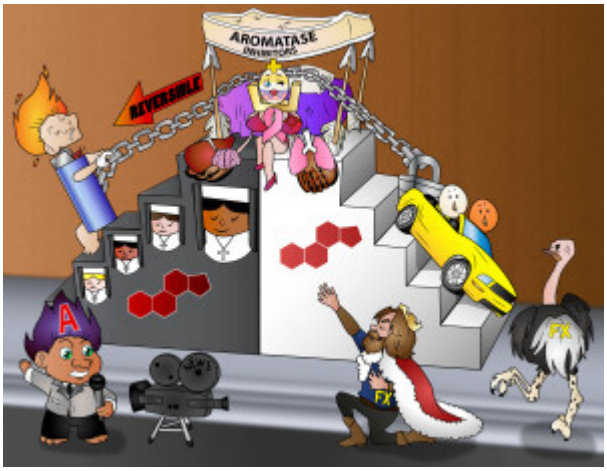
Aromatase Inhibitors

Aromatase inhibitors are drugs used in women who are post-menopausal with breast cancer. These medications are taken to either block the production of estrogen or block the action of estrogen on receptors.



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Indications

Estrogen Receptor-positive (ER+) Breast Tumors

(+) Positive Easter-egg Receptor with Breast Cancer ribbon

These drugs treat estrogen receptor-positive (ER+) breast tumors, as they require estrogen to grow. By blocking estrogen production or its action on receptors, these tumors can be treated. These drugs also have **action on ovarian tumors** in postmenopausal women.

Systemic Metastases

Systemic Metastasis-mitts

These drugs are often used to treat systemic metastases of ER-positive breast tumors, which preferentially spread to the liver, lungs, brain and bones. Other uses include treating ovarian cancers and preventing gynecomastia in men.

Drugs

Reversible, non-steroid

Reversing on Nun-steroid-stairs

Non-steroidal inhibitors, such as **anastrozole** and **letrozole**, inhibit the synthesis of estrogen via reversible competition for the aromatase enzyme.

Letrozole

Lighter-troll

Letrozole is a non-steroidal aromatase inhibitor for the treatment of hormonally-responsive breast cancer after surgery. It works via reversible inhibition.

Anastrozole

A-News-troll

Anastrozole is an aromatase-inhibiting drug indicated for treatment of breast cancer after surgery, as well as for metastasis in both pre and post menopausal women. It is non-steroidal and works via reversible inhibition.

Irreversible, steroid

Locked on Steroid-stairs

Irreversible steroidal inhibitors, such as **exemestane**, forms a permanent and deactivating bond with the aromatase enzyme.

Exemestane

Eggs-in-mustang

Exemestane is an oral steroidal aromatase inhibitor that is used in ER-positive breast cancer in addition to surgery and/or radiation in postmenopausal women.

Side Effects

Osteoporosis

Ostrich-with-porous-bones

Estrogens have a positive effect on bone metabolism by stimulating bone growth and inhibiting bone resorption, so their depletion in patients with endocrine-responsive breast cancer leads to increased bone demineralization and finally **osteoporosis** occurs.

Arthritis

King-Arthur

The use of aromatase inhibitors is also linked with the development of arthritis, while also causing arthralgias and arthrosis.