

*The Pillars of Creation*

# *Endometriosis*

David Redwine, M.D.

*the embryo*



## David Redwine, MD

Retired general obstetrician/gynecologist in Bend, Oregon, USA

My first wife had endometriosis and nothing made sense

30 years spent studying and surgically treating endometriosis

Developed laparoscopic excision as the most successful treatment of endometriosis

3,200 surgical cases of endometriosis from around the world, including almost 1,000 cases of intestinal endometriosis

Dozens of publications; hundreds of scientific presentations and surgical demonstrations on every continent except Antarctica

# Endometriosis

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1st description by Hippocrates (460 – 377 BCE), *On Diseases of Women and Virgins*

Today, after 2,422 years:

“enigmatic”, “mysterious”, “confusing”, “incurable”,

Symptoms dismissed resulting in 8 – 10 year delay in diagnosis

Misdiagnosed as sexually-transmitted disease, scar tissue, ovarian cysts.

Medicines try to treat symptoms, but do not treat the disease

“pregnancy, menopause, surgical castration are definitive treatment”

How did we get here?

To treat a disease effectively,  
its cause must be known

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## CAUSE OF ENDOMETRIOSIS:

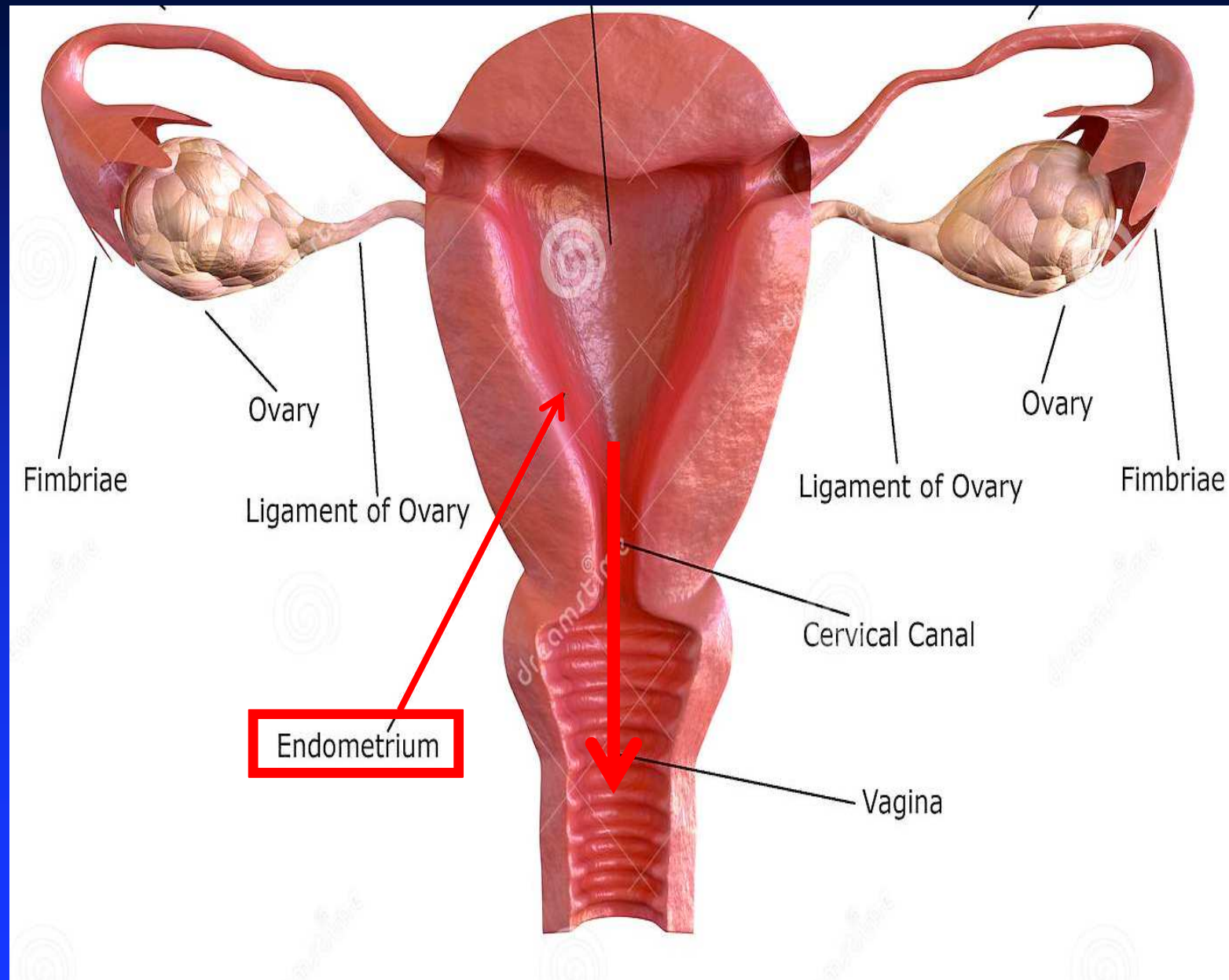
Reflux menstruation (Sampson's Theory)

