

SEX/GENDER DIFFERENCES IN CLINICAL PHARMACOLOGY



ABSORPTION

- ★ Gastric emptying is faster



DISTRIBUTION

- ★ Lower body fat- shorter half life of lipophylic drugs
- ★ Higher albumin levels - decreased concentration of free drug in plasma



METABOLISM

- ★ CYP1A2: More active in men, leading to faster metabolism of caffeine, theophylline, and some antidepressants



EXCRETION

- ★ Higher renal clearance rates due to higher glomerular filtration rate



PHARMACO-DYNAMICS

- ★ CVS- shorter QT interval, hence, less susceptibility to arrhythmias from drugs like antiarrhythmics
- ★ Hormones: higher pain thresholds and lower opioid sensitivity due to testosterone analgesia activity



ABSORPTION

- ★ Delayed gastric emptying



DISTRIBUTION

- ★ Higher body fat- longer half life of lipophylic drugs
- ★ Lower Albumin levels - increased concentration of free drug in plasma



METABOLISM

- ★ CYP3A4: More active in women, leading to faster metabolism of drugs like benzodiazepines



EXCRETION

- ★ Lower renal clearance rates due to lower glomerular filtration rate



PHARMACO-DYNAMICS

- ★ CVS- longer QT interval leading to susceptibility to arrhythmias from antiarrhythmics
- ★ Hormones: lower pain thresholds and higher opioid sensitivity due to oestrogen modulation of opioid receptors