



# PHARMACOLOGY



**DONE BY : Volunteer**



Different	Estrogen	Progesterone
on uterus	- Proliferative changes - ↑ sensitivity to oxytocin	- secretory changes - decrease sensitivity to Oxytocin
on cervix	- watery alkaline	- viscid scanty and cellular secretion
on vagina	- thicken + stratified	- Leukocyte infiltration
Breast	- Grow, Proliferative of duct and stroma accumulation of fat	- Proliferation of mammary gland - Prepare breast for lactation
CNS	—	depression
Body Temp	↑	slight increase
Metabolism	↓ LDL, ↑ HDL, ↑ insulin resist	↑ LDL, ↓ HDL, ↓ insulin resistance.
Pituitary	good inhibitor	weak inhibitor on Pituitary Better on hypothalamus
Uses	<ul style="list-style-type: none"> <li>- Oral contraceptive</li> <li>- Replacement therapy <ul style="list-style-type: none"> <li>→ Post menopause</li> <li>→ delay Puberty girls</li> <li>→ senile vaginitis</li> </ul> </li> <li>- Dysmenorrhea</li> <li>- Bone in girls</li> <li>- dysfunction</li> <li>- Cancer Prostate</li> </ul>	<ul style="list-style-type: none"> <li>- Hormonal contraceptive</li> <li>- Hormone replacement therapy</li> <li>- Dysmenorrhea</li> <li>- Endometriosis</li> <li>- Endometrial Ca</li> </ul>
Adverse effect	<ul style="list-style-type: none"> <li>- Nausea</li> <li>- Breast tenderness</li> <li>- weight gain</li> <li>- endometrial hyperplasia</li> <li>- ↑ endometrial Ca, Breast</li> <li>- Hypertension</li> <li>- thrombo embolism</li> <li>- Male <ul style="list-style-type: none"> <li>→ Gynecomastia</li> <li>→ impotence</li> <li>→ decrease libido</li> <li>→ gynecomastia</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- Breast engorgement</li> <li>- Hairich + I</li> <li>- ↑ Body Temperature</li> <li>- irregular bleeding</li> <li>- depression</li> <li>- edema</li> <li>- HT</li> <li>- ↓ HDL, ↑ LDL, ↑ blood sugar</li> <li>- Hirsutism</li> </ul>

Drug	Mechanism	Uses	SE	Cancer	Note
* Clomiphene	Block center estrogen receptor	- Female infertility due to lack ovulation - In vitro fertilization	- Polycyclic - Multiple Pregnancy - Hot Flashes - Gastric upset	↑ ovary tumor	
* Tamoxifen	(SERM) - Peripherally Ant → Breast, BV Ag → Venu, Bone, Pit	* Hormonal sensitive Breast cancer	- Hot Flashes - irregular menses - vaginal bleeding - thrombosis	↑ endometrial tumor ↓ Breast Ca	- different from estrogen by do not cz ↑ HDL, TG - different than clomiphene that is more peripherally.
* Raloxifene	SERM - Ant - Breast + endometrium Ag - Bone + CVS	* 2 <sup>nd</sup> line for osteoporosis in postmenopausal <u>1<sup>st</sup> line is Bisphosphonate</u>	- DVT - occasional - Hot Flashes - vaginal bleeding	↓ Breast Ca ↓ endometrial Ca	- different than Tamoxifen by ↓ endometrial Ca.
* Letrozole	- reversible aromatase inhibitor	1 <sup>st</sup> line for Hormonal sensitive Ca after menopause	- Hot Flashes - GIT upset - Joint Pain - ↓ Bone mass	↓ Breast <u>Post</u> ↓ endometrial	Back to slide
* Mifepristone	- Progesterone modulator - Glucocorticoid antagonist	- Abortion - Cushing syndrome - ↑ sensitive to oxytocin - mesoprostol	- Abdominal Pain - uterine bleeding - May incomplete abortion.		