*For a century, presented as the most  
likely origin of endometriosis*

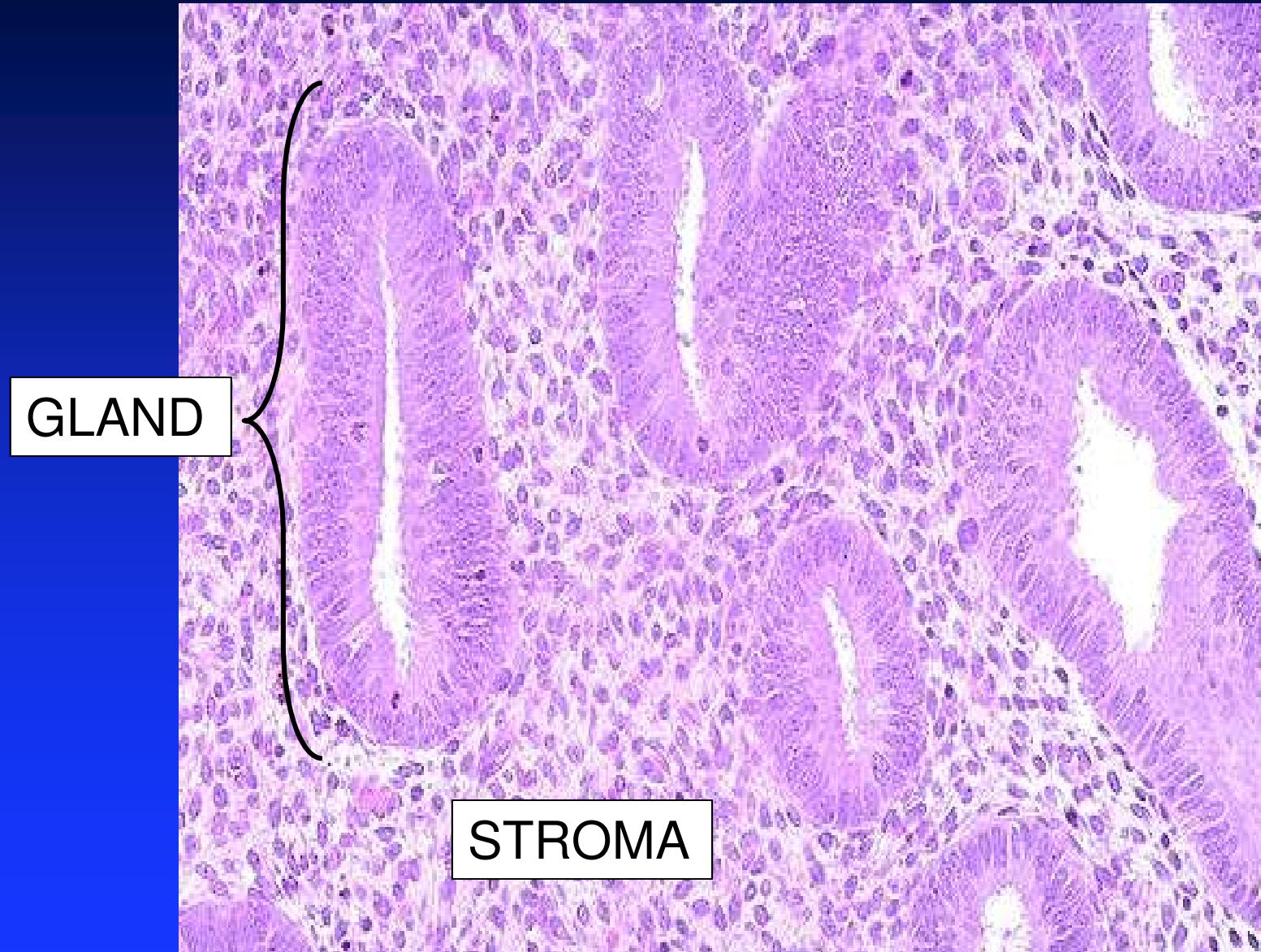
*Taught in all medical schools*

*Influences treatment and research*

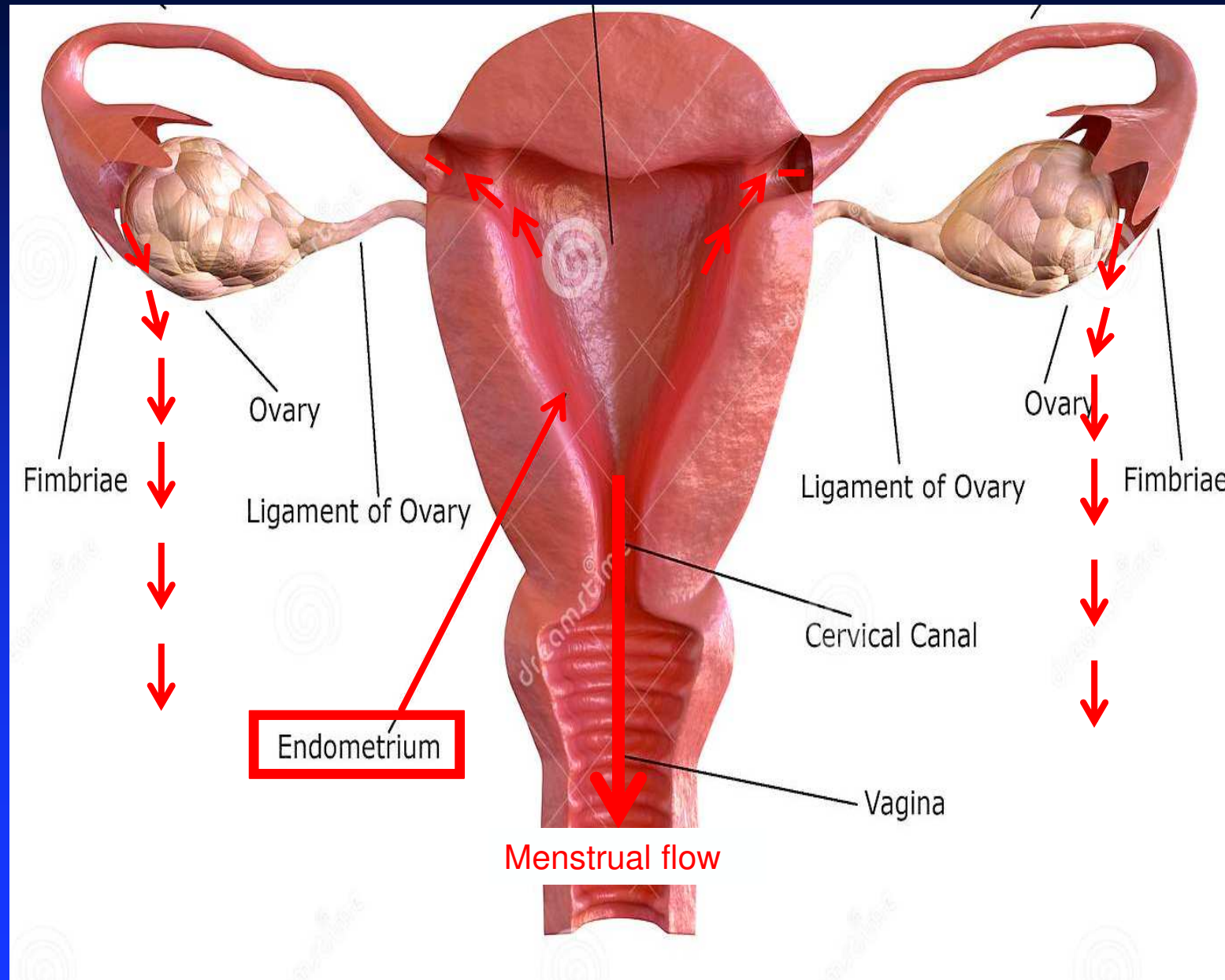
# UTERINE LINING = ENDOMETRIUM



# UTERINE LINING = ENDOMETRIUM



# REFLUX MENSTRUATION



# Menstrual fluid

*Stromal cell 20 microns*

