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Endometriosis

1 in 3 will struggle with infertility

DR. AUMATMA

Endo is one of the leading causes of infertility

Hard to diagnose & treat

Classic sxs: Dysmenorrhea & Pelvic Pain
Other sxs may include: intestinal upset, heavy menses, fatigue

Some women can have infertility as the only symptom

How it's diagnosed:
Ultrasound can be helpful in viewing endometriomas

MRI: may be able to visualize endometrial implants

Laproscopic surgery is the only definitive diagnosis

BCL-6 is a progressive test (small biopsy of endometrium) - relatively accurate but not vastly available

What is it?

The growth of endometrial tissue outside the endometrium. It can grow anywhere but often involves the fallopian tubes, ovaries and tissue surrounding the pelvis

This tissue thickens and bleeds cyclically — but the blood has nowhere to go so it becomes trapped.

Can lead to scar tissue and adhesions

Proposed Causes of endometriosis

- Retrograde menstruation
- Environmental toxin exposure
- Iatrogenic transplantation
- Genetic predisposition
- Autoimmune disease
- Transformation of peritoneal or embryonic cells
  * cells transform into endometrial cells
- Endometrial cell transport
  * Blood vessels/ lymph transports endometrial cells to other parts of the body
- Surgical scar implantation
  * endometrial cells attach to surgical incision

Risk factors

- null parity
- Early onset of menses
- Short or heavy menstrual cycles
- Low BMI
- Family hx
- Reproductive tract anomalies

Complications

- Infertility
    * From tubal obstruction or damage to eggs
    * can also contribute to decreased implantation
- Cancer

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Stages of Endo

I-IV

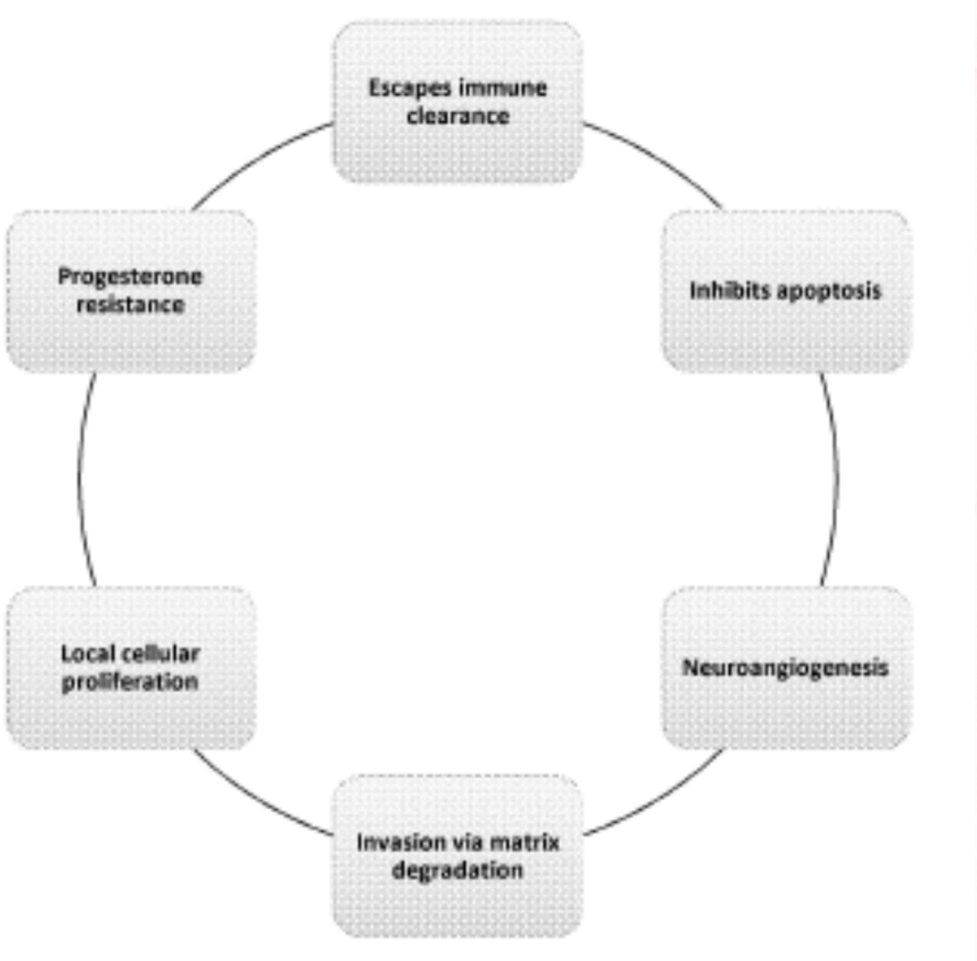
* don’t necessarily correlate with pain levels

