1. Hormonal Feedback Regulators
MOA: Analogs of GnRH → activates GnRH release → Increased LH/FSH release (pulsatile)
Leuprolide
Goserelin
Gonadotrophins – FSH, LH, hCG
USE: Pulsatile: Ovulation/conception, DX of hypogonadism
Continuous: Breast CA, Prostate CA, Uterine fibroids, endometriosis, precocious puberty
SE: Pulsatile: Ovarian hyperstimulation, Continuous: Hot flushes, Impotence, osteoporosis

2. GnRH receptor antagonists
MOA: Suppresses Pituitary mediated FSH/LH release
Ganarelix, *Cetrorelix*
USE: In vitro reproduction, Reproductive cancers
SE: Edema, N/V/D

3. Estrogen Antagonists/Partial Agonists
MOA: Occupies Estrogen receptor → Increased GnRH release
Clomiphene – Partial Estrogen agonist
Fulvestrant – Full Estrogen Antagonist
USE: *Clomiphene:* Ovulation/conception
Fulvestrant: Breast CA, Uterine fibroids, endometriosis
SE: *Clomiphene:* Multiple births, Mood swings
Fulvestrant: DVT, Hot flushes, osteoporosis

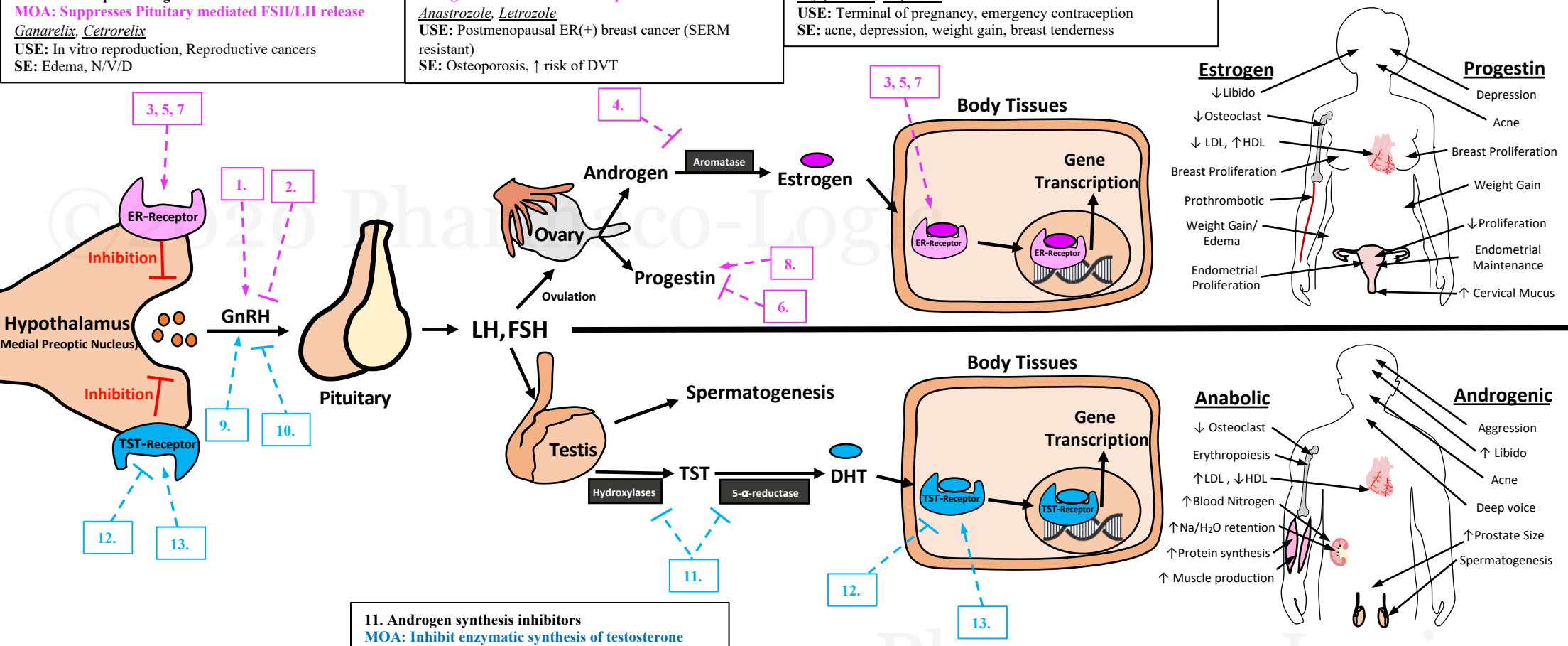
4. Aromatase inhibitors
MOA: Prevents the conversion of testosterone to estrogen → decreased ER receptor activation
Anastrozole, *Letrozole*
USE: Postmenopausal ER(+) breast cancer (SERM resistant)
SE: Osteoporosis, ↑ risk of DVT