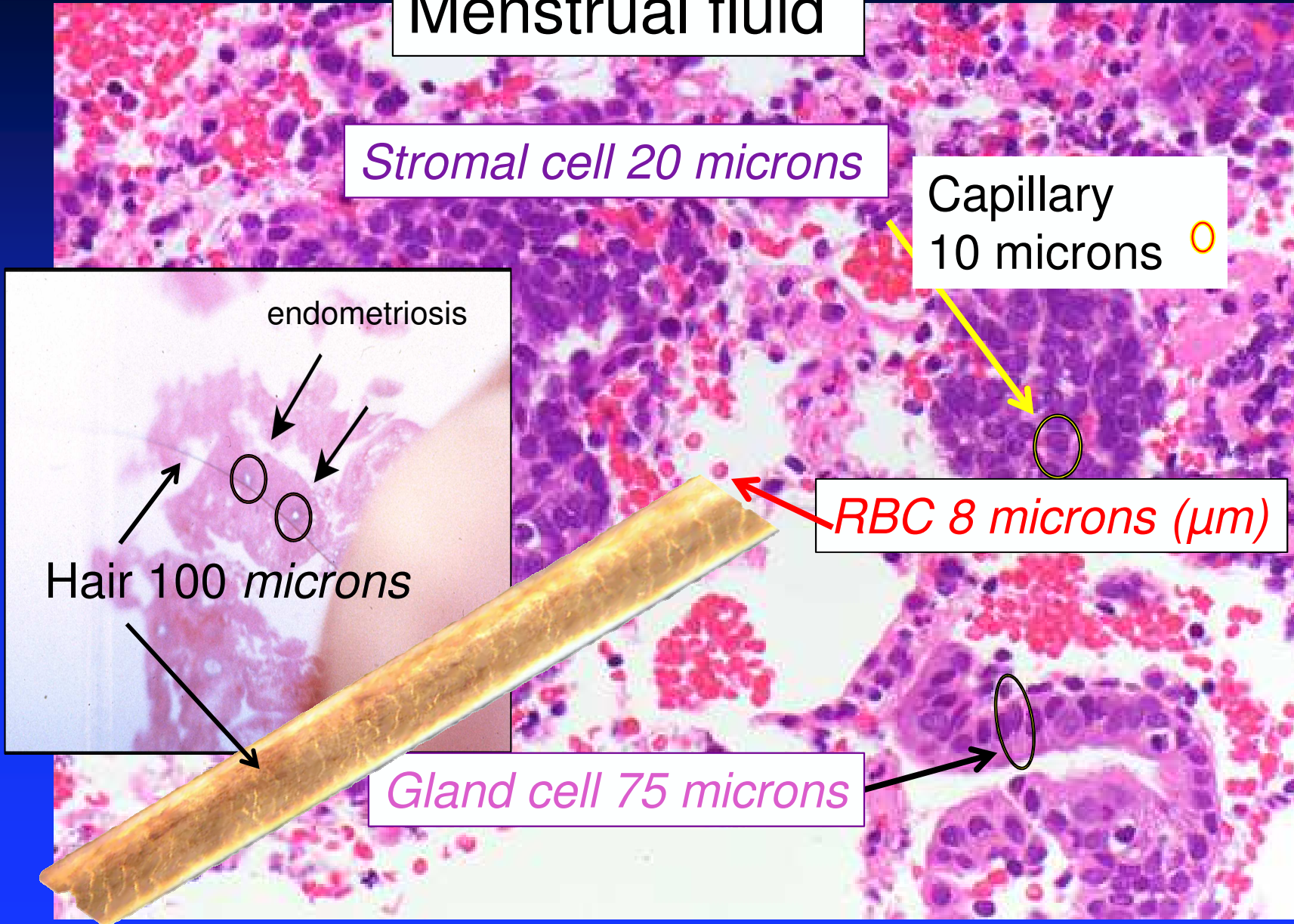
Capillary  
10 microns 

*RBC 8 microns (μm)*

*Gland cell 75 microns*

Hair 100 microns

endometriosis





Unmagnified human vision can almost detect individual gland or stroma cells

Unmagnified human vision can detect cell clusters of 2 or more gland cells or 5 or more stromal cells (larger than diameter of hair)