* Need to be surgically determined

* Based on:
  - Location
  - Extent and depth of implants
  - Presence of and severity of adhesions
  - Size of endometriomas

What's going on?

Endometrial cells have an invasive nature



- Angiogenesis and/or inhibited apoptosis
- Inflammation
- Escapes immune clearance
- Progesterone resistance
  ** Increased estrogen response

Photo credit: Dr Amy Day, ND

Conventional tx options

* Pain medications - NSAIDs, Ibuprofen, Aleve

* Hormonal therapies:
  - Hormonal Contraceptives - OCPs, patches, and vaginal rings may help to control the hormones responsible for buildup of endometrial tissue
  - GnRH agonists & antagonists: block production of ovarian-stimulating hormones, lower estrogen levels, and prevent menses (i.e. faux menopause!)
  - Progestin therapy
  - Aromatase inhibitors - help reduce estrogen levels

* Surgical options
  - hysterectomy
  - conservative laparoscopic surgery - removes endometriomas (should consider a surgeon who has good success with women ttc)

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Functional Testing

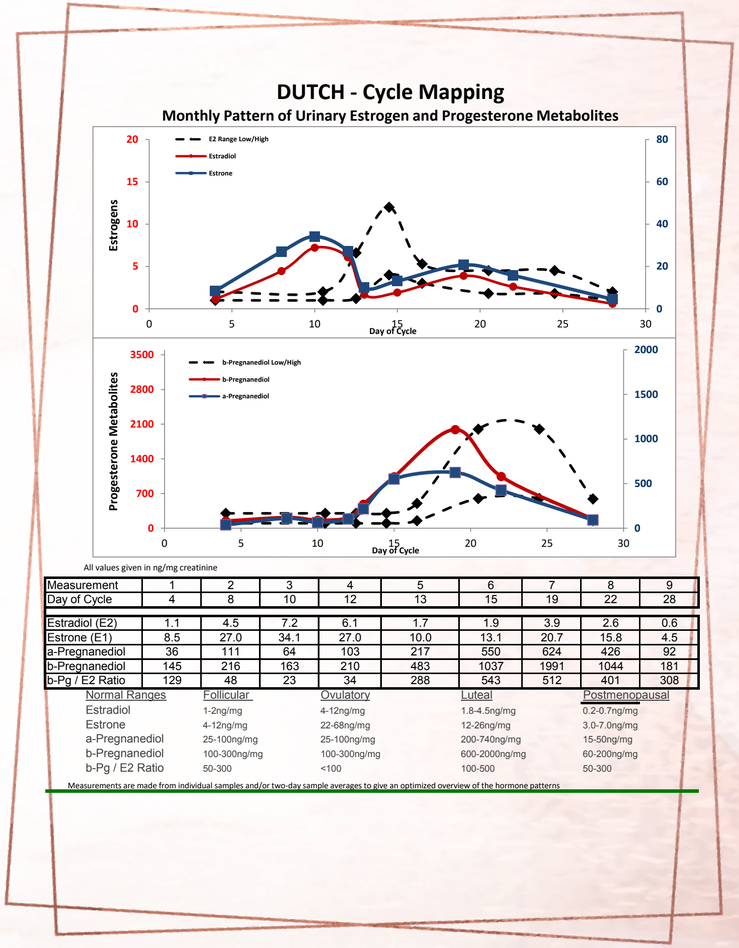
DUTCH CYCLE MAPPING

Essential in figuring out estrogen / progesterone imbalances and metabolism of estrogens

