

Adrenocorticotrophic Hormone

I. Drugs

- A. ACTH > Differentiation b/n
primary/secondary adrenal
insufficiency

II. Activity: Stimulates cortisol release

III. Adverse Effects:

- A. Hypertension
- B. Hypokalemia
- C. Weight gain

Growth Hormone (Somatostatin)

I. Drugs

- A. Growth Hormone

II. Indications

- A. GH Deficiency
- B. AIDS Related Wasting Illness

III. Activity: Activates JAK2 receptor

- A. ↑ lipolysis & glucose release from liver
- B. Stimulates other growth factors
 - 1. DNA/RNA Synthesis
 - 2. Bone/Generalized Growth
- C. Na/K reabsorption in kidneys

IV. Adverse Effects

- A. Arthralgias/Myalgias
- B. Diabetes

Somatostatin Analogues

I. Drugs

- A. Octreotide > Bleeding Varices, Acromegaly
- B. Lanreotide > GI Neuroendocrine Tumors,
Acromegaly

II. Activity: Suppresses:

- A. Somatotropin
- B. Insulin
- C. Glucagon
- D. Gastrin
- E. Vasoactive Intestinal Peptide

III. Adverse Effects: GI Disturbances

GNRH Analogues

I. Drugs

- A. Leuprolide
- B. Goserelin
- C. Nafarelin
- D. Histrelin

II. Indications

- A. Prostate Cancer
- B. Uterine Fibroids
- C. Precocious Puberty
- D. Sex Hormone-Related Conditions

III. Activity: ↓ LH & FSH → ↓ Gonadal

Hormones

IV. Adverse Effects:

- A. Hot Flashes
- B. Ovarian Cysts
- C. Gynecomastia

Ergot Dopamine Receptor Agonists

I. Drugs

- A. Bromocriptine > TIIDM, Parkinson's,
Hyperprolactinemia
- B. Cabergoline > Hyperprolactinemia

II. Activity: Stimulates D2 Receptors

III. Adverse Effects:

- A. Bromocriptine > Sedation, hypotension,
pulmonary and retroperitoneal fibrosis
- B. Cabergoline > Fibrosis rare

Oxytocin

I. Drugs

- A. Oxytocin

II. Indications:

- A. Labor Induction/progression
- B. Postpartum hemorrhage

III. Activity: Stimulates uterine contractions

IV. Adverse Effects:

- A. Uterine Rupture
- B. HTN
- C. Fetal Death

Antidiuretic Hormone

I. Drugs

- A. Vasopressin
- B. Desmopressin

II. Indications

- A. Shock (Vasopressin)
- B. Nocturnal enuresis (desmopressin)
- C. Diabetes Insipidus

III. Activity:

- A. V1 Receptors: Smooth muscle contraction
- B. V2 Receptors: Free water reabsorption

IV. Adverse Effects: Hyponatremia

Thyroid Hormone

I. Drugs

- A. Liothyronine
- B. Levothyroxine

II. Indication: Hypothyroidism

III. Activity: Stimulates RNA/protein synthesis

IV. Adverse Effects

- A. Tachycardia
- B. Weight loss
- C. Heat intolerance
- D. Nervousness

Antithyroid Drugs

I. Drugs

- A. Propylthiouracil > Hyperthyroidism
- B. Methimazole > Hyperthyroidism
- C. Iodide > Thyroid storm, Ablation, Radiation
exposure, hyperthyroidism

II. Activity:

- A. Thioamide: Inhibits peroxidase
- B. Iodide:
 - 1. Disrupts thyroid hormone synthesis.
 - 2. Inhibits thyroid hormone release.
 - 3. Decreases vascularity of thyroid

III. Adverse Effects

- A. Thioamides: Teratogenic, hepatotoxic,
agranulocytosis
- B. Iodide: Metallic mouth taste, mouth sores

Insulin

I. Drugs

- A. Regular > Short-acting
- B. Aspart > Rapid-acting
- C. Lispro > Rapid-acting
- D. Glulisine > Rapid-acting
- E. NPH > Intermediate-acting
- F. Glargine > Long-acting
- G. Detemir > Long-acting
- H. Degludec > Long-acting

II. Indications: Diabetes

III. Activity: Stimulates insulin receptors, increases glucose uptake into cells

IV. Adverse Effects:

- A. Hypoglycemia
- B. Hypokalemia

Amylin Analogs

I. Drugs

- A. Pramlintide > Adjunct to insulin in DM
- B. Activity: Amylin effects
 - 1. Decreased glucagon
 - 2. Increased satiety
 - 3. Delayed gastric emptying.
- C. Adverse Effects:
 - 1. Hypoglycemia
 - 2. Exacerbation of gastroparesis