Conclusion:

glands and stroma cells are easily documented

100% of the time because they are so large

endometrium

menstrual blood

endometriosis

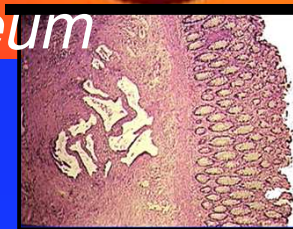
# Reflux menstruation:

Endometrium refluxes, then:

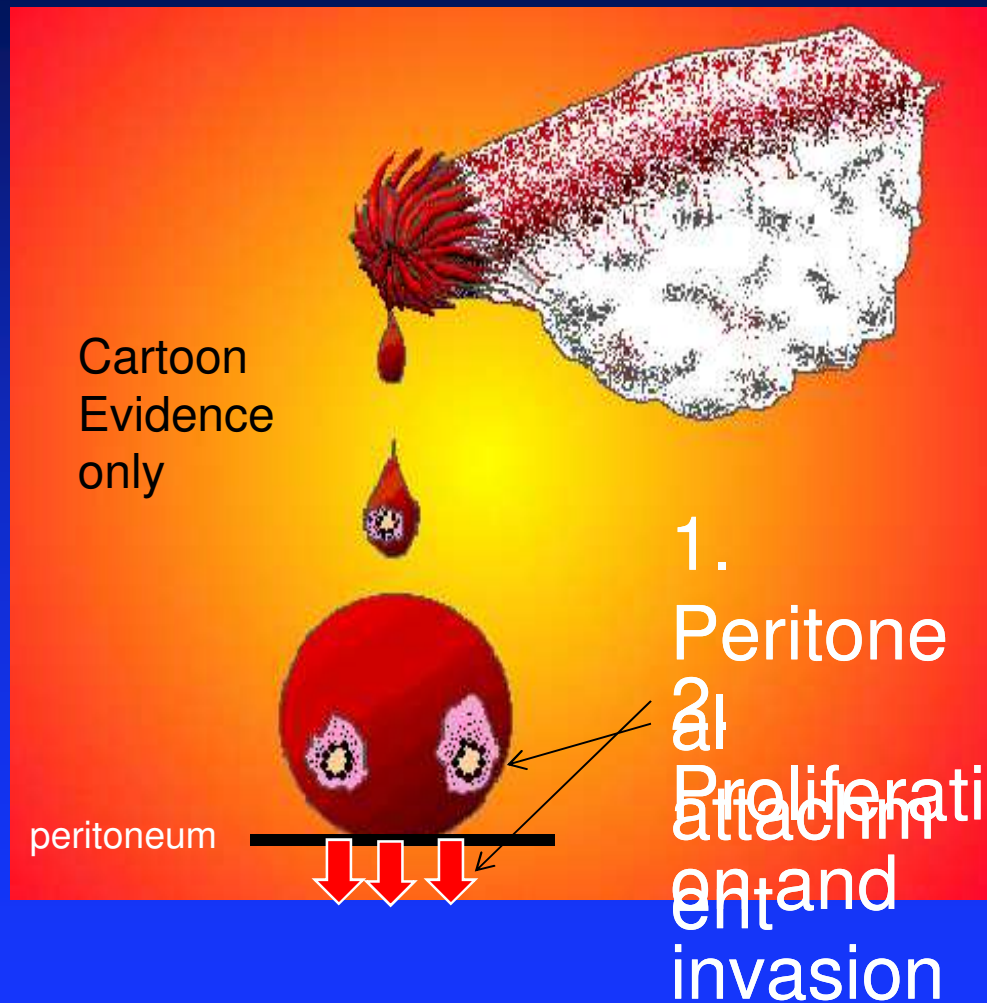
1. Adheres
2. Proliferates/Invades
3. Endometriosis results