FOOD SENSITIVITIES

Extremely common in women with endo; might also need to rule out Celiac/ Gluten sensitivities

NUTRITIONAL TESTING



DUTCH - Cycle Mapping

Monthly Pattern of Urinary Estrogen and Progesterone Metabolites

All values given in ng/mg creatinine

Measurement	1	2	3	4	5	6	7	8	9
Day of Cycle	4	8	10	12	13	15	19	22	28
Estradiol (E2)	1.1	4.5	7.2	6.1	1.7	1.9	3.9	2.6	0.6
Estrone (E1)	8.5	27.0	34.1	27.0	10.0	13.1	20.7	15.8	4.5
a-Pregnanediol	36	111	64	103	217	550	624	426	92
b-Pregnanediol	145	216	163	210	483	1037	1991	1044	181
b-Pg / E2 Ratio	129	48	23	34	288	543	512	401	308

Normal Ranges	Follicular	Ovulatory	Luteal	Postmenopausal
Estradiol	1-2ng/mg	4-12ng/mg	1.8-4.5ng/mg	0.2-0.7ng/mg
Estrone	4-12ng/mg	22-68ng/mg	12-26ng/mg	3.0-7.0ng/mg
a-Pregnanediol	25-100ng/mg	25-100ng/mg	200-740ng/mg	15-50ng/mg
b-Pregnanediol	100-300ng/mg	100-300ng/mg	600-2000ng/mg	60-200ng/mg
b-Pg / E2 Ratio	50-300	<100	100-500	50-300

Measurements are made from individual samples and/or two-day sample averages to give an optimized overview of the hormone patterns

Treatment objectives

Naturopathic interventions

* Decrease estrogen levels and activity
* Address environmental toxin exposure
* Decrease inflammation
* Heal the gut
* Address auto-immune issues
* Increase progesterone sensitivity
* Reduce angiogenesis/ support apoptosis

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Options to decrease estrogen

- DIM / I3C
- Calcium d-glucarate
- Chrysin (aromatase inhibitor)

Options to increase progesterone

- Progesterone suppositories (100-200 mg /d, cyclical)
- EFAs - at least 2 g of EPA in combination with DHA

Decrease inflammation

- EFAs 2-5 mg
- Resveratrol - 200-500 mg
- Quercitin - 500-1500 mg
- Pycnogenol - 100-200 mg
- Ashwagandha - 500 mg bid
- Boswellia - 200-500 mg tid
- White willow bark - 240 mg qd
- Curcumin - 400-600 mg

MELATONIN

10-20 mg QHS

- Decrease inflammation
- Decrease pelvic pain by up to 40%
- Induced apoptosis
- Prevents cell adhesion
- Reduce the risk of using an analgesic by 80%
- Increases egg quality

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Green Tea: ECGC

- Shown to inhibit angiogenesis
- Decrease inflammatory responses
- Decrease growth of endometrial implants
- Reduced lesion size

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Anti-angiogenic foods

- Berries
- Cherries
- Soy beans
- Artichokes
- Pumpkin
- Oranges
- Red grapes
- Maitake
- Cinnamon
- Sea cucumber
- Grapefruit
- Bok choy
- Licorice
- Nutmeg
- Tuna
- Lemon
- Kale
- Turmeric
- Lavender
- Parsley
- Pomegranate
- Grapeseed oil
- Olive oil
- Tomato
- Apples
- Pineapple
- Dark chocolate
- Garlic

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