GLP-1 Agonists

I. Drugs

- A. Dulaglutide > TIIDM
- B. Exenatide > TIIDM
- C. Liraglutide – TIIDM, Weight loss
- D. Semaglutide – TIIDM, Weight loss

II. Activity: GLP-1 Analog

- A. ↑ Insulin secretion
- B. Delay gastric emptying
- C. ↑ Satiety
- D. ↓ Glucagon
- E. ↑ Beta Cells

III. Adverse Effects:

- A. Pancreatitis
- B. N/V/D

Sulfonylureas

I. Drugs

- A. Glyburide
- B. Glipizide
- C. Glimepiride

II. Indications: TIIDM

III. Activity: Stimulates insulin secretion

- A. Block K⁺ channels → Depolarization of beta cells → Ca²⁺ influx → insulin secretion
- B. Increases tissue insulin sensitivity
- C. Decreases hepatic glucose synthesis

IV. Adverse Effects:

- A. Hypoglycemia
- B. Weight Gain

Glinides

I. Drugs

- A. Repaglinide
- B. Nateglinide

II. Indications: TIIDM

III. Activity: Stimulates insulin secretion

- A. Blocks ATP dependent K⁺ channels → Depolarization of beta cells → Ca²⁺ influx → insulin secretion

IV. Adverse Effects:

- A. Hypoglycemia
- B. CYP3A4 Metabolism

Biguanides

I. Drugs

- A. Metformin

II. Indications

- A. TIIDM
- B. Polycystic Ovarian Syndrome

III. Activity:

- A. Decreases hepatic glucose production
- B. Increased peripheral sensitivity to insulin
- C. Decreased intestinal absorption of glucose

IV. Adverse Effects:

- A. Lactic Acidosis
- B. Contraindicated in renal dysfunction
- C. GI Upset

Thiazolidinediones

I. Drugs

- A. Pioglitazone
- B. Rosiglitazone

II. Indications: TIIDM

III. Activity: Improves insulin sensitivity

- A. Activates PPAR gamma, ↑ transcription of insulin responsive genes

IV. Adverse Effects:

- A. Liver Toxicity
- B. CYP3A4 Metabolism
- C. Osteopenia

Alpha Glucosidase Inhibitors

I. Drugs

- A. Acarbose
- B. Miglitol

II. Indications: TIIDM

III. Activity: Inhibits brush border α-glucosidase

- A. Decreases breakdown of complex carbs

IV. Adverse Effects:

- A. Abdominal cramps, diarrhea, flatulence

Dipeptidyl Peptidase-4 Inhibitors

I. Drugs

- A. Alogliptin
- B. Linagliptin
- C. Saxagliptin
- D. Sitagliptin

II. Indications: TIIDM

III. Activity: Inhibits DPP-4

- A. Promotes incretin activity
- B. ↑ insulin and ↓ glucagon release

IV. Adverse Effects:

- A. Pancreatitis
- B. Nasopharyngitis

Sodium-Glucose Cotransporter 2 Inhibitors

I. Drugs

- A. Canagliflozin
- B. Dapagliflozin
- C. Empagliflozin

II. Indications: TIIDM

III. Activity: Inhibits SGLT2 in renal tubules

- A. ↓ Glucose reabsorption
- B. ↓ Sodium reabsorption

IV. Adverse Effects:

- A. GU Infections
- B. Urinary frequency

Estrogens

I. Drugs

- A. Estradiol
- B. Estrone
- C. Ethinyl Estradiol
- D. Mestranol

II. Indications

- A. Hormone Replacement (Premature menopause, surgical menopause)
- B. Postmenopausal Hormone Replacement
- C. Contraception

III. Activity: Binds nuclear receptors to modulate production of RNA/Proteins

IV. Adverse Effects:

- A. Thromboembolism
- B. Nausea
- C. Increased Risk of Acute Coronary Syndrome

Selective Estrogen Receptor Modifiers

I. Drugs

- A. Clomiphene
 - 1. Indication: Infertility
 - 2. Activity: Partial ER agonist in hypothalamus
 - 3. Adverse Effects: Multiple Gestations
- B. Fulvestrant > HR+ Metastatic Br Ca
- C. Ospemifene > Dyspareunia
- D. Raloxifene > Br Ca, Osteoporosis
- E. Tamoxifen > Br Ca
- F. Toremifene > Br Ca Prophylaxis, Osteoporosis

II. Activity:

- A. Estrogen Receptor Antagonists (Breast)
- B. Estrogen Agonist (Bone) (Raloxifene, Toremifene)