Recurr monthly/  
spreads/incurable

Hormone Rx/  
hyst/castration



# 2 missing steps doom Sampson's Theory:

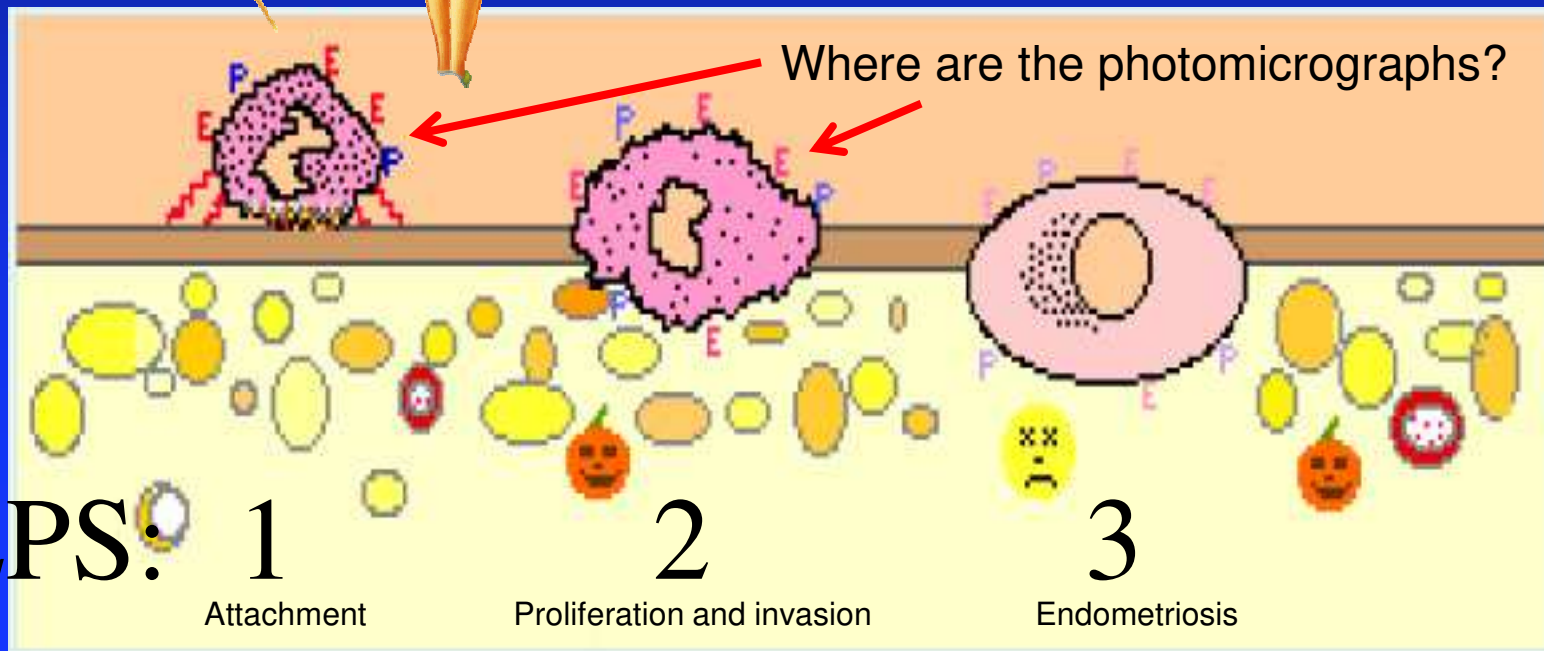


Where is the robust microscopic proof of each step?

It's been 100 years!

Gyn textbooks should be filled with thousands of photo sequences as proof. But they are not.

