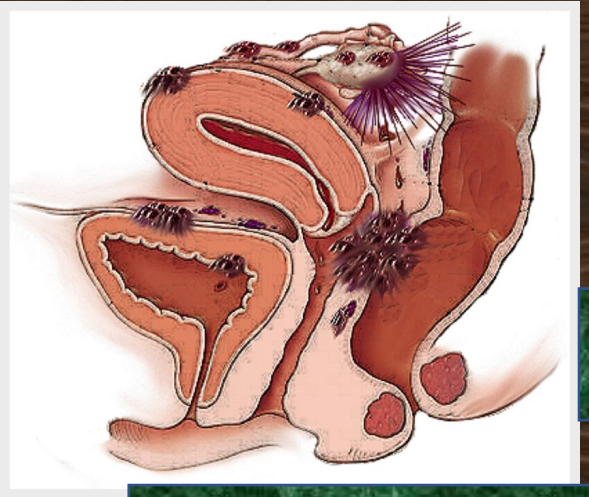


Can present as acute abdomen,
low grade fever, and leukocytosis,
mimicking surgical abdomen.

Degeneration results from excessive growth
that out-matches the blood supply.
Or mechanical compression of feeder arteries
Excessive production of growth factors
(epidermal or insulin-like) from the fibroid

Rapid growth should alert the doctor
to the presence of sarcoma





menopausal endometriosis

First reported in the 1950

Rare: To be considered in postmenopausal and castrated woman with classical symptoms of endometriosis (mostly pain).

After the menopause, patients with endometriosis and radical operation should be informed that unopposed estrogen replacementtherapy might increase the risk of persistence or recurrence of endometriosis

Hormone therapy in such patients might potentially increase the risk of neoplastic transformation of residual tissue

When estrogen is combined with progesterone, the risk is lower