5. Selective Estrogen Receptor Modulators
MOA: Modulates Estrogen Receptor → Tissue specific
Tamoxifen Antagonist-breast, Agonist-bone/endometrium
Raloxifene Antagonist-breast, uterus, Agonist-bone
Ospemifene Agonist-Uterus, Antagonist-other tissues
USE: ER(+) breast cancer, Osteoporosis, painful intercourse (Ospemifene)
SE: *Tamoxifen:* Hot flushes, ↑risk of DVT and endometrial CA *Raloxifene:* Hot Flushes, ↑risk of DVT

6. Anti-progesterone agents
MOA: Antagonize Progestin receptors
Mifepristone, *Ulipristal*
USE: Terminal of pregnancy, emergency contraception
SE: acne, depression, weight gain, breast tenderness

7. Estrogens
MOA: Bind to Estrogen receptors
Estradiol, *ethinyl estrogen*, *DES*
USE: Contraception, Hormone replacement
SE: ↑ risk of DVT, endometrial CA,

8. Progesterone agonists
MOA: Bind to Progestin receptors
Levonorgestrel *norethindrone* *medroxyprogesterone*
USE: Emergency Contraception, Combined with Estrogens, abnormal uterine bleeding, Uterine cancer
SE: acne, depression, weight gain, breast tenderness



9. Hormonal Feedback Regulators
MOA: Analogs of GnRH → activates GnRH release → Increased LH/FSH release (pulsatile)
Leuprolide, *Goserelin*
Gonadotropins – LH, FSH, hCG
USE: Pulsatile: Fertility, spermatogenesis
Continuous: BPH, Prostate CA,
SE: Gynecomastia, Impotence

10. GnRH receptor antagonists
MOA: Suppresses Pituitary mediated FSH/LH release
Aberelix, *Degarelix*
USE: In vitro reproduction, Reproductive cancers
SE: Edema, N/V/D

11. Androgen synthesis inhibitors
MOA: Inhibit enzymatic synthesis of testosterone
Ketoconazole: inhibits 6**β** hydroxylase
Abiratirone: inhibits 17**α** hydroxylase
Finasteride: inhibits 5 **α** reductase
USE: BPH, Prostate CA, Male pattern baldness
SE: Gynecomastia, impotence

12. Anti-androgens
MOA: Androgen receptor antagonist
Flutamide
Bicalutamide
USE: BPH, Prostate CA – prevent androgen surge from Goserelin
SE: Hot flushes, Gynecomastia, ↑ risk of Breast CA

13. Androgens, Anabolic steroids
MOA: Androgen and anabolic mediated effects
Testosterone, Testosterone cypionate, testosterone esters
Dromostanolone – Anabolic steroid **USE:** AIDs patients
USE: Hypogonadism, stimulate anabolism after injury/illness
SE: Acne, edema, ↑Prostate size, adverse lipid panel, hypercalcemia, erythrocytosis, Liver toxicity – Alkylated testosterone,