# I have found the missing steps!!



# Reflux menstruation as origin of endometriosis

No supporting evidence after 100 years!

Accepted as a matter of faith

Faith-based belief = a religion masquerading as science

Religion should not guide treatment

Supporters of this religion are false prophets

Belief-based treatments (hormones, hysterectomy, removal of ovaries, etc) fail

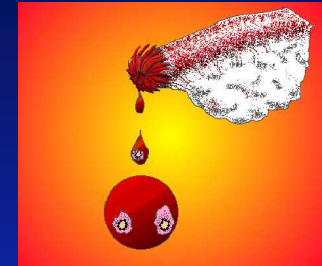
Reflux menstruation as origin of endometriosis

RESULTS IN CONFUSION

RESULTS IN MISTREATMENT  
OF PATIENTS

# ~~Candidate theories of origin~~

## ~~Reflux menstruation~~



Steps which should have been easily observed have never been observed

“Houston, we have a problem”

If not reflux menstruation, then what?

## The origin of endometriosis must explain all of the following:

Occurs in pelvis, pelvic organs, intestinal tract, urinary tract, diaphragm, muscle, fingernail bed, brain, etc.

Occurs in predictable patterns

Is commonly associated with other gynecological pathologies – adenomyosis and fibroids

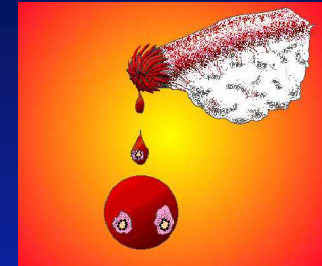
Has been found in newborn female and in female fetuses – well before menstruation begins

Occurs in human males, other primates



# ~~Candidate theories of origin~~

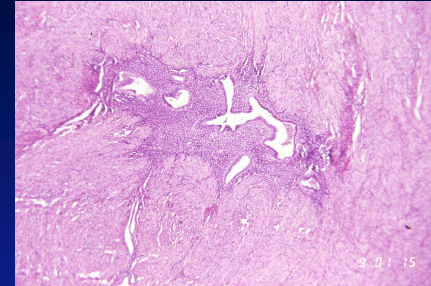
~~Reflux menstruation~~



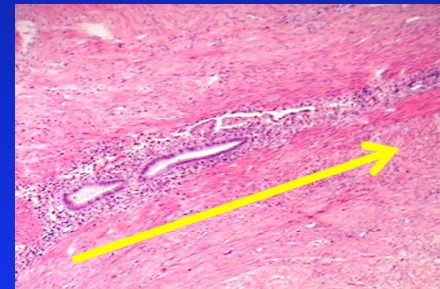
Genetic/embryonic

## Early theories of origin of endometriosis were embryonic

1882 Babes: endometriosis within a fibroid,  
? embryonic rests. . .



1900 Opitz: Mullerian **mesoblastic** threads  
grow into connective tissue of the pelvis  
during embryogenesis resulting in endometriosis