III. Adverse Effects: Nausea, hot flashes

Progestogens

I. Drugs

- A. Desogestrel
- B. Dienogest
- C. Drospirenone
- D. Etonogestrel
- E. Levonorgestrel
- F. Medroxyprogesterone
- G. Norelgestromin
- H. Norethindrone
- I. Norgestimate
- J. Norgestrel
- K. Progesterone

II. Indications:

- A. Contraception
- B. Hormone Replacement

III. Activity: Activates progesterone receptors

IV. Adverse Effects:

- A. Headache
- B. Weight Gain
- C. Acne
- D. Depression

Selective Progesterone Receptor Modifiers

I. Drugs

- 1. Ulipristal > Emergency Contraception

II. Action

- A. Partial agonist/antagonist @ progesterone receptors

III. Adverse Effects

- A. Prolonged menstruation
- B. Nausea/Headaches

Progesterone Antagonists

I. Drugs

- A. Mifepristone > Induced abortion

II. Action: Antagonizes progesterone receptors

III. Adverse Effects

- A. Uterine bleeding
- B. Incomplete abortion

Androgens

I. Drugs

- A. Danazol > Endometriosis, fibrocystic breast disease
- B. Fluoxymesterone > hypogonadism, wasting
- C. Methyltestosterone > hypogonadism, wasting
- D. Oxandrolone > hypogonadism, wasting
- E. Oxymetholone > hypogonadism, wasting
- F. Testosterone > hypogonadism, wasting

II. Activity:

- A. Stimulates androgen receptors
- B. Danazol – decreases gonadotropin release from pituitary

III. Adverse Effects: Excess androgen effects

5-Alpha Reductase Inhibitors

V. Drugs

- A. Dutasteride > BPH
- B. Finasteride > BPH, Male pattern baldness

VI. Activity: Inh. 5- α Reductase, $\downarrow$ DHT levels

VII. Adverse Effects

- A. Oligospermia, erectile dysfunction
- B. Decreased libido
- C. Gynecomastia
- D. Teratogenic

Competitive Androgen Inhibitors

I. Drugs

- A. Flutamide
- B. Bicalutamide
- C. Nilutamide

II. Indications: Prostate Cancer

III. Activity: Inhibits androgen receptors

IV. Adverse Effects:

- A. Teratogenicity
- B. Gynecomastia

Glucocorticoids

I. Drugs

- A. Beclomethasone
- B. Betamethasone
- C. Ciclesonide
- D. Cortisone
- E. Dexamethasone
- F. Methylprednisolone
- G. Hydrocortisone
- H. Prednisone
- I. Triamcinolone
- J. Fluticasone
- K. Budesonide
- L. Mometasone
- M. Triamcinolone

II. Indications

- A. Many indications
- B. Allergies
- C. Lung maturation in fetus
- D. Inflammatory conditions
- E. Diagnosis of Cushing syndrome

III. Activity:

- A. $\uparrow$ Gluconeogenesis, protein catabolism
- B. $\uparrow$ Hgb, Plts, PMNs
- C. Anti-inflammatory
 - 1. Stabilizes mast cells/basophils
 - 2. Inhibition of phospholipase A2
- D. Immunosuppressive
 - 1. $\downarrow$ Baso, EOS, Lymphocytes, Monocytes
- E. Inhibits TSH and ACTH release

IV. Adverse Effects:

- A. Osteoporosis
- B. Cushingoid Appearance
- C. Weight Gain
- D. Diabetes/Hyperglycemia
- E. Abrupt withdrawal in long term use $\rightarrow$ Acute adrenal insufficiency

Mineralocorticoids

I. Drugs

- A. Fludrocortisone

II. Indications: Primary/Secondary Adrenocortical Insufficiency

III. Activity: Mimics aldosterone effects. Some glucocorticoid effects

IV. Adverse Effects:

- A. Osteoporosis
- B. Acute adrenal insufficiency in withdrawal from long term use

Obesity Drugs

I. Drugs

- A. GLP-1 Agonists
- B. Diethylpropion>
 - 1. Activity: Appetite suppressant. NE reuptake inhibitor. Stimulant effects.
 - 2. Adverse Effects: Tachycardia, controlled substance
- C. Phentermine
 - 1. Activity: Appetite suppressant. NE & serotonin reuptake inhibitor. Stimulant effects.
 - 2. Adverse Effects: Tachycardia, controlled substance

D. Orlistat

- 1. Activity: Lipase inhibitor, $\downarrow$ fat absorption
- 2. Adverse Effects: DEAK deficiency, diarrhea etc., Pancreatitis

E. Lorcaserin

- 1. Activity: Serotonin agonist. Activates melanocortin receptors, decreasing appetite
- 2. Adverse Effects: SI., Serotonin syndrome