Tamoxifen

Tamoxifen is a selective estrogen receptor modulator (SERM), which is a receptor antagonist in breast, but agonist in bone. It is an effective agent to treat estrogen receptor positive (ER+) breast cancers. A beneficial side effect of this drug's use includes a decreased risk of osteoporosis. Other side effects include increased risk of endometrial cancer and increased risk of thromboembolic event.



PLAY PICMONIC

Mechanism of Action

Selective Estrogen Receptor Modulator (SERM)
Selective Easter-egg Receptor Mode-dial
Tamoxifen is classified as a SERM and this also refers to its mechanism. This means it is an antagonist for estrogen receptors in some tissues, while an agonist at others. It has selective effects.

Antagonist on Breast Tissue
Ant-toga with Breast Tissues
This drug competitively binds to and antagonizes estrogen binding to estrogen receptors on tumor cells. Thus, this drug is only helpful in estrogen receptor positive (ER+) breast cancers.

Indications

ER-positive Breast Cancer
Easter-egg Receptor (+) on Breast Cancer-ribbon
Tamoxifen is used in estrogen receptor (ER) positive breast cancer.

Side Effects

Decreased Risk of Osteoporosis
Down-arrow Risk of Ostrich-with-porous-bones
This is a positive effect of the drug. As it is a selective estrogen receptor modulator, it's an agonist for estrogen receptors at some places (bone) and an antagonist at others (breast). This increases estrogen binding to the bone, preventing osteoclast binding and osteoporosis.

Increased Risk of Endometrial Cancer
Up-arrow Risk of Tumor-guy at Inner-lining of Uterus
Tamoxifen is a partial agonist for estrogen receptors on endometrial tissue, leading to endometrial hyperplasia and an increased risk for endometrial cancer.

Increased Risk of Venous Thromboembolism (VTE)
Up-arrow-Risk of Vines Trombone-Elmo
Though the pathophysiology is not completely understood, high levels of estrogen has been shown to be a risk factor for venous thromboembolism (VTE).

Sign up for FREE at picmonic.com