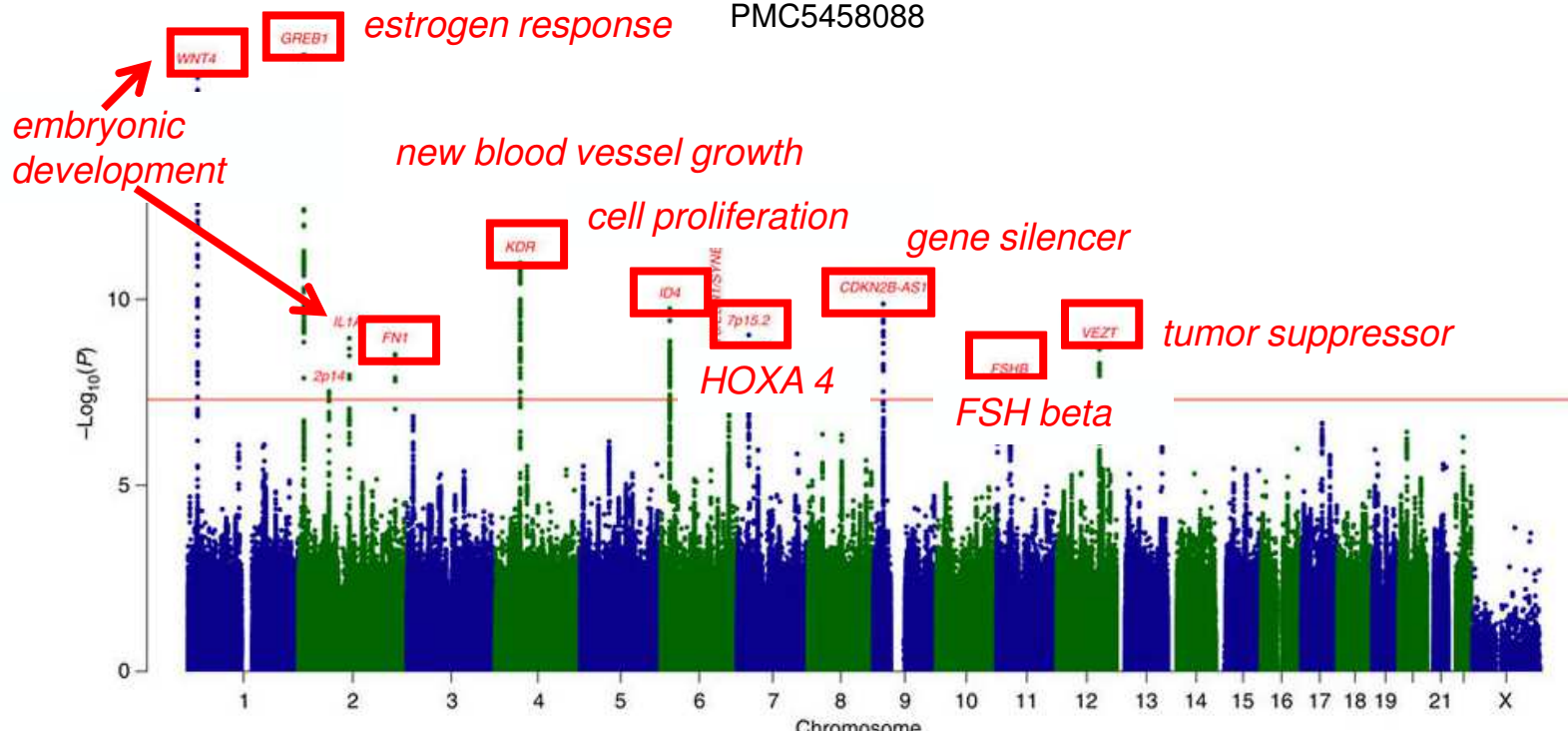


All questions of origin were answered. But plausible genetic support was lacking.

# The genetic basis of the embryonic origin of endometriosis is being unraveled

## Genome-Wide Association Study of SNPs

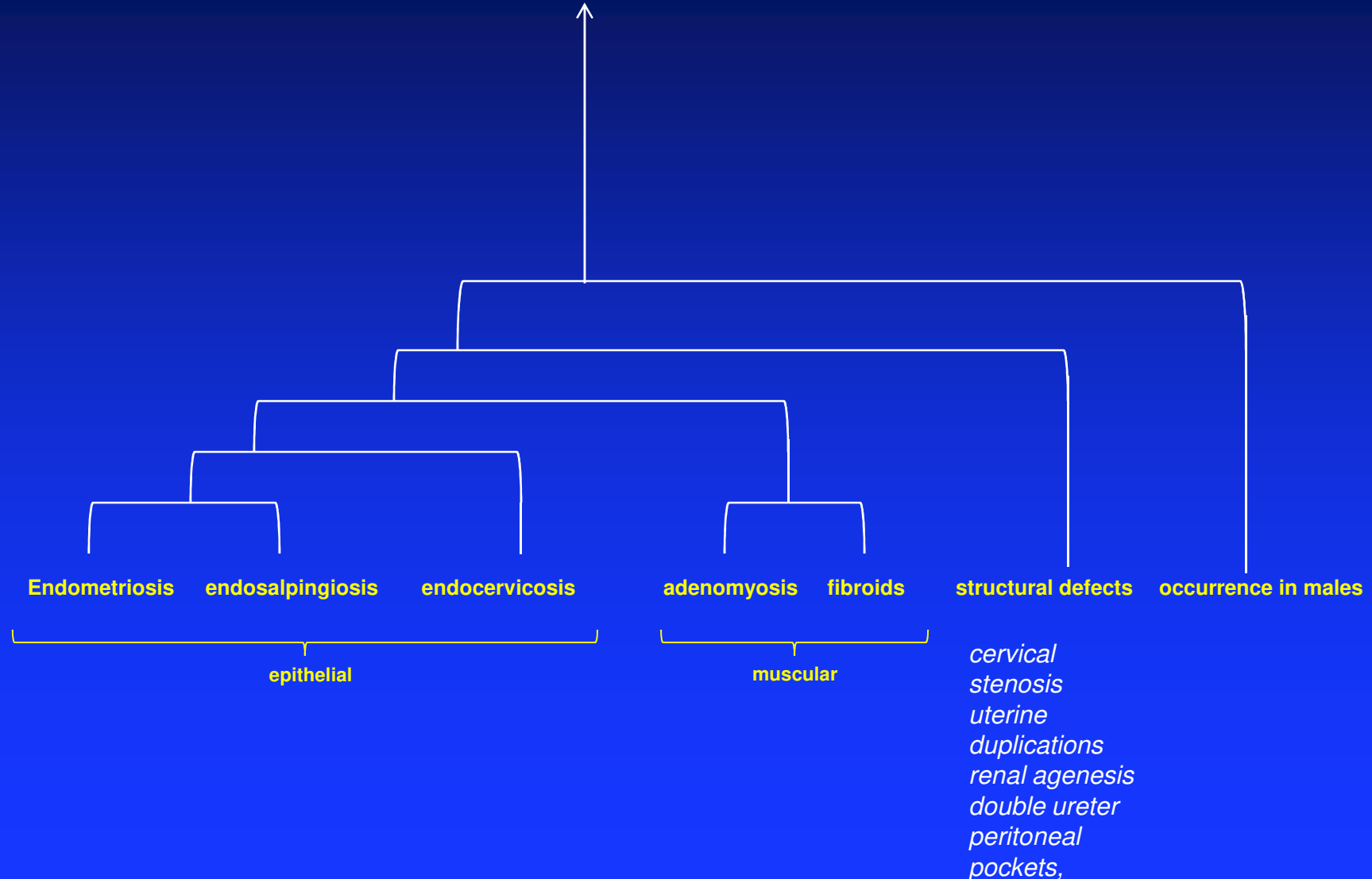
Sapkota Y, et al. Nat Commun 2017;8:15539  
PMC5458088



The genetic building blocks of endometriosis

# Endometriosis does not exist alone

## MULLERIOSIS GENE ENSEMBLE



# HUMAN GENOME

Everything else

## MULLERIOSIS GENE ENSEMBLE

(HOX1-13, WNT, GREB1, FN1, KDR, ID4, CDK, FSH A/B, VEZT, Y, LEFTY, KRAS, attractive, LMNA, KDM6B, CIC, PER1, PDPF, ZC2HC1A, EGLN1, PHC3, KRIT1, COMM8, IL1A, ID4, SYNE1, ESR1, CCDC170, NPSR1, etc)

Results in abnormal differentiation and migration of mesoderm during gastrulation

Leading to

ovulation defects

other peritoneal proliferations

endometriosis in males

mesothelial cysts

endometriosis

fibroids

adenomyosis

endosalpingiosis

endocervicosis

structural defects

cervical stenosis  
uterine duplications  
renal agenesis  
double ureter  
peritoneal pockets,  
Mullerianosis, etc

severe



anatomic location  
symptom severity

morphology  
malignant potential

histology/activity

none

GENETICALLY DETERMINED TRAITS OF VARYING SEVERITY FOR EACH TISSUE TYPE

Redwine JB. Mulleriosis: the single best fit model of origin of Endometriosis. J Reprod Med. 1999;39:915-920

# HUMAN GENOME

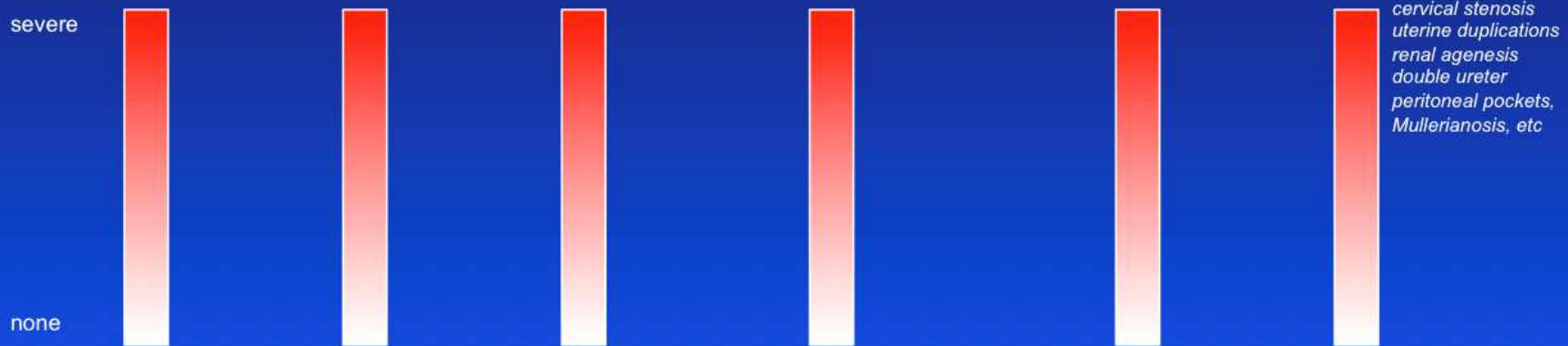
Everything else

## MULLERIOSIS GENE ENSEMBLE

(HOXA8-13, WNT, GREB1, FN1, KDR, ID4, CDK, FSH A/B, VEZT, Y, LEFTY, KRAS, attractive, LMNA, KDM6B, CIC, PER1, PDPF, ZC2HC1A, EGLN1, PHC3, KRIT1, COMM8, IL1A, ID4, CCDC170, NPSR1)

Results in abnormal differentiation and migration of mesoderm during gastrulation

Leading to



anatomic location    morphology    histology/activity    symptom severity    malignant potential

GENETICALLY DETERMINED TRAITS OF VARYING SEVERITY FOR EACH TISSUE TYPE  
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# Homo Sapiens clade: **Primate splits with endometriosis**

